DESTINATION LINDBERGH

THE ULTIMATE BUILD-OUT

AVIATION ACTIVITY FORECAST

August 2008

Aviation Planning at the Leading Edge

Jacobs Consultancy Team

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EXECUTIVE SUMMARY

This document summarizes the forecasts of aviation demand for San Diego International Airport (SDIA). The last forecast prepared for SDIA was published in 2004. Since then, there have been many changes in the aviation industry. New forecasts are needed now to reflect the current industry conditions and outlook for SDIA.

SDIA is among the largest airports in the United States (in terms of passengers served) and is a critical component in San Diego County's transportation infrastructure. In 2007, SDIA handled 9.2 million passenger enplanements (18.3 million total passengers), almost 230,000 aircraft operations, and approximately 155,000 tons of air cargo. SDIA's physical footprint is the smallest of any large commercial airport in the U.S. at 661 acres. The airport also has the distinction of being the busiest single-runway airport in the country. Physical expansion capability is limited, and, as a result, SDIA may not be able to accommodate all of its future demand.

In spite of this, the forecasts developed for this study represent market-driven demand for air service and are therefore considered "unconstrained." The unconstrained forecasts are necessary to determine the facility requirements for the ultimate build out of SDIA. The forecasts will be used to test the capacity of the current facilities and determine how much activity the airport can accommodate. Future analyses will involve the development of constrained forecasts that based on the capacities of the existing facility. As part of the Regional Aviation Strategic Plan (RASP), the other airports in San Diego County will be analyzed to determine if one or more of the airports could accommodate demand that cannot be accommodated at SDIA.

Three forecasts were developed to show the broad range of possible aviation activity that could be experienced over the next 22 years. The baseline forecast represents the most likely scenario and will be used for future planning. High and low scenarios were developed to provide the San Diego County Regional Airport Authority with a full range of information from which it will be able to anticipate the airport's future activity,

and plan for facilities that will be needed for SDIA's ultimate build out.

Two key factors drive the demand for air service at SDIA: (1) the price of air travel and (2) the ability to pay for it. The first factor – *the price of air travel* – is influenced by the price of fuel, recent domestic service capacity cutbacks, airline economics, aircraft economics, and future emissions costs. Ticket prices ultimately reflect these factors. The second factor – *the ability to pay for air travel* – relates to the local and national economies and the local socioeconomic profile. Growth in population, income, and business activity typically leads to increased demand for air travel. An individual's demand for air travel is often referred to as "underlying demand" in that it cannot be realized without the presence of air service at a price that results in a decision to fly.

ES.1 The Price of Air Travel

The aviation industry currently faces an unprecedented period of uncertainty. Oil prices have surged to historically high levels just as the U.S. airline industry as a whole returned to profitability in 2006 and 2007 following the most recent economic downturn and the aftermath of the September 11, 2001 terrorist attacks. Airlines face significant upward pressure on their costs but have limited ability to extract further cost savings from labor, which provided significant concessions in the last round of restructuring following September 11, 2001. With fuel costs largely beyond their control, airlines are increasing fares, cutting traditional amenities, and charging for checked bags, among other measures to balance the variables of supply and demand.

Until now, the post deregulation airline industry environment has been characterized as a period of declining fares which has ostensibly commoditized air travel causing passenger traffic to reach record levels. This decline in fares was especially true at SDIA where the expansion of service by low-cost carriers has resulted in less than average airfares driving traffic growth at a faster rate than many other U.S. airports.

Now as the industry is collectively facing significantly higher costs and the traveling public sees higher fares, there is the

possibility that fewer people will fly. In the current weak consumer environment, increases in airfares are likely to have a much greater dampening effect on demand. Airlines are recognizing this and are cutting capacity, parking aircraft, and restructuring route networks. A proposed federal bill addressing climate change also has the potential to further increase airline operating expenses as a cost is attached to airline emissions as part of a cap and trade system.

The new higher-cost industry will affect each airport differently, depending upon the mix of airlines, aircraft, and air services offered. Historical activity indicates that SDIA tends to weather industry downturns better than other airports. Overall, passenger enplanements have continued to grow over time – requiring airports to continue to plan for the future, especially given the long lead time required to implement airport improvements.

ES.2 The Ability to Pay for Air Travel

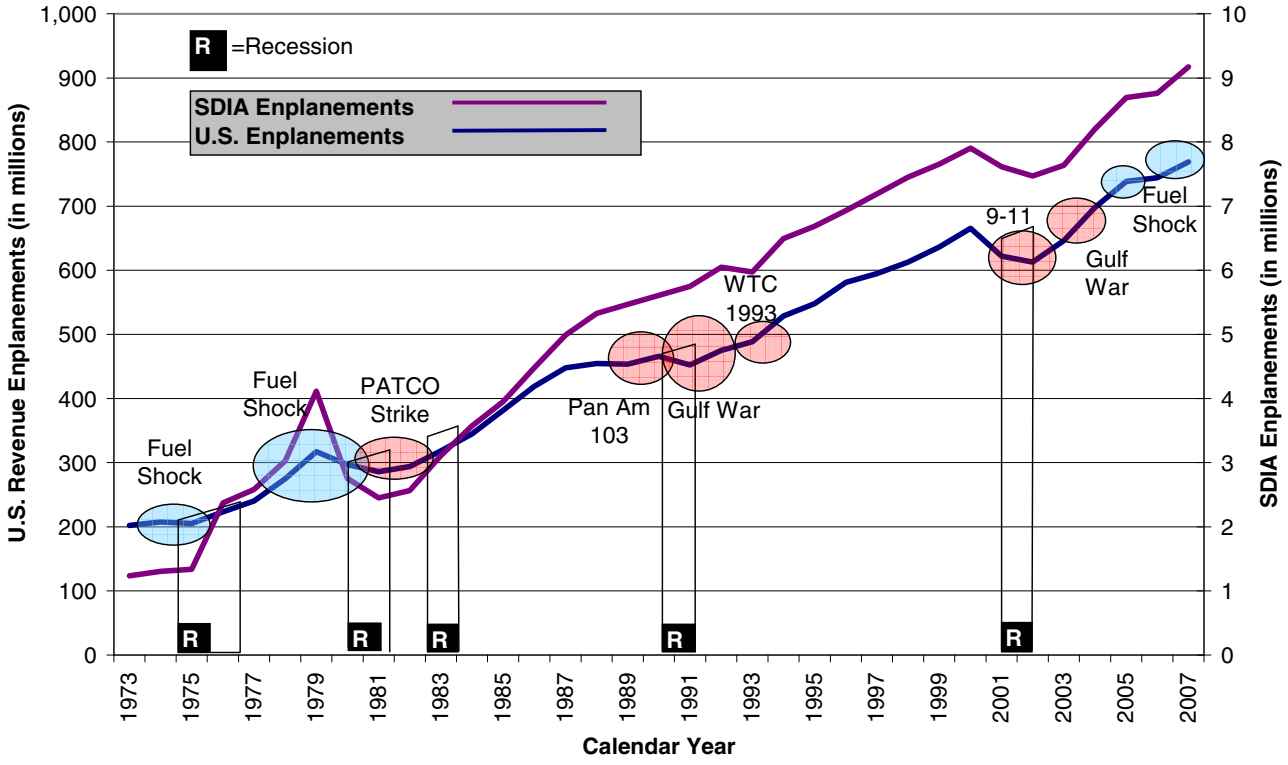
The intrinsic links between the level of aviation activity and economic growth are well documented. Demand for air travel in the U.S. correlates strongly with fluctuations in the economy. As shown in **Figure ES-1**, passenger traffic has typically declined during economic contractions and returned to positive growth during subsequent economic expansions. However, traffic at SDIA has been more resilient than U.S. travel since the early 1980s.

The San Diego region 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. International migration has been an important component of population growth in the county, resulting in an increasingly diverse population base. As this trend continues in the future, community interest for international travel is also likely to increase.

Per capita personal income (PCPI), which is a measure of the wealth of the population, has also generally tracked above U.S. averages. However, inflation has inhibited 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.

FIGURE ES-1
AVIATION SYSTEM SHOCKS AND RECOVERIES



Sources: Air Transport Association of America; Landrum & Brown analysis

Encouragingly, employment growth has exceeded population growth in San Diego 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 future economic downturns.

The overarching conclusion of the SDIA forecasts is that both demographic and economic growth will support increased demand for air travel to and from San Diego County over the long-term. 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's economy appears to be more resilient than most. Over the long-term, it is anticipated that growth will be positive albeit at generally slower rates than recently experienced which is largely indicative of continued maturation of the local San Diego and broader economies.

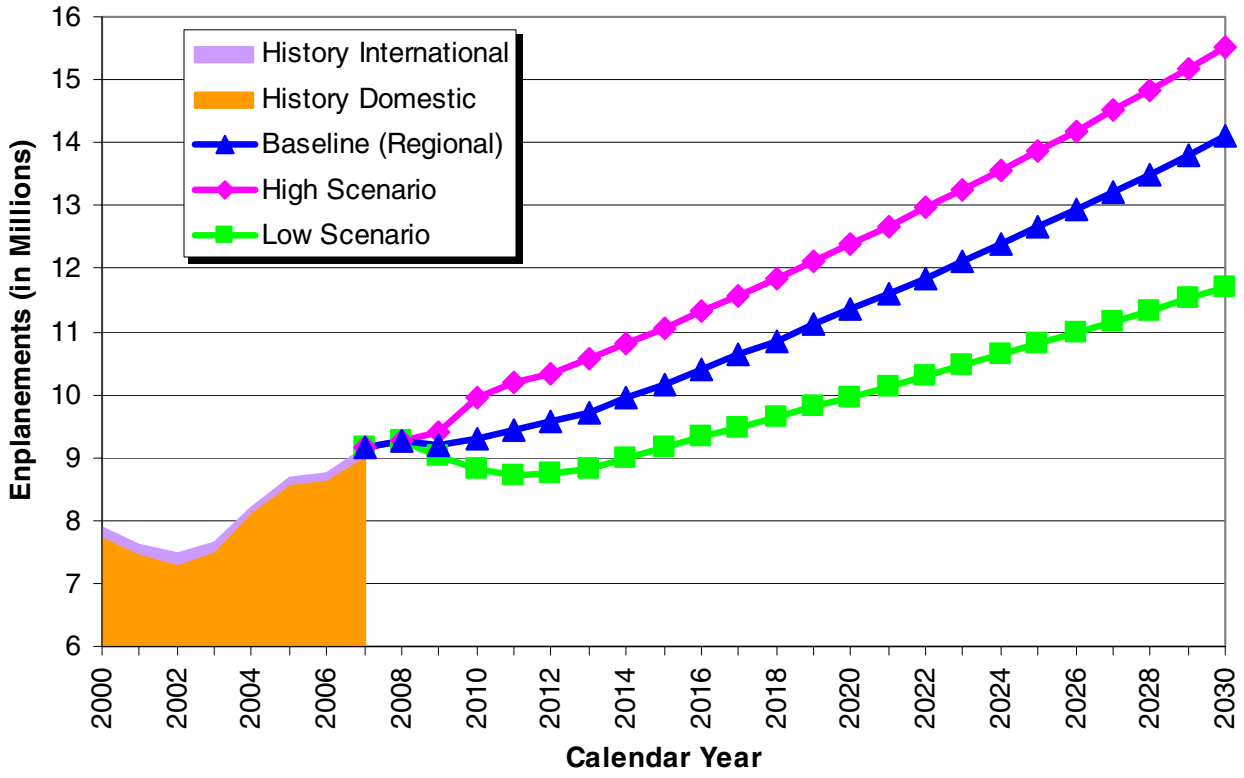
ES.3 Enplanements Forecast

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 1-3) 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 on a trend analysis.

The passenger forecast is driven principally by the domestic O&D traffic which accounts for almost 90 percent of enplanements at SDIA today. 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 projects growth at SDIA, albeit at slower rates than have been experienced historically. Under the baseline scenario, enplanements are forecast 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 ES-2**).

FIGURE ES-2
ENPLANEMENTS FORECASTS COMPARISON
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

The forecast is very dependent on the projections related to the price of jet fuel which drive the yield forecasts. Significant deviations in the price of oil from projected levels could result in actual results deviating markedly from forecast values. The price of oil is inherently difficult to predict, and therefore low- and high scenarios were developed to provide the probable range of passenger enplanements. The low forecast projects 11.7 million enplanements in 2030, and the high forecast projects 15.5 million enplanements in 2030.

ES.4 Air Cargo Tonnage Forecast

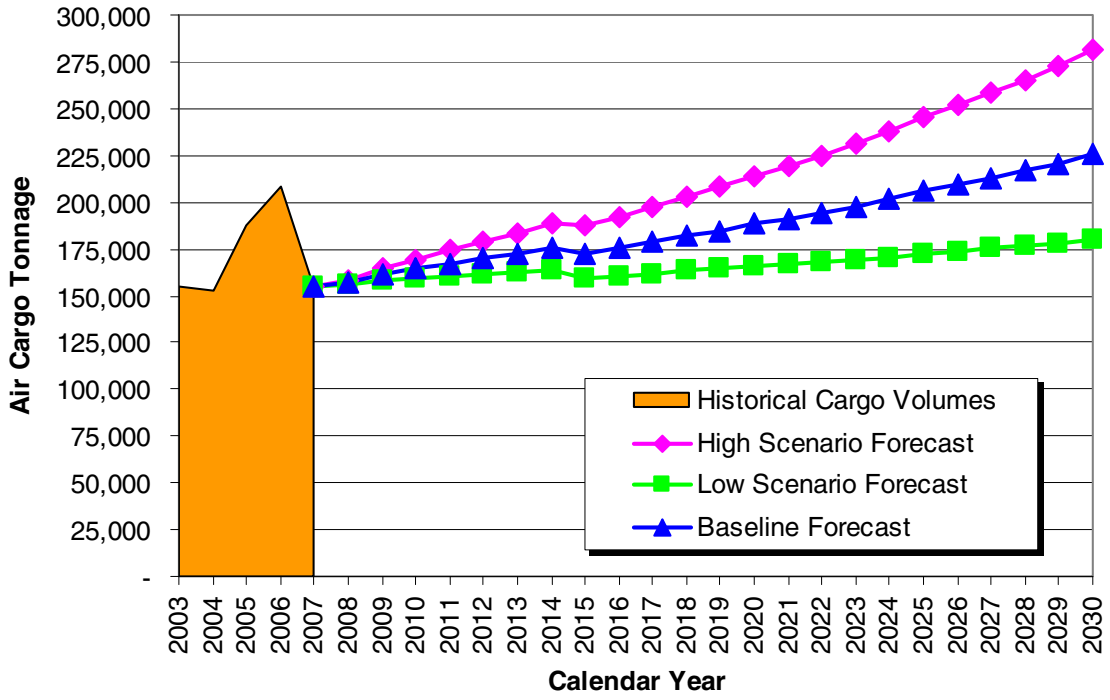
It can be reasonably assumed that the tonnage of air cargo handled at SDIA will, over the long-term, be linked to economic activity both locally and nationally. As illustrated in the economic base section of the forecast report, the expected growth of population, employment, and income projected for the SDIA Air Service Area and the broader U.S. economy should increase the demand for the shipment of goods and services over the forecast period.

National cargo forecasts prepared by the Federal Aviation Administration (FAA), Boeing, and Airbus were reviewed and analyzed to determine their applicability to SDIA. The three industry forecasts predict higher growth rates for international cargo than for domestic. All of the air cargo at SDIA leaves on domestic flights. As a result, the higher growth rates that industry analysts have projected are not expected to apply at SDIA. Moreover, the higher end of the domestic growth rate is more likely to be experienced at the national and regional air hubs of the major integrators.

Based on these assumptions, all-cargo tonnage at SDIA is expected to grow at two thirds of the FAA forecast growth rates. Under the high scenario, it is projected that all-cargo tonnage at SDIA will grow at the full FAA growth rate. With the low scenario, all-cargo tonnage is expected to grow at one third the rate forecast by the FAA. All three scenarios reflect a decreasing share of belly cargo volumes based on historical trends and the requirement for 100 percent screening of belly cargo by August 2010.

The resulting cargo volume forecasts are compared in **Figure ES-3**. SDIA cargo tonnage is predicted 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. Under the high scenario, it is projected that cargo tonnage at SDIA would grow at an average annual growth rate of 2.6 percent through 2030. In the low scenario, an increase of 0.7 percent per annum in cargo tonnage is projected.

FIGURE ES-3
AIR CARGO TONNAGE FORECASTS SUMMARY
San Diego International Airport



Sources: FAA Aerospace Forecast 2008-2025; San Diego County Regional Airport Authority; Landrum & Brown analysis

ES.5 Aircraft Operations Forecast

Aircraft operations were forecast separately for the four major categories of users: commercial passenger airlines, commercial all-cargo carriers, civil aviation[1], and military. The assumptions for each of these categories are listed below:

Commercial passenger airlines: Domestic passenger operations 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 high increases in fuel prices and corresponding capacity reductions. International activity

[1] Civil activity includes all activity which is not composed of commercial passenger, cargo, or military operations.

is expected to expand with nonstop service to Europe in 2008 and Pacific destinations by 2015, which will lead to more wide body aircraft in the fleet.

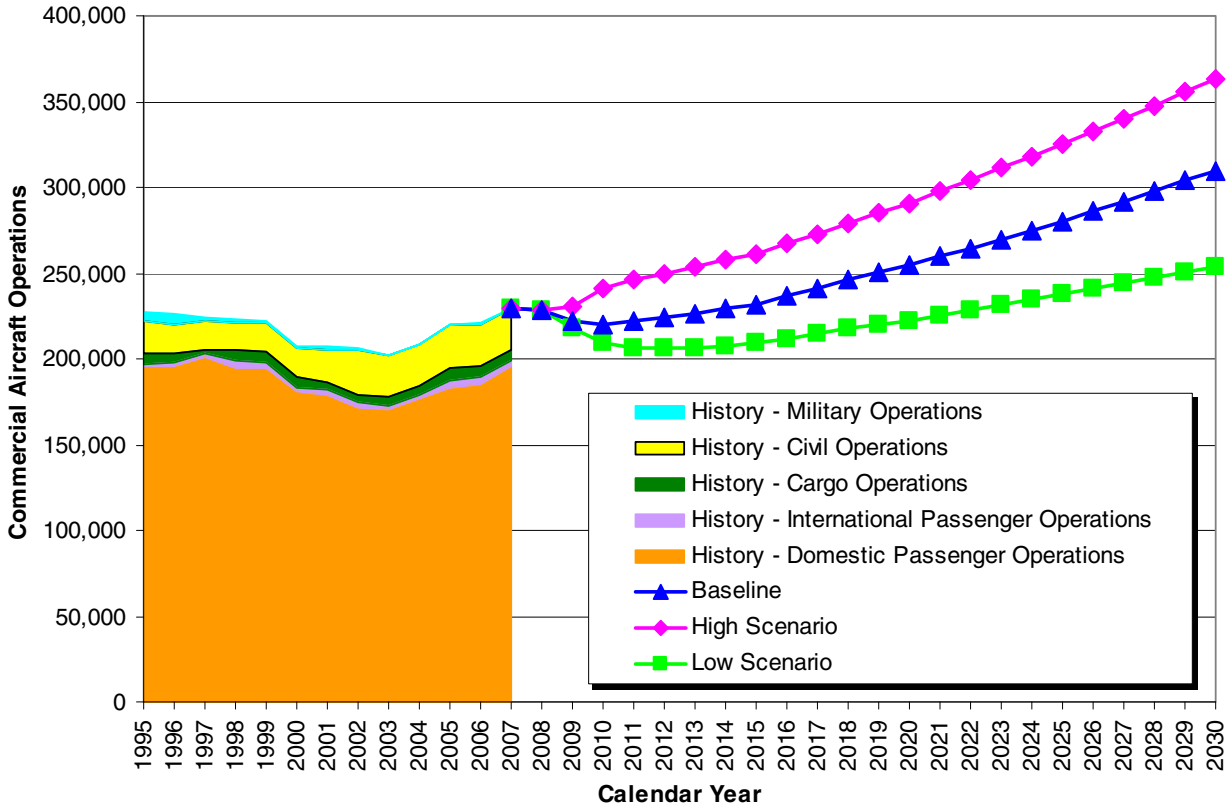
Commercial all-cargo carriers: The air cargo tonnage forecast for the all-cargo operators was used to derive the all-cargo operations forecast, based on assumptions regarding the amount of air cargo tonnage handled per flight. The freighter fleet is not expected to change substantially throughout the planning horizon. 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.

Civil Aviation: Civil aviation activity in the San Diego Area is mainly handled by the eleven other airports owned and operated by San Diego County or the cities of San Diego and Oceanside. SDIA's share of San Diego County's civil operations has experienced an overall decline from 1995 to 2007. The civil aviation operations forecast was developed based on the assumption that SDIA's share of the county's civil aviation activity would continue to decline from 2007 levels.

Military Activity: Military operations have varied widely over the last 13 years and have fallen dramatically since their peak in 1996. Recent years show military operations remaining relatively low at less than 250 operations a year. Military operations were assumed to remain flat over the forecast period.

The resulting aircraft operations forecast is illustrated in **Figure ES-4**. In the baseline scenario, aircraft operations are forecast to grow from 229,486 in 2007 to 308,900 in 2030, representing average annual growth of 1.3 percent. In the high scenario aircraft operations are forecast to grow 2.0 percent annually versus 0.4 percent in the low scenario.

Figure ES-4
TOTAL AIRCRAFT OPERATIONS FORECAST-BASELINE SCENARIO
San Diego International Airport



Sources: Airport Records; U.S. DOT, Schedule T-100; *Official Airline Guide*; Landrum & Brown analysis

1 FORECAST APPROACH

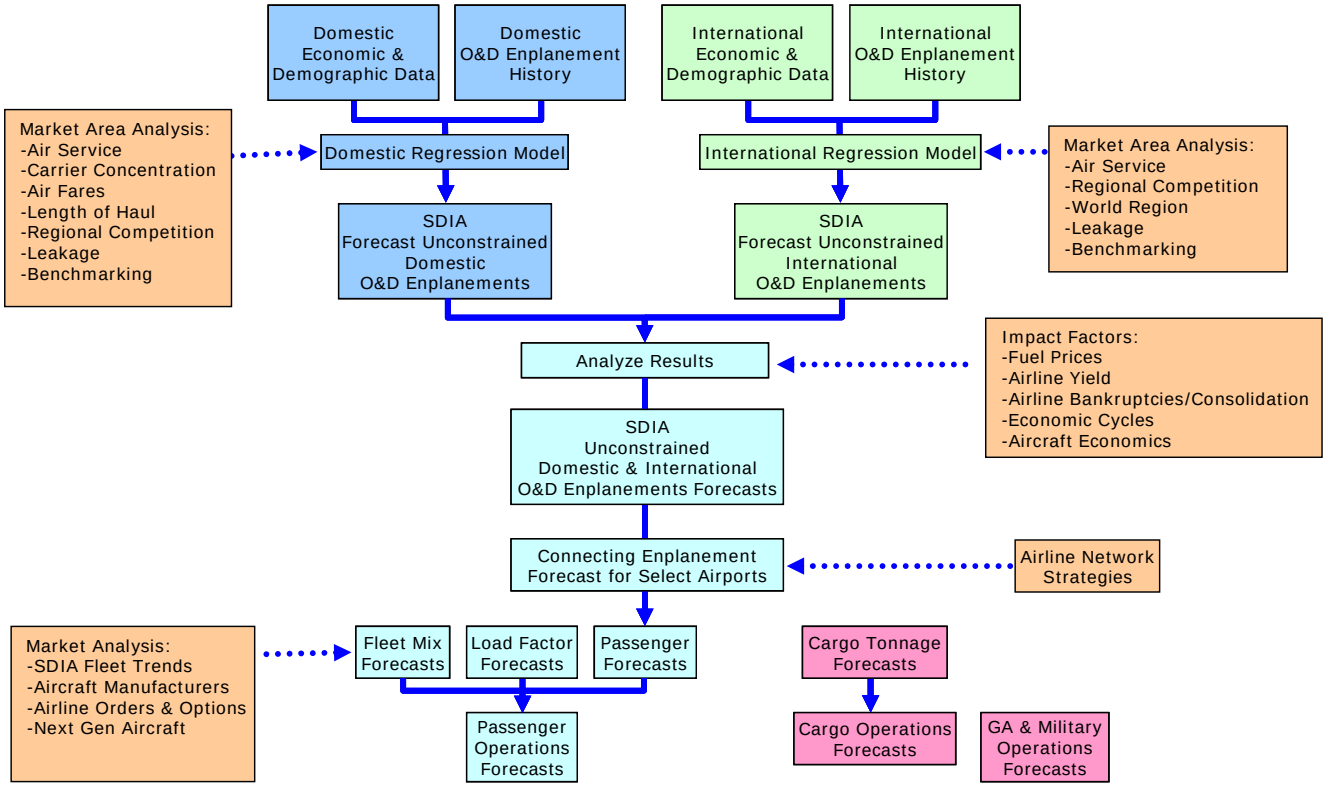
This document summarizes the forecasts of aviation demand for SDIA. The forecasts represent market-driven demand for air service and are therefore considered "unconstrained." In other words, for purposes of estimating demand, these forecasts assume facilities can be provided to meet the demand. The unconstrained forecasts are necessary to determine the facility requirements for the ultimate build out of SDIA. The forecasts will be used to test the capacity of the current facilities and determine how much activity the airport can accommodate. Future analyses will involve the development of constrained forecasts and an analysis of where the demand that cannot be accommodated at SDIA will be served.

The current volatility of the aviation industry (characterized by high fuel prices, consolidation of service, and airline bankruptcies and mergers) presents a challenge in forecasting aviation demand at this time. Recent increases in fuel prices are unprecedented and it is difficult to predict the future price of oil and the airlines' response to it.

As a result of today's environment, three forecasts were developed to show the broad range of possible aviation activity that could be experienced over the next 22 years. The baseline forecast represents the most likely scenario and will be used for future planning. High and low scenarios were developed to show the level of possible aviation activity that could be experienced under more pessimistic and optimistic economic assumptions. The three unconstrained forecast scenarios presented in this document provide the San Diego County Regional Airport Authority with a full range of information from which it will be able to anticipate the airport's future activity, and plan for facilities that will be needed for SDIA's ultimate build out.

This document provides a discussion of all of the factors that influence aviation demand, the detailed assumptions and forecast methodology, and the resulting aviation forecasts. The general process used to develop the forecast of aviation demand for SDIA is presented in **Figure 1-1**.

FIGURE 1-1
FORECAST APPROACH FLOWCHART
San Diego International Airport



Source: Landrum & Brown analysis

Origin and destination (O&D or local) passengers are forecast using econometric forecast models that quantify the relationship between local passengers and independent demographic and economic variables. The forecast models are developed using multi-linear regression techniques, with the dependent variable (local passengers) computed using a linear function. The forecast modeling considered factors that influence aviation demand including local, national, and global socioeconomic trends; the impact of past terrorist attacks; regional competition; fuel prices; airline and aircraft economics; airline mergers, consolidations, and bankruptcies; tourism; SDIA's role in the national transportation system and its air service offerings; and yield[2].

[2] Yields are the aviation industry's measure for average ticket prices. Yield is defined as the average revenue an airline obtains from carrying a passenger one mile.

Domestic and international originating traffic is forecast separately using different independent variables due to the varying nature of the traffic and the different factors that influence international demand vs. domestic passenger levels. Domestic originating passenger activity typically correlates to various combinations of local socioeconomic variables such as population, personal income, per capita personal income (PCPI), yield (representative of airfares), and gross regional product (GRP). International originating passengers typically correlate to global factors such as global gross domestic product (GDP) in addition to local yields. SDIA connecting passenger activity is a small portion of the passenger base and is forecast based on a trend analysis. Given the volatile nature of the aviation industry, various models, sensitivity scenarios, and approaches were tested to select models that produce reasonable results.

In addition to the passenger forecasts, forecasts of air cargo volumes and aircraft operations were produced. Air cargo volume forecasts were developed based on an analysis of historic cargo volumes, industry trends, and the regional economy. Commercial passenger and cargo aircraft operations are derived directly from the passenger and cargo volume forecasts. Since some carriers have a wide choice of aircraft and experience different load factor levels, many different volumes of operations can correspond to one set of passenger and cargo tonnage forecasts. The forecasts of commercial operations are developed from information about airline fleet management plans, route scheduling strategies, current and projected load factors, and assumptions about mergers and competitive strategies. Civil aviation operations forecasts are developed based on industry trends and an analysis of historical traffic at SDIA. Military operations are typically difficult to forecast as the U.S. military does not divulge information regarding future activity levels. However, this segment has made up less than a half percent of the total activity at SDIA over the last five years (2003 to 2007).

In addition to the annual forecasts, it is also important to forecast peak period activity. The traffic demand patterns imposed upon an airport are subject to seasonal, monthly, daily, and hourly variations. These variations result in peak periods, when the

greatest amount of demand is placed upon facilities required to accommodate passenger and aircraft movements. Peak period activity forecasts are presented for enplaned passengers and aircraft operations. These derivative forecasts are presented for the peak month, the average day of the peak month, and the peak hour. The annual forecasts are converted to peak period forecasts using historical ratios.

2. ECONOMIC BASE THAT GENERATES AIR TRAVEL DEMAND

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. An individual's demand for air travel is often referred to as "underlying demand" in that it cannot be realized without the presence of air service at a price that results in the decision to fly.

There are a multitude of socio-economic statistics that are available to assess the overall health of San Diego County and the broader national and international economies. For purposes of the forecasts of aviation demand for SDIA, emphasis was placed on the following socio-economic variables as barometers of economic prosperity in the county: population, per capita personal income (PCPI), employment, and gross regional product. For the forecast of domestic passenger traffic at SDIA these socio-economic factors are used as independent variables both individually and collectively, along with an independent variable related to airfares, to test and establish the historical relationship with domestic passenger traffic (the dependent variable). The forecast of international traffic for SDIA also relies on GDP forecasts for the world economy by region.

San Diego 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. International migration has been an important component of population growth in the county, resulting in an increasingly diverse population base. As this trend continues in the future, the community of interest for international travel is also likely to increase. PCPI, which is a measure of the wealth of the population, has also generally tracked above U.S. averages. However, inflation has inhibited 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 future economic downturns.

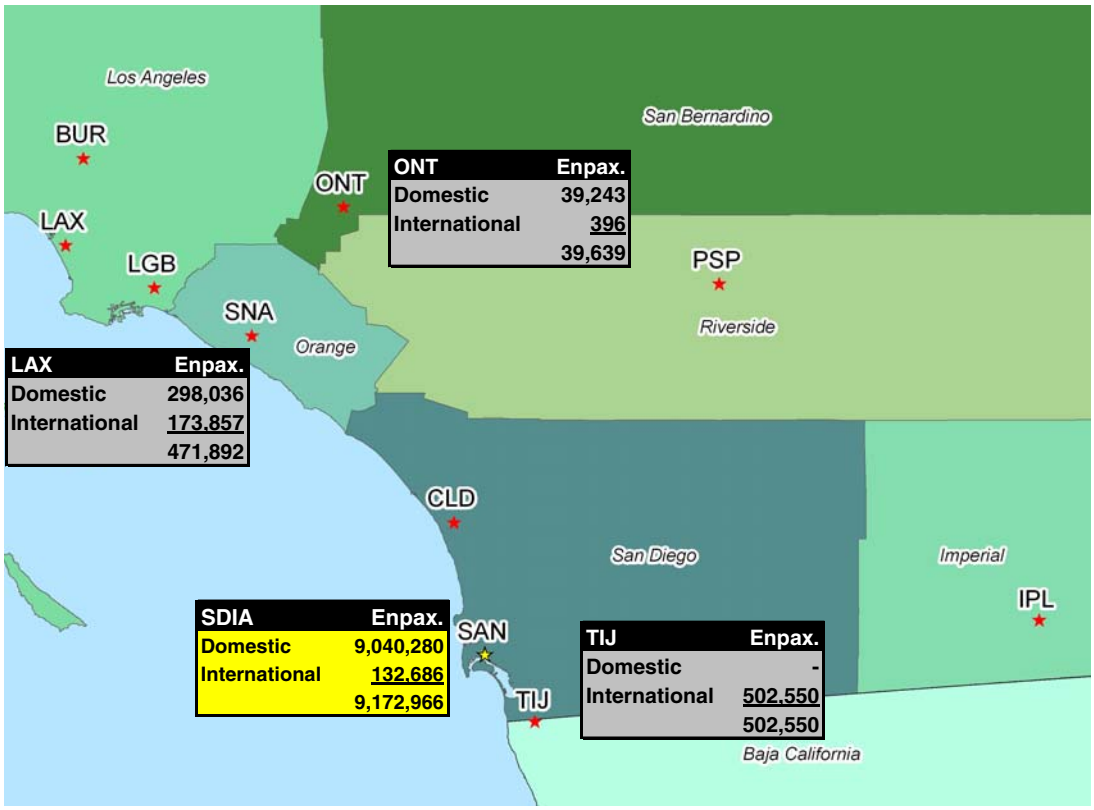
The overarching conclusion of this chapter is that both demographic and economic growth will support increased demand for air travel to and from San Diego County over the long term. While most states and many municipalities are experiencing tax collection shortfalls due to the downturn in the housing market, inflationary pressures related to the price of oil and food, and increasing unemployment, San Diego's economy appears to be more resilient than most. However, over the long term, it is anticipated that growth will be positive albeit at generally slower rates which is largely indicative of continued maturation of the local San Diego and broader economies.

2.1 SDIA Catchment Area

The majority of passengers that use SDIA are either residents of or visitors to San Diego County. According to the *Cross Border Terminal – Market Demand Study* published in June 2008, 98 percent of passengers that use SDIA travel to the airport from within San Diego County. Consequently, it is reasonable to assume that socio-economic conditions within San Diego County will be the primary driver of demand for air travel at SDIA.

Not all demand for air travel from and to San Diego County is served at SDIA. In 2007, residents of and visitors to San Diego County accounted for 1.0 million enplanements at other area airports, primarily Los Angeles International Airport (LAX) and General Abelardo Rodríguez International Airport (TIJ) in Tijuana (see **Figure 2.1-1**).

FIGURE 2.1-1
SDIA CATCHMENT AREA
San Diego International Airport



Sources: LAX 2006 Ground Access Survey; Cross-Border Terminal Market Demand Study, June, 2008; Landrum & Brown analysis

2.2 San Diego County Socio-Economic Trends

This section summarizes recent trends and future forecasts of population, PCPI, employment, and Gross Regional Product (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 regional GDP 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.

2.2.1 Population

California is home to 38 million people residing in 58 counties across the state. San Diego is the second most populous county in the state with 3.1 million residents accounting for just over 8.0 percent of the state's total population (see **Table 2.2-1**). Neighboring Orange County follows closely behind San Diego in terms of total population. Within San Diego County, 84 percent of the county's residents live in one of the 18 incorporated cities, of which the City of San Diego holds the largest share at 1.3 million residents (42 percent).[3]

TABLE 2.2-1
MOST POPULATED CALIFORNIA COUNTIES [1/]

County	Population	% of Total
Los Angeles	10,363,850	27.2%
San Diego	3,146,274	8.3%
Orange	3,121,251	8.2%
Riverside	2,088,322	5.5%
San Bernardino	2,055,766	5.4%
Santa Clara	1,837,075	4.8%
Alameda	1,543,000	4.1%
Sacramento	1,424,415	3.7%
Contra Costa	1,051,674	2.8%
Fresno	931,098	2.4%
Ventura	831,587	2.2%
San Francisco	824,525	2.2%
Kern	817,517	2.1%
Other	8,013,108	21.1%
California Total	**38,049,462**	**100.0%**

[1/] As of January 1st, 2008
Sources: California Department of Finance; Landrum & Brown analysis

[3] 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

2.2.1.1 Population Growth

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 2.2-2**).

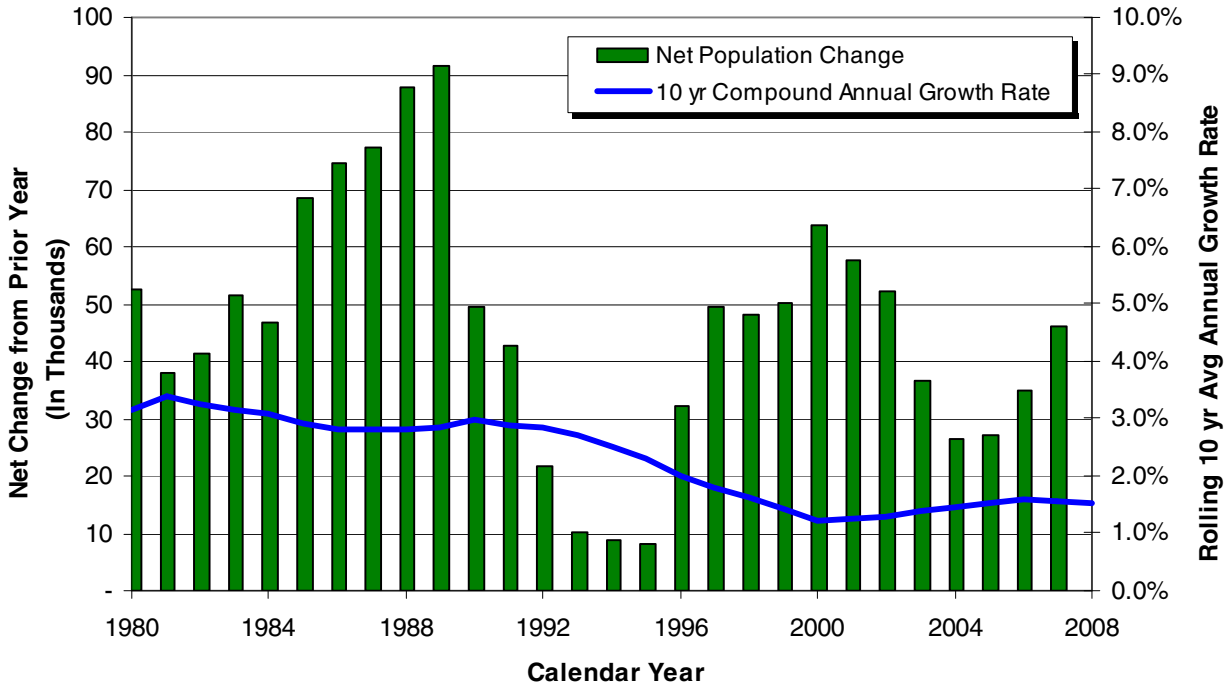
TABLE 2.2-2
SUMMARY HISTORICAL POPULATION

Calendar Year	San Diego[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
CAGR 1980-2007	1.9%	1.8%	1.8%	1.1%

[1/] SANDAG
[2/] California Department of Finance
[3/] Woods & Poole 2007
Sources: SANDAG; Woods & Poole Economics 2007; California Department of Finance; Landrum & Brown analysis

Year-to-year net changes in population, as seen in **Figure 2.2-1**, have consistently been positive for San Diego County. Based on a ten-year moving average, growth for the county can be seen as beginning to settle in the 1.5 percent range, which is approximately half the rate experienced in the 1980s. As San Diego County continues to mature it is reasonable to expect growth to align more closely with national growth rates. According to SANDAG projections, San Diego is forecast to reach about 4 million residents by 2030, averaging growth of 1.1 percent per year.

FIGURE 2.2-1
SAN DIEGO COUNTY HISTORICAL ANNUAL NET POPULATION CHANGE AND ROLLING 10 YEAR COMPOUND ANNUAL GROWTH RATE

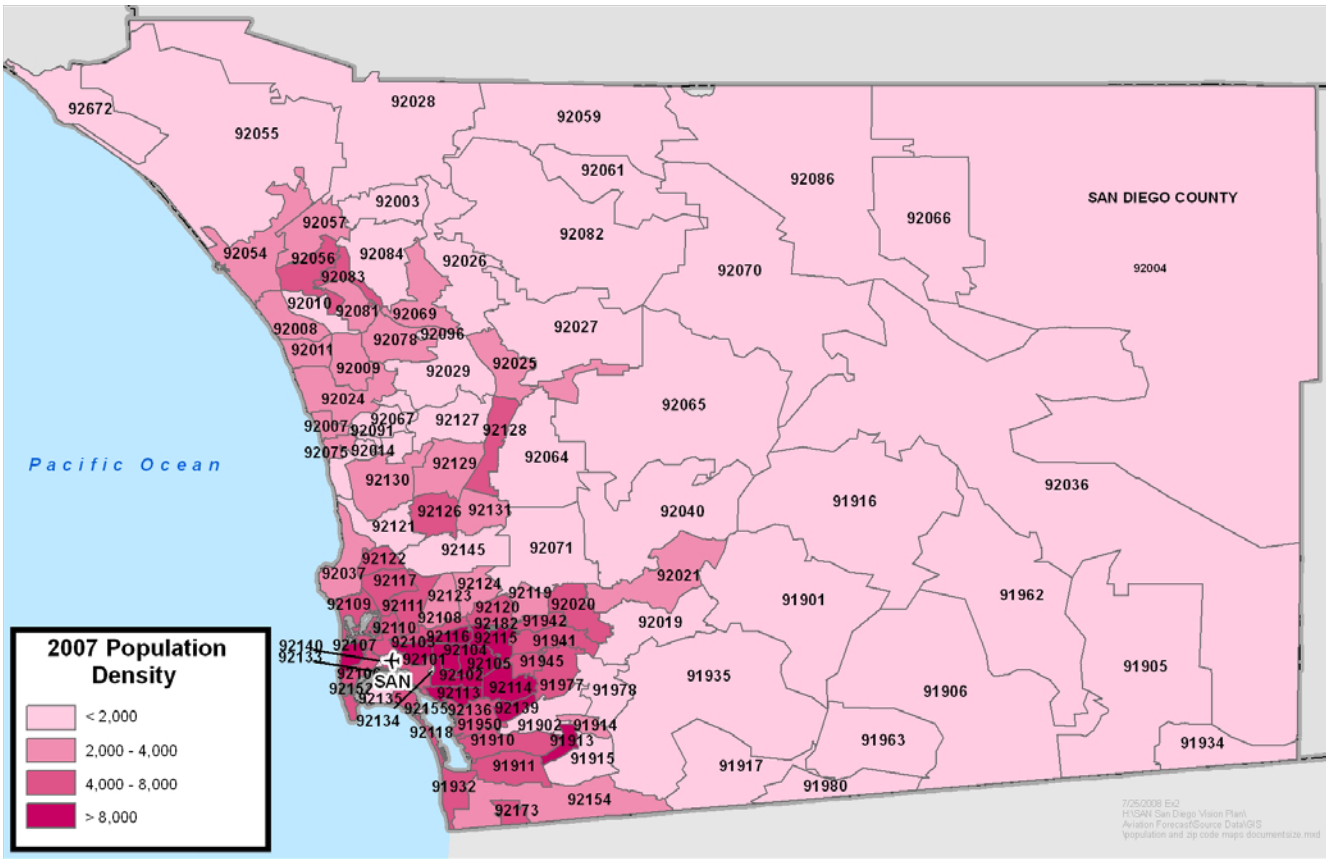


Sources: California Department of Finance; Landrum & Brown analysis

2.2.1.2 Population Density

Population within San Diego County is concentrated in the coastal corridors in the western areas of the county. The areas of highest population density are located in the southwest quadrant of the county in close proximity to SDIA (see **Figure 2.2-2**). Indeed, cities in the Southwest quadrant of the county such as San Diego, Chula Vista, El Cajon and La Mesa account for almost 60 percent of the total county population. The areas to the north of the city of San Diego are less densely populated. Coastal cities to the north such as Encinitas, Carlsbad, and Oceanside account for 12 percent of the county's population. Further inland in the northern party of the county, 14 percent of the population resides in cities such as Escondido, San Marcos, and Vista.

FIGURE 2.2-2
2007 SAN DIEGO COUNTY POPULATION DENSITY BY ZIP CODE



Sources: SANDAG; Landrum & Brown analysis

2.2.2 Income Trends

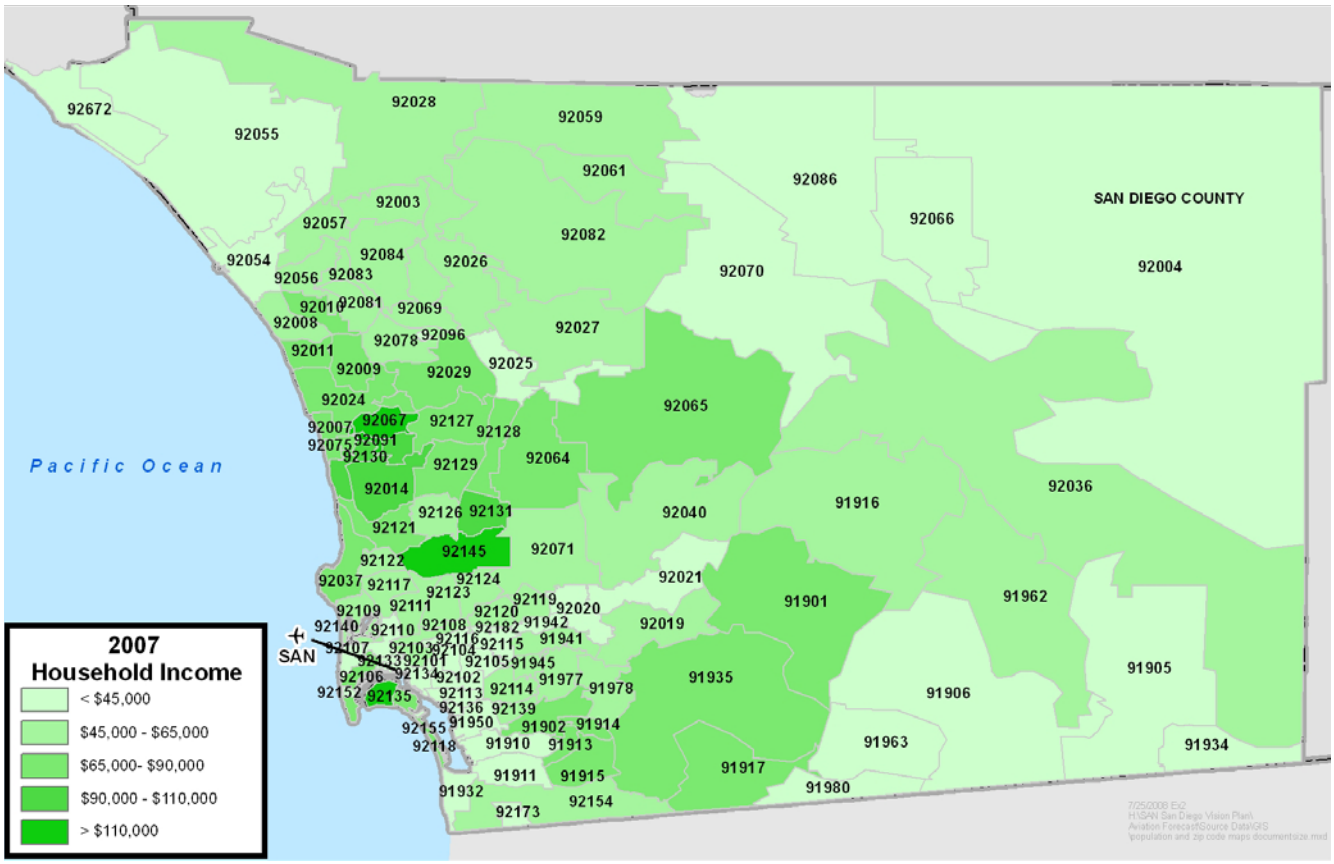
This subsection presents trends in median household income and PCPI. Household income represents the average income per housing unit while per capita personal income corresponds to the income per inhabitant (total income divided by total population). Income statistics are broad indicators of the relative earning power and wealth of the county and inferences can be made related to resident's ability to purchase air travel.

2.2.2.1 Household Income

Median household income at the zip code level was used to understand the distribution of wealth in the county.

The most densely populated areas in the southwest quadrant of the county typically have the lowest levels of household income, while communities to the north of the city of San Diego tend to have relatively higher income levels (see **Figure 2.2-3**). The coastal cities of Carlsbad, Del Mar, Encinitas, and Solana Beach all have household incomes in excess of $70,000. Indeed, Del Mar and Solana Beach have the highest household income in the county. Household income growth is expected to be strongest in the existing wealthiest areas of the county, located to the north and north east 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.

FIGURE 2.2-3
2007 SAN DIEGO COUNTY MEDIAN HOUSEHOLD INCOME BY ZIP CODE



Sources: SANDAG; Landrum & Brown analysis

2.2.2.2 *Per Capita Personal Income (PCPI)*

Real PCPI (inflation adjusted in 2000 dollars) for San Diego County has closely mirrored PCPI for the state (see **Table 2.2-3**). Real PCPI for San Diego 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 inhibited 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 than both the state and the nation between 1980 and 2006.

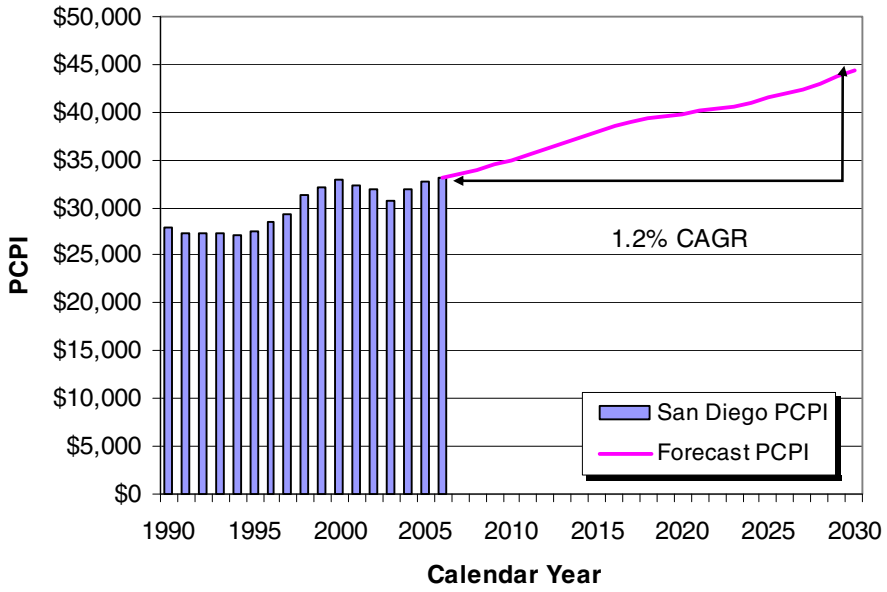
Table 2.2-3
SUMMARY OF HISTORICAL PCPI [1/]

	SANDAG	Bureau of Economic Analysis	
Year	San Diego	California	United States
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
CAGR 1980-1990	0.8%	1.0%	2.0%
CAGR 1990-2000	1.6%	1.5%	1.5%
CAGR 2000-2006	0.1%	0.2%	0.8%
CAGR 1980-2006	1.0%	1.0%	1.5%

[1/] Data is in constant 2000 dollars.
Sources: SANDAG; BEA, and 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 2.2-4**).

FIGURE 2.2-4
SAN DIEGO COUNTY FORECAST PCPI [1/]
San Diego County



Sources: SANDAG; Landrum & Brown analysis
1/ Data is in constant 2000 dollars

2.2.3 Employment

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 in San Diego County has marginally exceeded population growth, averaging 1.4 percent per year since 1990. Employment growth in the county has also been stronger than the state (1.1 percent per annum) and the U.S. (1.2 percent per annum) (see **Table 2.2-4**). 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.[4]

[4] California Department of Finance

TABLE 2.2-4
HISTORICAL AND FORECAST EMPLOYMENT LEVELS

Calendar Year	SANDAG	Woods & Poole		
	San Diego (in Thousands)	Southern California (in Thousands)	California (in Thousands)	United States (in Thousands)
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
CAGR 1980-2007	2.1%	1.9%	1.9%	1.7%
CAGR 2007-2015	1.2%	1.5%	1.6%	1.5%
CAGR 2015-2030	1.0%	1.3%	1.4%	1.3%
CAGR 2007-2030	1.1%	1.3%	1.5%	1.4%

Sources: SANDAG; Woods & Poole Economics 2007; Landrum & Brown analysis

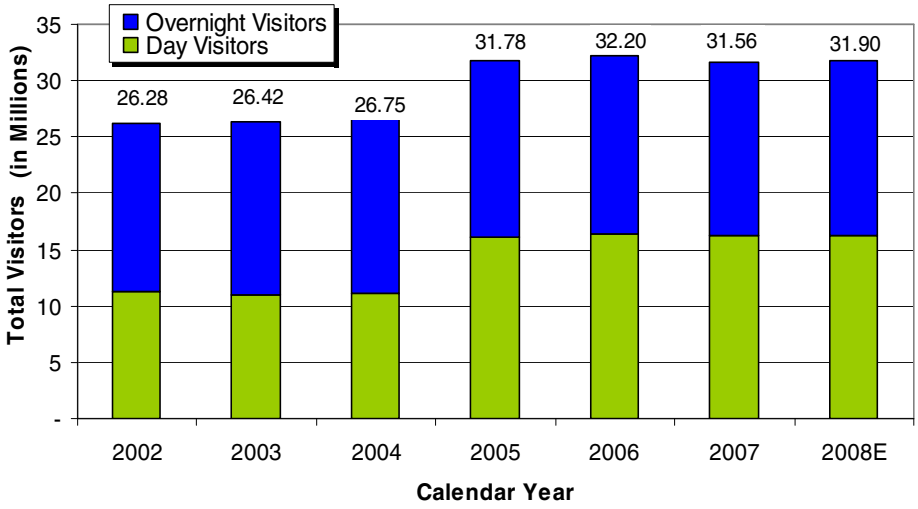
2.3 Tourism/Cruise Industry

This section presents an analysis of recent trends in the San Diego County tourism industry that influence air transportation demand at SDIA. Visitors to the county are important since they represent 55 percent of airport passengers. This section also provides a profile of San Diego visitors, discusses major attractions that draw visitors to San Diego County, summarizes the demand and supply for lodging and characterizes the cruise industry in San Diego County.

2.3.1 San Diego County Tourism Trends

According to the San Diego Convention and Visitors Bureau, there were 31.6 million visitors to San Diego County in 2007. Forty-nine percent were overnight visitors (see **Figure 2.3-1**) and 81 percent of all overnight visitors traveled for leisure purposes. At least 15 percent of all San Diego County visitors traveled through SDIA to in 2007. Starting in 2005, visitor counts included day visitors from Mexico.

FIGURE 2.3-1
SAN DIEGO COUNTY VISITORS



Sources: San Diego Convention and Visitors Bureau; Landrum & Brown analysis

According to the Convention and Visitors Bureau, the number of visitors to San Diego in 2007 was lower than the previous year for the first time since before 2002. All visitor segments were down compared to 2006, except for day-visitors from locations other than Mexico (this segment was up 2.6 percent over 2006). The total number of visitors to the area is expected to rebound and grow to 31.9 million in 2008. Total visitor spending is expected to increase at 2.9 percent to $8.1 billion in 2008, generating an economic impact of $18.6 billion, up from $7.9 billion and $18.1 billion respectively.

2.3.2 Visitor Profile

In 2007, 55 percent of overnight visitors to San Diego County were from out of state, with eight percent being from international markets (see **Table 2.3-1**).

Arizona is the second largest state market and has the highest spending per visitor at $778. Overall, an average overnight visiting party consists of 2.2 persons; stays for about four days, and spends about $391 per visitor. Residents of Southern California stay for the shortest duration (2.8 days on average) and spend the least ($268 per visitor).

Table 2.3-1
2007 SAN DIEGO COUNTY VISITOR PROFILE

Residence	% of Visitors	Avg. Group Size	Avg. Length of Stay	Visitor Spending
S. California	36%	2.4	2.8	$268
Arizona	13%	2.0	6.2	$778
Other Mountain States	10%	2.7	4.0	$349
N. California	9%	2.0	3.7	$345
Foreign	8%	2.2	5.5	$522
Midwest	7%	1.9	5.1	$519
South Central	5%	2.0	5.5	$458
Northeast	5%	1.9	5.5	$555
Other West. States	4%	2.4	3.9	$341
South Atlantic	4%	1.8	6.8	$670
All Overnight Visitors	100%	2.2	4.1	$391

Sources: San Diego Convention and Visitors Bureau; Landrum & Brown analysis

The number of international visitors to the U.S. increased from approximately 51 million in 2006 to 56 million in 2007, an increase of 9.6 percent. Approximately 43 percent of international visitors to the U.S. in 2007 were from overseas (excluding Canada and Mexico), 32 percent were from Canada, and 26 percent were from Mexico[5]. In 2007, 22 percent of the overseas visitors were destined for California. Three percent of overseas visitors to California were destined for San Diego in 2007.

2.3.3 Attractions and Lodging

This section discusses the major tourist attractions in San Diego County and provides a summary of lodging demand and supply. A summary of these key indicators of the San Diego tourism industry is available for reference in **Appendix A**.

Visiting the major attractions and theme parks in San Diego County is a major driver for a visitor's decision to travel to the area. Major attractions include SeaWorld, Knott's Soak City, San Diego Zoo, San Diego Wild Animal Park, Legoland, Miramar Speed Circuit, and more than 30 museums. New attractions at

[5] U.S. Department of Commerce, ITA, Manufacturing & Services, Office of Travel & Tourism Industries; Statistics Canada; and Banco de Mexico/Secretaria de Turismo.

Legoland and SeaWorld are expected to boost attraction attendance by four percent in 2008. While new exhibits and museums will be opening in 2008, museum attendance is not expected to exceed that of 2007 due to significant attendance at the Dead Sea Scrolls exhibit which was open from June 29, 2007 to Jan. 8, 2008 at the Natural History Museum.

The prestigious 2008 U.S. Open golf tournament was held at Torrey Pines in La Jolla from June 12th-15th. As expected, over 250,000 golf fans attended the event, with 50 to 60 percent coming from out of town.

The San Diego County hotel/motel room supply increased 10 percent between 2001 and 2007, to 54,193 rooms in 2007. The demand for hotel/motel rooms has generally kept pace with supply as occupancy rates have been steady at 73.8 percent in 2000 vs. 72.9 percent in 2007. In 2008, eight new properties with 1,098 additional hotel rooms are expecting to be added which represents two percent growth over 2007. The average daily hotel/motel room rate increased 26 percent from 2000-2007. The average daily rate is expected to increase from $139 in 2007 to $143 in 2008.

2.3.4 San Diego Cruise Industry

The cruise industry is the fastest growing sector of the worldwide travel industry. The average cruise passenger is 46 years old, has a median household income of $93,000, is college educated (69 percent) and is married (86 percent), according to the Spring 2008 TNS American Traveler Survey. Cruise passenger data collected by the U.S. Maritime Administration shows the west coast of Mexico to be the fastest growing market segment in the cruise industry, increasing from 10.8 percent of all multi-day cruise traffic in 2006 to 11.8 percent in 2007. This market segment is served primarily from San Diego. The California market (Los Angeles, Long Beach and San Diego) provides nearly 10 percent of U.S. cruise traffic.

The greatest driving force in cruise selections is destination followed by price. The average cruise passenger has taken three to four cruises, and the 2007 TNS survey of frequent travelers concluded that 77 percent of past cruise passengers and 55

percent of those who have not yet taken a cruise plan to do so in the next three years.

The Port of San Diego is the 13th busiest North American cruise port based on 340,814 passenger embarkations in 2007 (see **Appendix A**). Since 2004 San Diego has experienced growth at 25 percent per year which has far outpaced the largest ports in California and Florida. Scheduled trips from San Diego, as well as en route port calls, amounted to 238 total port calls in 2007, with an estimated 252 port calls expected in 2008. There are four cruise ship berths in San Diego, two at the B-Street pier and two at the Broadway pier, with three of the four currently in use. Current demand only requires the use of two piers on a regular basis with the third being used on heavy traffic days. Development and improvement projects are underway and major construction of a new cruise terminal along the Broadway pier is scheduled to begin in the spring of 2009. Nine cruise lines currently operate at the Port of San Diego. Carnival and Holland America lead the way with a combined 85 percent of the scheduled cruise offerings. Royal Caribbean has announced that they will add seasonal four to five-day Mexican Riviera cruises starting in mid-2009.

There are discussions to repeal or make amendments to the Passenger Vessels Service Act (PVSA) of 1886. The PVSA is the legislation that regulates maritime passenger transport. A change in itinerary restrictions to the PVSA calling for a mandatory minimum stay at a foreign port of at least 48 hours would have a serious impact on the cruise industry not only in San Diego but throughout North America which accounts for over 80 percent of the worldwide cruise industry. The possible amendment to the PVSA was initiated by the U.S. Customs and Border Protection agency and does not have a strong backing. It is unlikely to proceed as there is significant opposition from the tourism industry and local governments near cruise ports throughout the U.S.

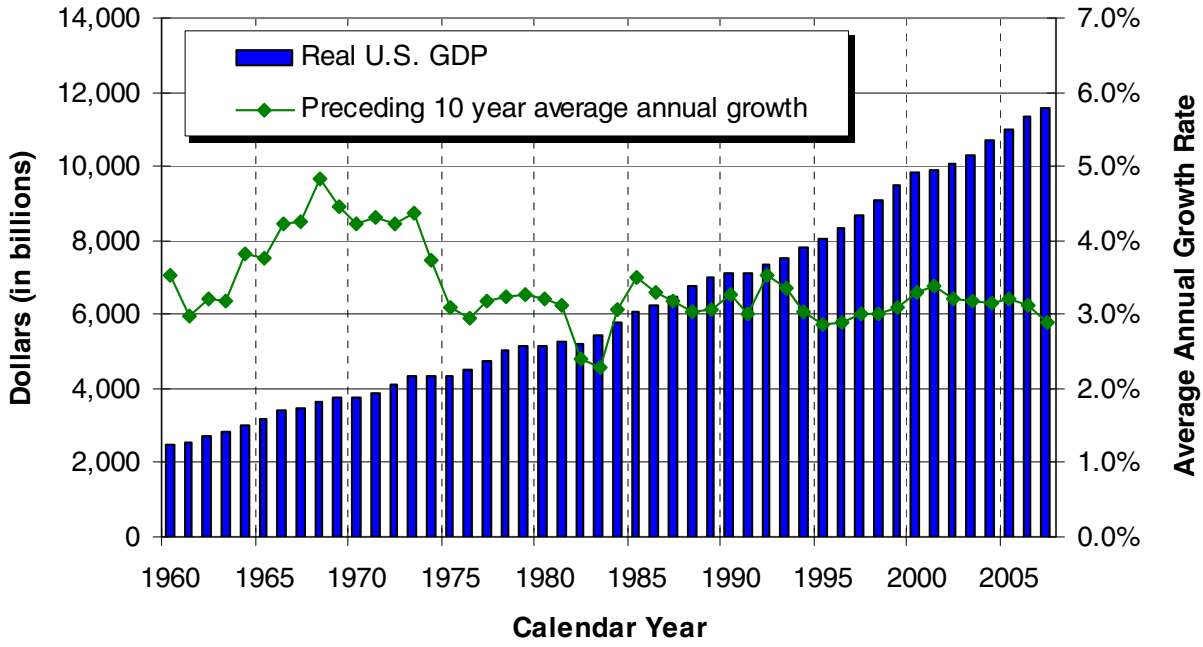
More detailed information on the cruise industry and the PVSA can be found in **Appendix A**.

2.4 United States and Global Economy

2.4.1 U.S. 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 2.4-1**).

FIGURE 2.4-1
HISTORICAL TRENDS IN U.S. GROSS DOMESTIC PRODUCT



Sources: Bureau of Economic Analysis; Landrum & Brown analysis

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. Tourism continues to play a critical role in the national economy, accounting for almost 10 percent of GDP and providing over 8.5 million jobs.

The most recent official economic recession in the U.S. occurred between March and November 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. However, by 2007 the economy began to slow again.

Since the summer of 2007, the U.S. and other industrialized western countries have been faced with an increasing credit crisis. In early 2007, financial markets drew attention to the rising delinquency rates of subprime mortgages and their impact on communities and the broader economy. The resulting housing market slowdown 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 has shed approximately 250,000 jobs through March.

According to recent projections published by the Congressional Budget Office in January 2008, U.S. GDP growth is expected to be moderate compared with historical trends, averaging growth of 2.7 percent per year through 2018 (see **Table 2.4-1**).[6]

[6] The Budget and Economic Outlook: Fiscal Years 2008 to 2018, January 2008, Congressional Budget Office.

TABLE 2.4-1
FORECAST OF U.S. GROSS DOMESTIC PRODUCT

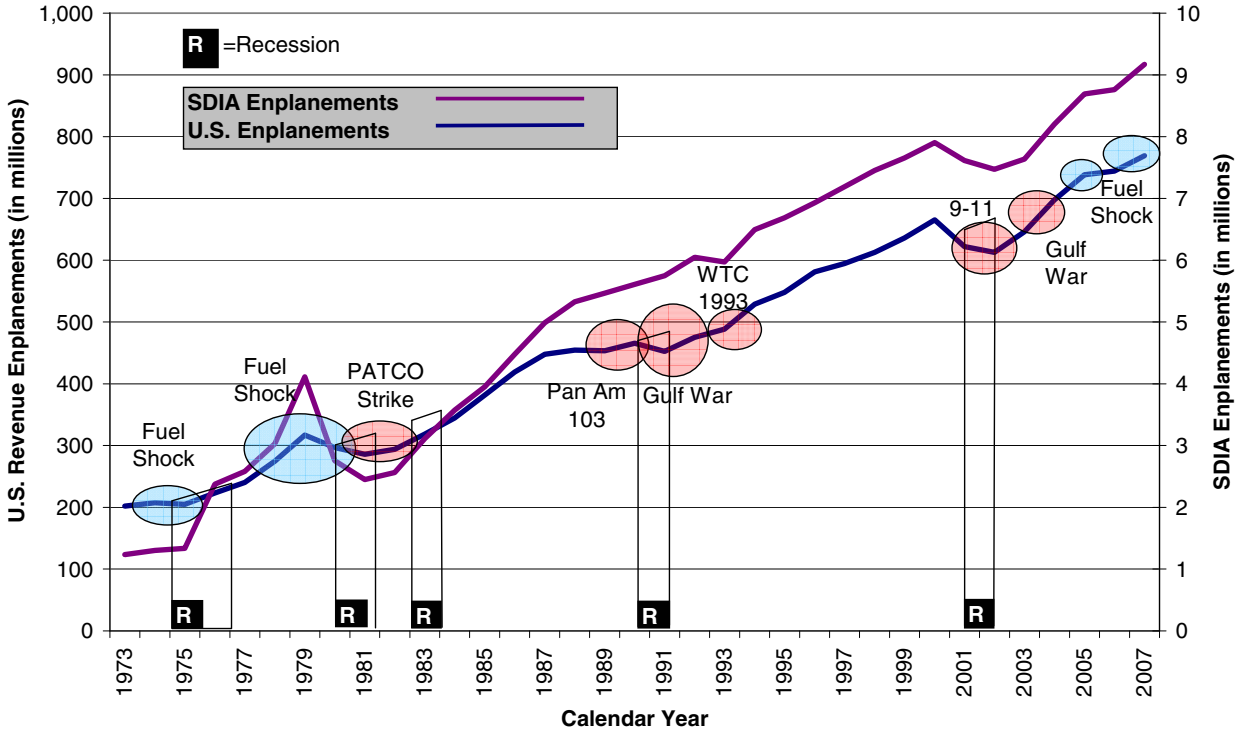
Calendar Year	United States GDP	Year over Year % Change
2007	11,567	
2008E	11,788	1.9%
2009	12,061	2.3%
2010	12,528	3.9%
2011	12,977	3.6%
2012	13,328	2.7%
2013	13,675	2.6%
2014	14,022	2.5%
2015	14,368	2.5%
2016	14,717	2.4%
2017	15,073	2.4%
2018	15,437	2.4%
CAGR 2007-2018	2.7%	

Sources: Congressional Budget Office; Landrum & Brown analysis

Growth in 2008 is projected to be 1.9 percent over 2007. Consumer spending and business investments are expected to be affected by the continuing mortgage crisis, however, the weakness of the dollar combined with the relative economic strength of the United States' major trading partners are expected to stimulate net exports and therefore, somewhat mitigate the downturn in the housing market.

Demand for air travel in the U.S. correlates strongly with fluctuations in the economy. As shown in **Figure 2.4-2**, passenger traffic has typically declined during economic contractions and returned to positive growth during subsequent economic expansions. However, traffic at SDIA has been more resilient than U.S. travel since the early 1980s. Importantly, the long term trends in passenger traffic volumes in the U.S. have been positive, albeit lower than SDIA, averaging growth of 3.6 percent per year, since airline deregulation in 1978.

FIGURE 2.4-2
AVIATION SYSTEM SHOCKS AND RECOVERIES

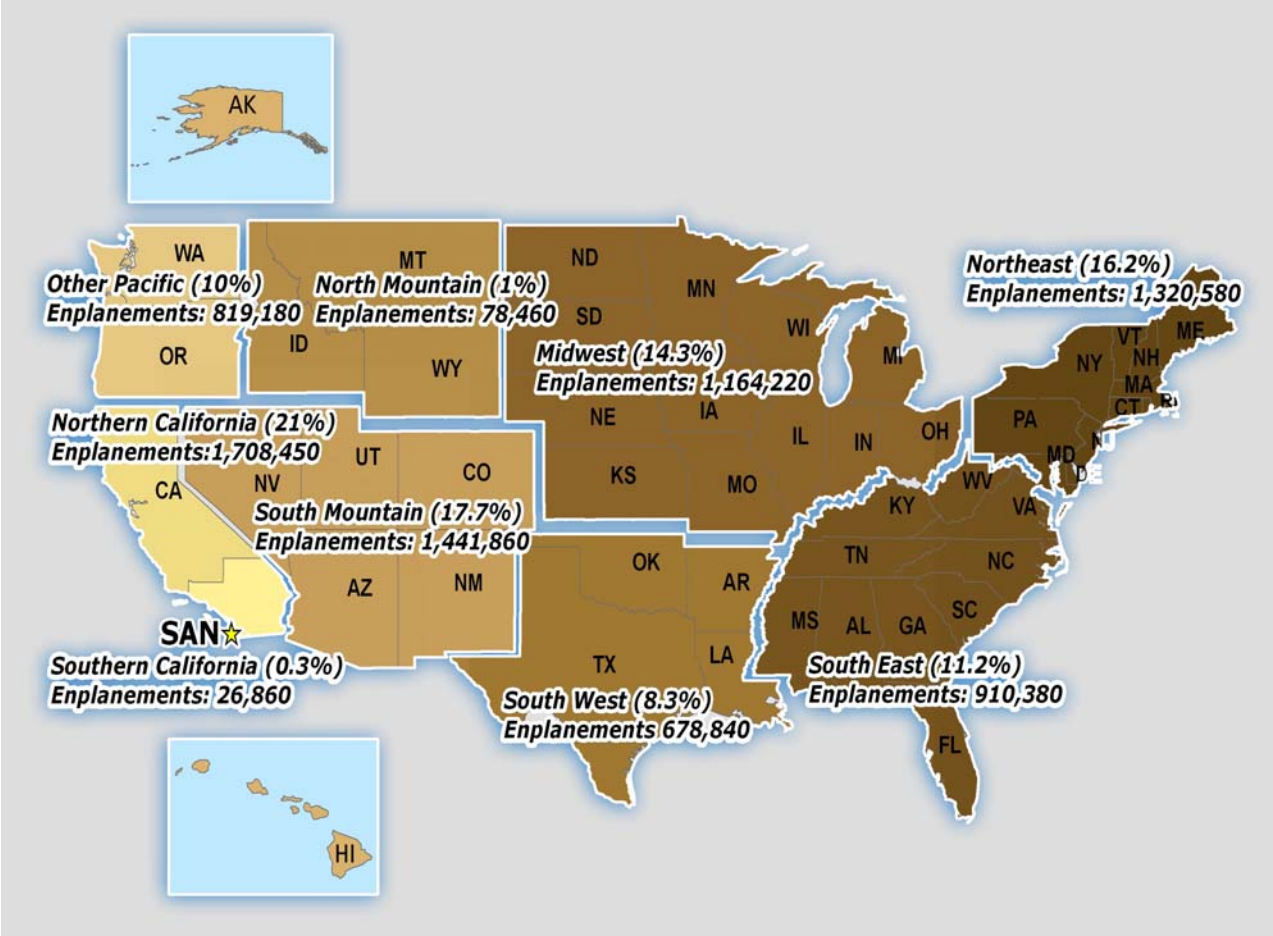


Sources: Air Transport Association of America; Landrum & Brown analysis

2.4.2 U.S. Regional Socio-Economic Factors

Nine U.S. regions were identified for the analysis of traffic at SDIA. Each region was based on a U.S. Census region and modified according to concentration of major airports and SDIA O&D markets. **Figure 2.4-3** shows the area within each region and how demand for air travel is distributed amongst all the regions. This analysis shows that Northern California holds the largest share of enplanements destined for SDIA, followed in order by the South Mountain and the Northeast regions. This subsection provides a summary of the socioeconomic trends in each of the nine identified regions.

FIGURE 2.4-3
MAP OF 2007 ENPLANEMENTS BY U.S. REGION



Sources: U.S. DOT, Air Passenger Origin-Destination Survey, Landrum & Brown

Two primary factors that drive demand for air travel are population and personal income. An increase in each of these factors indicates a potential resultant increase in air traffic at SDIA. Areas of high growth suggest an increasing likelihood that people will travel from that region to SDIA. Conversely, regions that are forecast to have minimal growth will likely need incentives such as lower fares to encourage increases in air travel.

As seen in **Table 2.4-2**, the South Mountain Region shows strong growth throughout all the socio-economic indicators with the highest forecast levels of growth for population and personal income. Northern California and Southwest regions also show

comparably strong growth in PCPI and personal income with moderate growth in population.

TABLE 2.4-2
2007-2030 FORECAST OF REGIONAL SOCIOECONOMIC INDICATORS

	Compound Annual Growth Rates		
Region	Population	PCPI	Personal Income
N. California	1.1%	1.4%	2.5%
S. California	1.0%	1.2%	2.2%
Pacific	1.2%	1.1%	2.4%
N. Mountain	1.2%	1.1%	2.4%
S. Mountain	1.7%	1.3%	3.0%
Midwest	0.6%	1.4%	2.0%
Southwest	1.1%	1.4%	2.5%
Northeast	0.6%	1.3%	1.9%
Southeast	1.2%	1.3%	2.5%

Sources: Woods & Poole, 2007; Landrum & Brown analysis

2.4.3 World Economy

Continued growth in international economies, in particular in Pacific and Latin America, will be fundamental to the retention and expansion of international passenger services at SAN. Economic forecasts published in the FAA's March 2008 Aerospace Forecasts for the years 2008 through 2025 call for the world economy to grow at a faster rate (3.2 percent per year) than the U.S. economy (2.7 percent per year). Notably, the Latin America (including the Caribbean) and Asia/Pacific regions are expected to experience above average growth of 4.1 percent per year, while the more mature economies of Canada and Europe are expected to experience slower growth rates of 2.4 and 2.5 percent per year, respectively (see **Table 2.4-3**).

TABLE 2.4-3
SUMMARY OF INTERNATIONAL GDP FORECASTS BY TRAVEL REGION [1/]

Calendar Year	Latin America, Caribbean, & Mexico	Canada	Europe, Africa, Middle East	Asia, Pacific	World
Actual					
2000	1,871.9	724.8	10,360.2	8,386.2	31,911.3
2007E	2,344.6	866.6	12,299.7	11,065.8	39,238.0
Forecast					
2010	2,687.3	939.8	13,349.9	12,735.3	43,506.1
2015	3,287.1	1,059.7	15,137.7	15,592.9	50,884.5
2020	3,998.0	1,185.4	17,104.5	19,032.6	59,380.6
2025	4,830.8	1,320.8	19,259.1	22,948.2	68,913.4
CAGR 2000-2007	3.3%	2.6%	2.5%	4.0%	3.0%
CAGR 2007-2015	4.3%	2.5%	2.6%	4.4%	3.3%
CAGR 2015-2025	3.9%	2.2%	2.4%	3.9%	3.1%
CAGR 2007-2025	4.1%	2.4%	2.5%	4.1%	3.2%

Sources: Global Insight, October 2007; Landrum & Brown analysis

2.5 Military Bases

San Diego is a leader in U.S. defense and homeland security efforts. The region has the largest military concentration in the nation and is home to the Space and Naval Warfare System Center (SPAWAR), with more than $1.2 billion annually in contracts and salaries in the San Diego region.[7] Total direct economic impact of military spending in San Diego was $13.4 billion in 2005.[8]

Military bases in San Diego County, including U.S. Navy ports, Marine Corps bases, and Coast Guard stations, accounted for 14 military bases with more than 147,000 personnel in 2005. **Table 2.5-1** presents military bases and number of personnel at each location in San Diego County. Defense spending for the military bases not only generate a major economic force to San Diego regional economy, but also affect the traffic traveling to and from SDIA each year. This traffic includes military personnel traveling on commercial passenger flights and family and friends of the military personnel traveling to the region.

[7] California Employment Development Department, 2006
[8] San Diego Association of Governments, 2005

Table 2.5-1
2005 MILITARY BASES and INSTALLATIONS
San Diego County

Base/Installation [1/]	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**

[1/] represents 11 of 14 installations
Sources: San Diego Regional Economic Development Corporation, 2005; Landrum & Brown analysis

3 HISTORICAL AVIATION ACTIVITY

SDIA is among the busiest airports in the U.S. and a critical component in San Diego County's transportation infrastructure. In 2007, SDIA handled 9.2 million passenger enplanements (18.3 million total passengers), almost 230,000 aircraft operations, and 155,000 tons of air cargo. While the airport serves a diverse customer base including cargo operators, fractional jet operators, private pilots, and the military, passenger airlines account for the majority of the operational activity at SDIA.

Passenger airlines have responded to the expanding economic base for air transportation in the county, and provided a predominantly domestic network of frequent and competitively priced air service. As of August 2008, 20 airlines provide service to 52 domestic and five international airports[9].

Passenger volumes at SDIA have increased, virtually uninterrupted, from 5.6 million enplanements in 1990 to 9.2 million enplanements in 2007. The expansion of low cost carriers (LCC) at SDIA has resulted in cheaper than average airfares, and driven traffic growth at a faster rate than many other U.S. airports. Historically, the majority of passengers are using SDIA travel on domestic itineraries. The presence of LAX to the north and TIJ to the south has served to limit international air service at SDIA.

This section provides a discussion of SDIA's role in terms of serving aviation demand in San Diego County, historical activity levels, and a summary of current domestic and international air service. The purpose of this section is to provide context for the forecast. It answers questions such as: who does SDIA serve and why? The past is not always a good predictor of the future, however, an analysis of historical data provides the opportunity to understand those factors which have either caused traffic to increase or decrease and how they may change in the future, thus influencing the forecast. While the socio-economic base is one of the fundamental underpinnings of the forecast, demand cannot be realized without, in the case of passenger travel, air service at a price that induces demand. Ultimately,

[9] Based on airline schedules for August 2008, *Official Airline Guide*

understanding the historical relationships between the economy and aviation activity at SDIA will form the building blocks of the forecast.

3.1 Market Overview

SDIA is located three miles northwest of San Diego's central business district and 25 miles from the international border at Tijuana, Mexico. SDIA is located at the confluence of a number of major interstate highways and regional roadways. Interstate 5 is the primary north-south interstate that connects coastal communities within San Diego County (see **Figure 3.1-1**). Interstate 15, is the other primary north-south interstate in the county, and runs parallel to the east of Interstate 5. Interstate 8 is the primary east-west highway and connects Imperial County and other communities to the east of the City of San Diego. SDIA's location at a focal point of the county's business and roadway network combine to make the airport an integral component of the region's transportation system and a key economic engine for Southern California.

FIGURE 3.1-1
AIRPORT LOCATION MAP
San Diego International Airport

Sources: Environmental Systems Research Institute, Inc. (ESRI); Landrum & Brown analysis

SDIA's physical footprint is the smallest of any large commercial airport in the U.S. at 661 acres. The airport also has the distinction of being the busiest single-runway airport in the country. Although SDIA is relatively limited in terms of future physical expansion, existing passenger traffic levels are generally in line with the size of the market the airport serves. **Table 3.1-1** provides a comparison between the ranking of the local population and local economy versus the corresponding airport traffic ranking for the top 25 largest Metropolitan Statistical Areas (MSAs) in the U.S. An upward arrow indicates that the airport(s) in the MSA is larger in term of passenger traffic than the local economy it serves. A downward arrow indicates that

the airport(s) in the MSA is smaller in term of passenger traffic than the local economy.[10]

TABLE 3.1-1
2007 SAN DIEGO MARKET RANK [1/]

	Area Rank				
Statistical Area	Population	Economy	vs.	Domestic O&D	Total Enplanements
New York	1	1	▶	1	1
Los Angeles	2	2	▶	2	3
Chicago	3	3	▶	3	2
Baltimore/Washington, D.C.	4	4	▶	4	6
Boston	5	6	▼	8	13
San Francisco Bay Area	6	5	▶	5	8
Dallas	7	8	▼	9	5
Philadelphia	8	7	▼	15	17
Houston	9	9	▼	13	9
Atlanta	10	11	▲	10	4
Miami (South Florida)	11	12	▲	6	7
Detroit	12	10	▼	18	14
Phoenix	13	15	▲	11	11
Seattle	14	13	▼	14	18
Minneapolis-St. Paul	15	14	▼	19	15
Denver	16	16	▲	12	10
San Diego	**17**	**17**	▶	**17**	**20**
Cleveland	18	18	▼	23	23
St. Louis	19	19	▼	20	22
Tampa	20	20	▲	16	19
Orlando	21	22	▲	7	12
Pittsburgh	22	21	▼	24	25
Sacramento	23	25	▲	21	24
Charlotte	24	23	▲	22	16
Cincinnati	25	24	▼	25	21

[1/] The economic rank is based on Gross Regional Product data.
Sources: U.S. Census Bureau; Woods & Poole Economics, Inc; USDOT, Schedule T-100; USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

[10] This analysis takes into account that certain markets are served by multiple airports. For example the San Francisco Bay Area includes passenger traffic for San Francisco International Airport, San Jose International Airport, and Oakland International Airport.

Economically, the San Diego market is the 17th largest in the U.S. and SDIA is the primary airport serving the catchment area. In terms of passenger traffic, the San Diego market is the 20th largest in the U.S. in terms of total passengers and the 17th largest airport in terms of domestic O&D passengers.

3.2 Historical Trends in Aviation Activity

This section provides an overview of historical trends in passenger enplanements, air cargo tonnage, and aircraft operations.

3.2.1 Passenger Traffic

SDIA is one of thirty U.S. airports which enplane one percent of total U.S. enplanements and is consequently designated as a "Large Hub Primary Commercial Service Airport" by the FAA.[11] Passenger traffic at SDIA has increased at an average rate of 2.9 percent annually since 1990 to 9.2 million enplaned passengers in 2007 (see **Table 3.2-1**).

Historically, passenger air travel to and from SDIA has been primarily domestic with a relatively small component of international travel. Geographically, SDIA's position in the southwest corner of the U.S. is not well suited for an airline to establish significant connecting (hubbing) operations, particularly for domestic connections. As a result, most passengers using SDIA either begin or end their journey at the airport. In 2007, 96 percent of enplaned passengers at SDIA were O&D in nature, while the remaining 4 percent made connections at the airport.

[11] FAA National Plan of Integrated Airport Systems (NPIAS)

TABLE 3.2-1
HISTORICAL PASSENGER ENPLANEMENTS
San Diego International Airport

Calendar Year	Originating Enplanements		Connecting	Total
	Domestic	International		
1990	5,330,526	55,002	223,480	5,609,008
1995	6,297,081	70,693	318,370	6,686,144
2000	7,459,454	127,739	317,250	7,904,443
2005	8,276,774	115,670	300,250	8,692,694
2006	8,331,791	113,778	314,100	8,759,669
2007	8,725,100	121,006	326,860	9,172,966
CAGR 1990-1995	3.4%	5.1%	7.3%	3.6%
CAGR 1995-2000	3.4%	12.6%	-0.1%	3.4%
CAGR 2000-2005	2.1%	-2.0%	-1.1%	1.9%
CAGR 2005-2007	2.7%	2.3%	4.3%	2.7%
CAGR 1990-2007	2.9%	4.7%	2.3%	2.9%

Sources: Airport Records; USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

3.2.2 Air Cargo Traffic

Over the past five years, passenger and all-cargo airlines have handled between 155,000 and 208,000 tons of air cargo (see **Table 3.2-2**). The majority of air cargo at SDIA is handled by integrated carriers such as Federal Express (FedEx) and United Parcel Service (UPS) which provide vertically integrated door-to-door service. In 2007, FedEx accounted for 72 percent of total cargo tonnage transported at SDIA.

TABLE 3.2-2
HISTORICAL CARGO VOLUMES (IN SHORT TONS)
San Diego International Airport

Calendar Year	Total Cargo		
	All-cargo	Belly	Total
2003	125,348	29,258	154,606
2004	129,231	23,026	152,257
2005	167,539	20,167	187,705
2006	190,351	17,642	207,992
2007	141,653	13,036	154,689
CAGR 2003-07	3.1%	-18.3%	0.0%

Sources: Airport Records, USDOT, Schedule T-100; Landrum & Brown analysis

3.2.3 Aircraft Operations

Almost 230,000 aircraft operations (arrivals and departures) were recorded at SDIA in 2007 (see **Table 3.2-3**). Commercial passenger operations have historically accounted for over 85 percent of total operations at the airport. There has been a notable shift in commercial passenger operations to larger air carrier aircraft at San Diego, primarily due to LCCs expanding service using narrowbody aircraft and a significant decline in smaller turboprop activity between San Diego and the Los Angeles market. Increasing aircraft size, coupled with higher average passenger load factors, has meant increased passenger traffic at SDIA has not resulted in a commensurate increase in the level of passenger operations. Between 1995 and 2007, passenger enplanements increased 37 percent while aircraft operations remained within the range experienced at SDIA during the second half of the 1990s. Air cargo operations made up 2.9 percent of total aircraft operations in 2007 while civil aviation and military activity represented just over 10 percent of 2007 activity.

TABLE 3.2-3
HISTORICAL AIRCRAFT OPERATIONS
San Diego International Airport

Calendar Year	Commercial Passenger							
	Domestic							
	Air Carrier	Commuter	International	Total	Air Cargo	Civil	Military	Total
1995	137,598	57,761	1,974	197,333	5,593	19,027	5,041	226,994
2000	145,220	35,819	2,305	183,344	6,016	16,759	770	206,889
2005	144,264	39,414	4,160	187,838	7,206	24,595	227	219,866
2006	148,114	37,665	3,847	189,626	6,592	24,209	193	220,620
2007	155,194	40,433	3,317	198,943	6,682	23,645	216	229,486
CAGR 1995-2000	1.1%	-9.1%	3.1%	-1.5%	1.5%	-2.5%	-31.3%	-1.8%
CAGR 2000-2005	-0.1%	1.9%	12.5%	0.5%	3.7%	8.0%	-21.7%	1.2%
CAGR 2005-2007	3.7%	1.3%	-10.7%	2.9%	-3.7%	-2.0%	-2.5%	2.2%
CAGR 1995-2007	1.0%	-2.9%	4.4%	0.1%	1.5%	1.8%	-23.1%	0.1%

Sources: Airport Records, USDOT, Schedule T-100; Landrum & Brown analysis

Passenger aircraft operations are grouped into two different categories by the FAA according to aircraft seating capacity: air carrier and commuter. Air carrier passenger aircraft are defined as those having more than 60 seats; commuter aircraft are defined as those with less than 60 seats. However, the Airport's definitions of air carrier and commuter are different than the FAA. Aircraft that fly between SDIA and Southern California airports are classified as a commuter regardless of seating capacity. Aircraft that fly to and from a destination outside Southern California are classified as air carrier. **Table 3.2-4** shows historical passenger aircraft operations based on the Airport's definition. Regardless of the different definitions for classifying an aircraft operation, the total commercial operations number sums to the same number. All international passenger flights have historically been operated with air carrier equipment.

TABLE 3.2-4
HISTORICAL AIRCRAFT OPERATIONS
San Diego International Airport

Calendar Year	Commercial Passenger Operations			Civil	Military	Total
	Air Carrier	Commuter	Total			
1995	138,728	64,198	202,926	19,027	5,041	226,994
2000	153,314	37,097	190,411	15,708	770	206,889
2005	151,857	44,446	196,303	23,336	227	219,866
2007	177,404	27,582	204,986	24,284	216	229,486
CAGR 1995-2000	2.0%	-10.4%	-1.3%	-3.8%	-31.3%	-1.8%
CAGR 2000-2005	-0.2%	3.7%	0.6%	8.2%	-21.7%	1.2%
CAGR 2005-2007	8.1%	-21.2%	2.2%	2.0%	-2.5%	2.2%
CAGR 1995-2007	13.1%	-34.5%	0.5%	13.0%	-79.3%	0.5%

Sources: SDIA Noise Mitigation Office; Landrum & Brown analysis

3.3 Domestic Passenger Air Service and O&D Traffic

Airlines operating at SDIA provide a total of 282 domestic daily flight departures with nonstop service to 52 airports in 46 markets (see **Figure 3.3-1**) [12,13]. In terms of capacity (i.e. seats on departing flights), the San Diego-Bay Area market is the busiest, accounting for almost 20 percent of scheduled domestic capacity, followed by Phoenix (8.2 percent) and Las Vegas (6.2 percent).

Historically, SDIA has been served by a relatively diverse base of airlines. A total of 17 airlines currently provide service at the airport to domestic destinations.[14] LCCs account for approximately 50 percent of scheduled domestic capacity at SDIA. Southwest Airlines (Southwest), the largest LCC in the U.S., is the airport's largest passenger carrier accounting for 37 percent of daily departures and 40 percent of departing seats. Southwest operates 103 daily departures serving 17 nonstop

[12] Represents an average day in the month of August based on schedules filed with the *Official Airline Guide* (OAG) as of June 2008

[13] SDIA has service to markets with multiple airports (John F Kennedy & Newark airports in New York, Baltimore-Washington & Washington Dulles airports in Washington D.C., O'Hare & Midway airports in Chicago, Bush-Intercontinental & Hobby airports in Houston, and Oakland, San Jose & San Francisco airports in San Francisco).

[14] Based on August 2008, *Official Airline Guide*

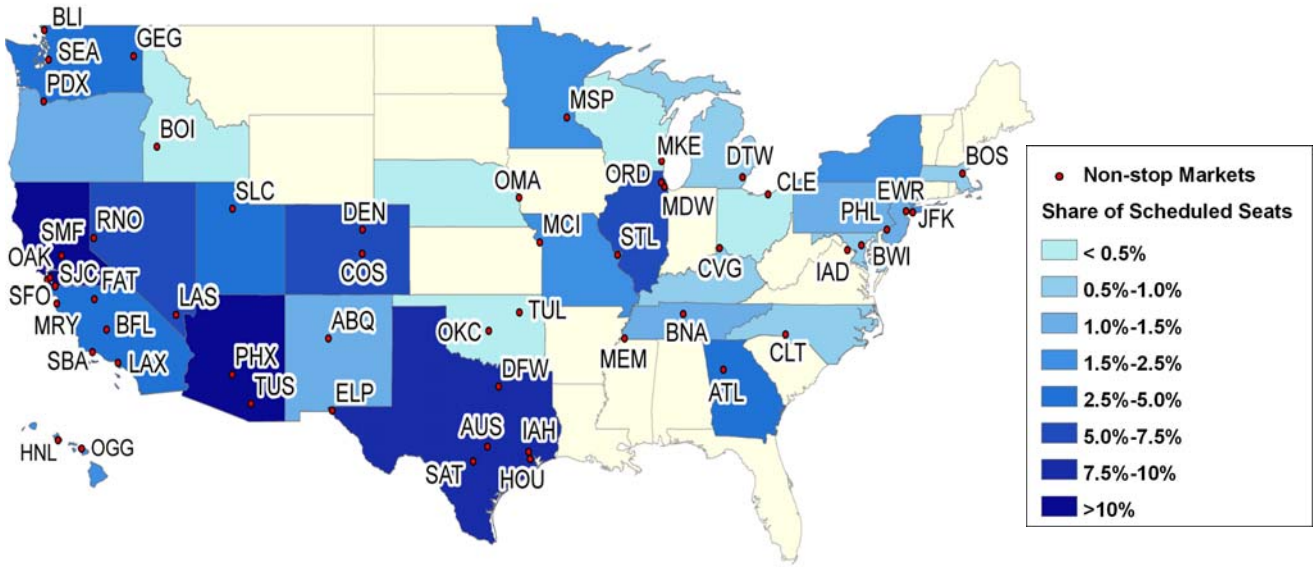
markets (19 airports) from SDIA. In addition to Southwest's strong presence, a number of LCCs have initiated service at SDIA in recent years. JetBlue started service at SDIA in 2003 with nonstop flights from its base at Kennedy International Airport. AirTran began service at SDIA in May 2007. Virgin America started service in February 2008 from its base at San Francisco International Airport.

Legacy carriers account for 48 percent of scheduled domestic capacity in 2008. United is currently the largest legacy carrier at SDIA with just over 10 percent of domestic capacity, followed by American, Delta, and US Airways (see **Table 3.3-1**).

Other carriers account for the remaining 2.5 percent of scheduled domestic capacity in 2008. Notably, ExpressJet provided service to the second highest number of nonstop markets from SDIA (10 nonstop markets). However, since it flew to each market with 50-seat regional jets, it accounted for only 1.6 percent of the total domestic seat capacity at SDIA in August of 2008. ExpressJet has suspended branded commercial operations and will fly as Continental Express as of September 2, 2008.

Passengers traveling to and from the San Diego area also have the option of flying from one of the other Southern California airports such as LAX, John Wayne, Ontario, or Long Beach. All 52 domestic airports served from SDIA are also served from at least one of the other Southern California airports. Airfares in general are relatively competitive at SDIA versus other Southern California airports as a result it tends to be for unique nonstop air service that passengers use other Southern California airports and in particular LAX, which has nonstop service to 85 U.S. airports.

FIGURE 3.3-1
SDIA AIR SERVICE - DOMESTIC NONSTOP DESTINATIONS [1/]
San Diego International Airport



Sources: Environmental Systems Research Institute, Inc. (ESRI); *Official Airline Guide*, as of June 2008; Landrum & Brown analysis
[1/] Based on airline schedules for August 2008

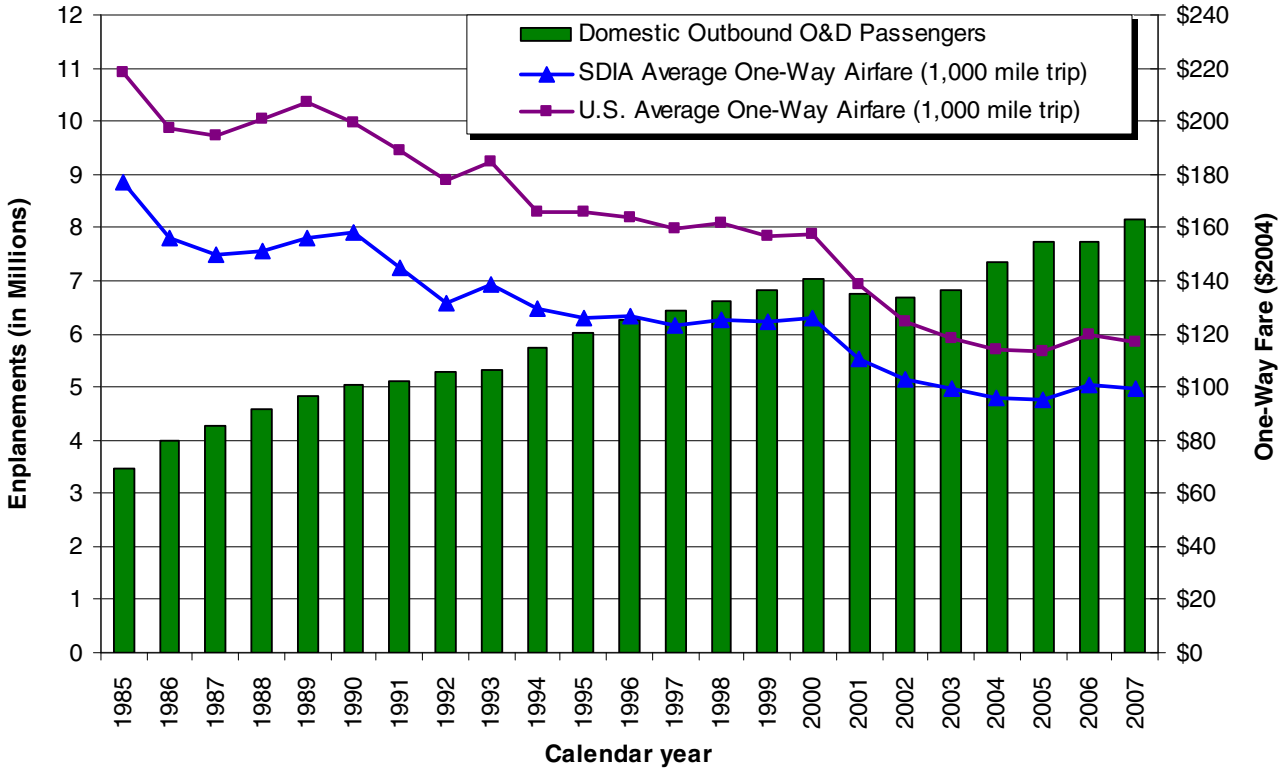
TABLE 3.3-1
DOMESTIC AIR SERVICE SUMMARY [1/]
San Diego International Airport

Airline	Markets Served	Departing Flights		Departing Seats		Seats Per Departure
		Avg. Daily	% of Total	Avg. Daily	% of Total	
Southwest	17	103	36.5%	14,014	40.0%	136
United	6	38	13.6%	3,583	10.2%	94
American	7	38	13.6%	3,369	9.6%	88
Delta	4	15	5.4%	2,385	6.8%	156
US Airways	4	15	5.2%	2,223	6.3%	153
Continental	3	13	4.5%	1,977	5.6%	157
Alaska	2	11	4.1%	1,698	4.8%	148
jetBlue	5	8	2.8%	1,200	3.4%	150
Northwest	3	6	2.2%	937	2.7%	152
Frontier	1	6	2.1%	794	2.3%	136
ExpressJet	10	14	5.0%	711	2.0%	50
Virgin America	1	5	1.7%	644	1.8%	133
AirTran	2	5	1.6%	628	1.8%	137
Hawiian	2	2	0.7%	528	1.5%	264
Midwest	1	2	0.6%	156	0.4%	99
Sun Country	1	1	0.3%	146	0.4%	156
Allegiant	1	0	0.1%	63	0.2%	150
Total	**46**	**282**	**100.0%**	**35,057**	**100.0%**	**124**
LCC[2/]	24	128	45.3%	17,488	49.9%	137
Legacy[3/]	25	138	49.1%	16,701	47.6%	121
Other[4/]	11	16	5.6%	868	2.5%	55
Total	**46**	**282**	**100.0%**	**35,057**	**100.0%**	**124**

[1/] Based on airline schedules for August 2008
[2/] LCCs include Southwest, jetBlue, Frontier, Virgin America, AirTran, Sun Country, and Allegiant.
[3/] Legacy carriers include United, American, Delta, US Airways, Continental, Northwest, Alaska, and Hawiian.
[4/] Other carriers include ExpressJet and Midwest.
Sources: *Official Airline Guide*, as of June 2008; Landrum & Brown analysis

Domestic O&D passenger enplanements at SDIA increased from 5.3 million in 1990 to 8.7 million in 2007, representing an average growth rate of 3.0 percent annually. During this time period, LCCs captured an increasing share of the passenger market. By 2007, LCCs accounted for 45 percent of domestic O&D traffic at SDIA up from 29 percent in 1990. As a result of the strong LCC presence at SDIA, passengers have historically paid significantly lower fares to fly than passengers at other U.S. airports in general (see **Figure 3.3-2**). In 2007, the average one-way fare paid at SDIA for a 1,000 mile trip was $99.02, compared with $117.14 at other U.S. airports.

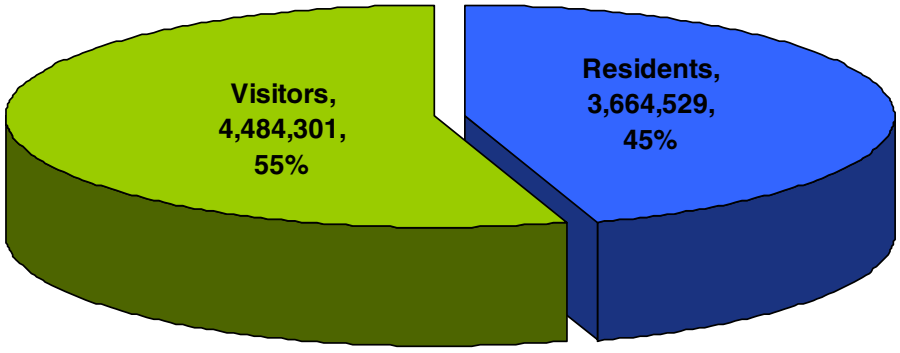
FIGURE 3.3-2
DOMESTIC OUTBOUND O&D PASSENGERS AND AVERAGE ONE-WAY FARE PAID (PER 1,000 MILE TRIP)
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

With a well developed tourism industry, San Diego is a destination market with a greater number of visitors traveling to the area versus residents traveling from the area. SDIA's visitor-resident split has generally ranged between 51.7 and 55.7 percent since 1990. In 2007, 55 percent of domestic O&D passengers (4.5 million passengers) were visitors. (see **Figure 3.3-3**).

FIGURE 3.3-3
OUTBOUND DOMESTIC O&D PASSENGERS - RESIDENT VS. VISITORS
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

3.4 International Passenger Air Service

In 2008, there are five airlines serving five international nonstop markets (see **Figure 3.4-1**).[15] Markets include Vancouver, Canada (YVR); Los Cabos, Mexico (SJD); Puerto Vallarta, Mexico (PVR); and London, England (Gatwick - LGW). London is a new nonstop destination operated by Zoom Airlines which began on June 20, 2008. In addition to the four markets served in 2008, dashed lines in the Figure represent nonstop service which has been or will be discontinued in 2008. Service to Mexico City (MEX) by Aeromexico was discontinued in January 2008, service to Toronto, Canada (YYZ) by Air Canada will be discontinued in September 2008, and service to Puerto Vallarta on US Airways will be discontinued in the 4th quarter of 2008. Zoom Airlines ceased operations in late August 2008.

[15] Based on airline schedules for August 2008, *Official Airline Guide*

FIGURE 3.4-1
INTERNATIONAL NONSTOP AIR SERVICE [1/]
San Diego International Airport

Sources: *Official Airline Guide*, as of June 2008; Landrum & Brown analysis

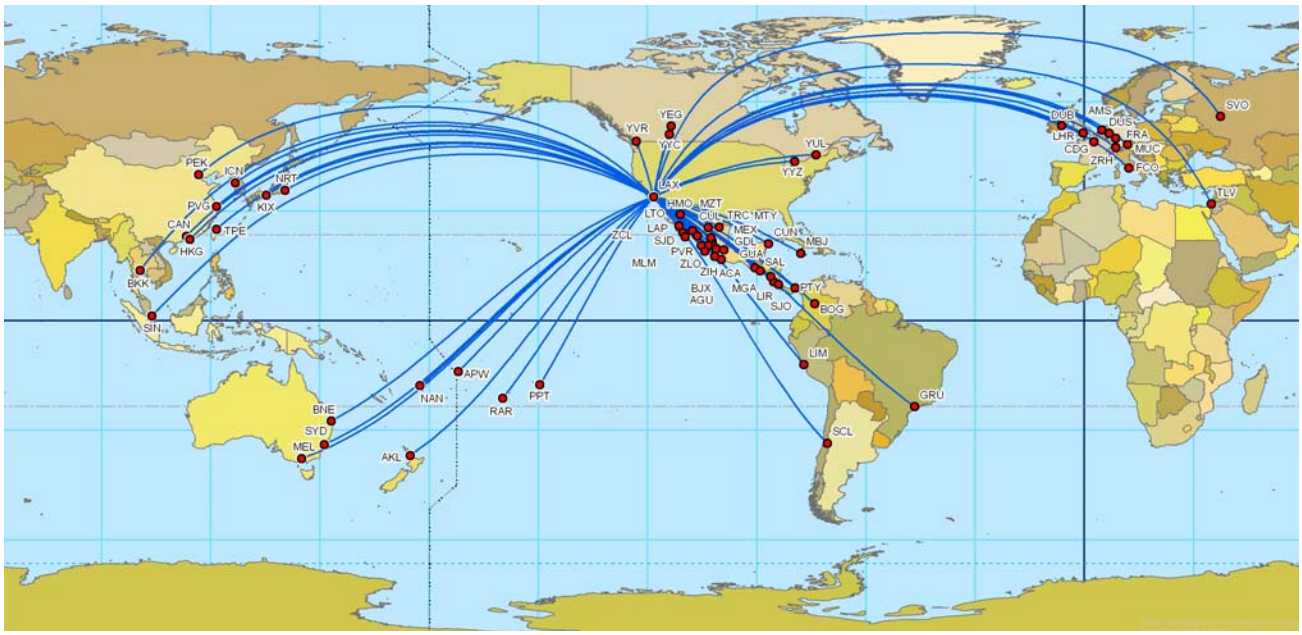
Air service provided at LAX and TIJ impacts the level of international air service at SDIA due to the relative proximity of these airports. LAX is located 109 miles north of SDIA and TIJ is located 25 miles south of SDIA. **Table 3.4-1** provides a summary of international air service at LAX and TIJ. LAX is the second largest international gateway in the U.S. with 102 flights per day to 45 international destinations (see **Figure 3.4-2**). By world region, LAX is the largest U.S. gateway to Mexico and the Far East, with 43 daily flight to 19 airports in Mexico and 27 daily flights to 10 airports in the Far East. When compared to U.S. airports, TIJ is the third largest in term of scheduled capacity to Mexico, with 45 daily flights to 22 airports in Mexico (see **Figure 3.4-3**). In addition, TIJ also has nonstop service to Shanghai, China and Tokyo, Japan.

TABLE 3.4-1
LAX and TIJ INTERNATIONAL AIR SERVICE SUMMARY [1/]
San Diego International Airport

Region	U.S. Rank [2/]	Daily Flights	Daily Seats	Airports Served	Carriers Serving
LAX International Air Service Summary:					
Mexico	1	43	5,578	19	7
Central America	3	9	1,523	6	6
Europe	6	23	6,939	10	15
Far East	1	27	8,740	10	16
Total		**102**	**22,781**	**45**	**37**
TIJ (International) Air Service Summary:					
Mexico	3	45	5,042	22	6
Far East	19	1	160	2	1
Total		**45**	**5202**	**24**	**6**

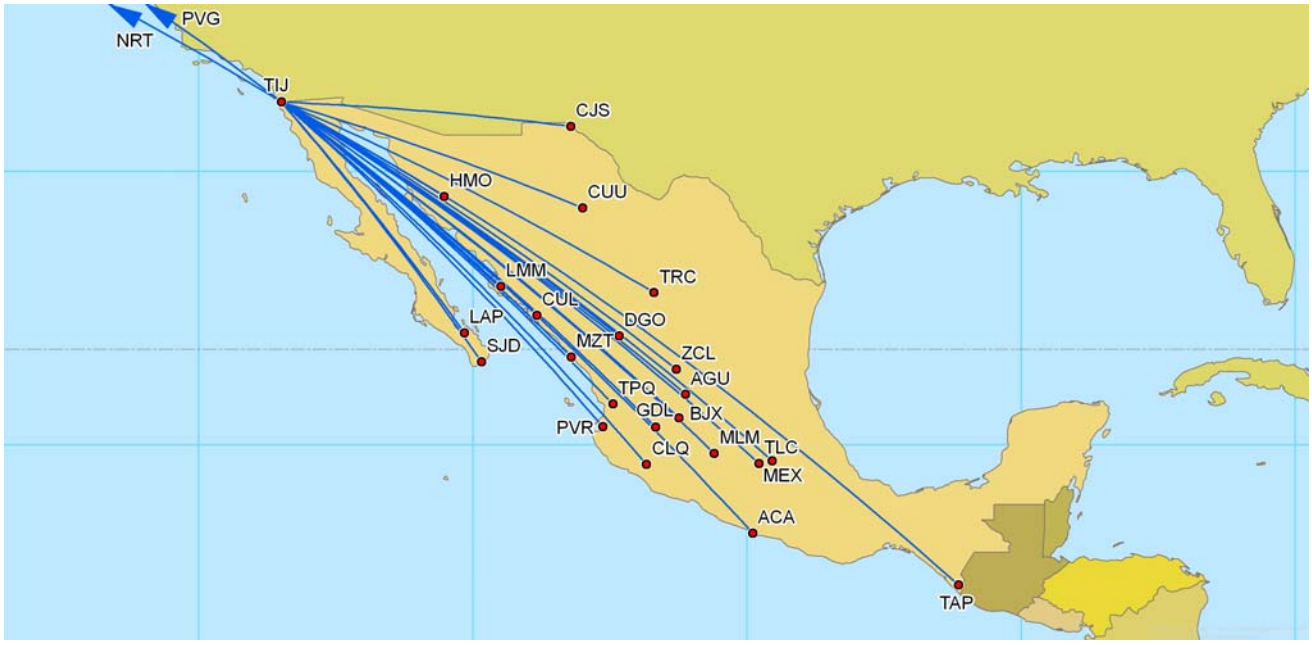
[1/] Based on airline schedules for August 2008
[2/] Rank is based on scheduled seats for August 2008; The U.S. rank for TIJ represents how TIJ would rank amongst all U.S. airports.
Sources: *Official Airline Guide*, as of June 2008; Landrum & Brown analysis

FIGURE 3.4-2
LAX INTERNATIONAL NONSTOP AIR SERVICE [1/]



Sources: Official Airline Guide, as of June 2008; Landrum & Brown analysis
[1/] Based on airline schedules for August 2008

FIGURE 3.4-3
TIJ NONSTOP AIR SERVICE [1/]



Sources: *Official Airline Guide*, as of June 2008; Landrum & Brown analysis
[1/] Based on airline schedules for August 2008

3.5 Near-Term Air Service Changes at SDIA

The airline industry is in a considerable state of flux. Record oil prices are putting significant upward pressure on airlines to increase fares to cover the increased cost of jet fuel. A sluggish U.S. economy is preventing the airlines from passing on increased costs to customers through higher fares at existing capacity levels, particularly for domestic travel. As a result, many airlines are rationalizing their operations after the peak summer season to better align revenues with the true cost of doing business. It is important to note that individual airlines (and as a result airports with different airline market shares) will be affected differently, as was the case in the aftermath of the September 11, 2001 terrorist attacks. Domestic capacity as measured by scheduled departing seats is currently projected to be down 8.7 percent nationwide in the fourth quarter of 2008 compared to the fourth quarter of 2007 and down 3.5 percent for the full calendar year. Initially it appeared that SDIA would not be as affected as other U.S. airports by the service cutbacks, primarily by the legacy carriers. Scheduled domestic departing seats at SDIA are now expected to be down 8.8 percent in the fourth quarter from 2007, but up 0.7 percent for calendar year 2008. This section summarizes the domestic air service and air traffic changes expected in 2008 and the resulting estimate of 2008 domestic traffic for SDIA.

3.5.1 Carrier Near-Term Plans

Overall, total scheduled seat capacity at SDIA has increased from 12.2 million in 2007 to 12.3 million in 2008. Over the same period, total domestic scheduled seats at SDIA have increased almost 1 percent and international schedule seats have declined 11 percent (see **Table 3.5-1**).

TABLE 3.5-1
CHANGE IN SCHEDULED SEATS BY CARRIER
San Diego International Airport

Airline	Scheduled Seats 2007	Scheduled Seats 2008	% Change
	Domestic Seats		
Southwest	4,718,868	5,092,562	7.9%
United	1,412,494	1,300,144	-8.0%
American	1,377,734	1,187,940	-13.8%
US Airways	912,241	799,213	-12.4%
Delta	797,179	788,379	-1.1%
Alaska	725,491	602,074	-17.0%
Continental	597,162	580,129	-2.9%
jetBlue	235,950	326,250	38.3%
Northwest	323,914	309,216	-4.5%
Frontier	279,800	278,738	-0.4%
ExpressJet	202,450	208,100	2.8%
Virgin America	-	199,339	n.a.
Hawiian	175,560	161,304	-8.1%
AirTran	73,158	122,478	67.4%
Sun Country	61,398	51,489	-16.1%
Midwest	58,608	42,471	-27.5%
Aloha	45,260	21,824	-51.8%
Allegiant	-	13,050	n.a.
Total	**11,997,267**	**12,084,700**	**0.7%**
	International Seats		
Alaska	54,704	52,704	-3.7%
Air Canada	69,117	51,558	-25.4%
Aeromexico	56,514	46,034	-18.5%
Zoom	-	14,896	n.a.
US Airways	7,654	6,020	-21.3%
Frontier	4,624	-	-100.0%
Total	**192,613**	**171,212**	**-11.1%**
Grand Total	**12,189,880**	**12,255,912**	**0.5%**

n.a. = not applicable.
Sources: *Official Airline Guide*, as of August 2008; Landrum & Brown analysis

Many carriers, both legacy and LCC, have added service at SDIA in 2007 and 2008:

Southwest Airlines added nonstop service to San Francisco (SFO) in 2007.

Delta increased seat capacity to Salt Lake City (SLC) by 11.1 percent in 2008.

US Airways added nonstop service to Las Vegas (LAS) in 2007.

jetBlue added nonstop service to Boston (BOS) and SLC in 2007 and to Seattle (SEA) in 2008.

Virgin America added nonstop service to SFO in February 2008.

AirTran increased seat capacity to Atlanta (ATL) by 55.6 percent in 2008.

Allegiant added nonstop service to Bellingham, Washington (BLI) in June 2008.

Zoom added nonstop service to London Gatwick (LGW), UK in June 2008. Zoom ceased operations in late August 2008.

Offsetting the service additions are reductions in capacity by the non-LCC carriers in 2007 and 2008:

American Airlines dropped nonstop service to BOS in September 2008 and reduced seat capacity to San Jose (SJC) by 42 percent and New York (JFK) by 41 percent in 2008.

Alaska Airlines dropped nonstop service to SFO and Vancouver (YVR), Canada in 2007.

Continental Airlines dropped nonstop service to Cleveland Hopkins (CLE) in 2008.

ExpressJet dropped nonstop service to Bakersfield (BFL), Oklahoma City (OKC), Omaha (OMA), and Tulsa (TUL) in August 2008 and suspended its brand in September 2008.

Hawaiian Airlines dropped nonstop service to Kahului, Hawaii (OGG) in 2008.

Sun Country reduced seat capacity to Minneapolis (MSP) by 16.1 percent in 2008.

Midwest Airlines discontinued service at SDIA in 2008.

Aloha Airlines dropped all services on March 31, 2008. The airline ceased operation.
Air Canada dropped Toronto (YYZ), Canada in September 2008.
US Airways dropped Puerto Vallarta in 2008.
Aeromexico dropped Mexico City (MEX), Mexico in January 2008.
Frontier dropped Cancun (CUN), Mexico in 2007.

ExpressJet suspended branded commercial operations in 2008 due to high fuel costs. It will drop all the operations under ExpressJet airline name by September 2, 2008. The airline will continue to fly, branded as Continental Express. Since all ten airports serving by ExpressJet are not served by any other airlines, the number of domestic nonstop markets served from SDIA will be reduced significantly. By the end of the year 2008, SDIA total domestic nonstop destinations will be reduced to 38 airports compared to 51 airports in 2007. The ExpressJet fleet at SDIA consists of small regional jets (less than 60 seats). Therefore, the reductions due to ExpressJet accounted for only 1.6 percent of domestic seat capacity in 2007. In addition, total international nonstop destinations will be reduced to two airports by the end of 2008 compared to six airports in 2007 due to Toronto service being dropped by Air Canada and Puerto Vallarta service being discontinued by US Airways. Overall, seating capacity at SDIA for the fourth quarter 2008 is expected to be 8.9 percent lower than fourth quarter 2007.

3.5.2 2008 SDIA Traffic Estimate

Total passenger enplanements traffic at SDIA increased 5.6 percent over last year for 12 month ended June 2008. Domestic passenger enplanements accounted for almost 99 percent of total enplanements at SDIA. Domestic passenger enplanements traffic was up 7.2 percent through March 2008, while nationwide domestic traffic increased just 0.8 percent year-over-year. In the second quarter of 2008, passenger volumes at SDIA showed signs of slowing down, but were still up almost 4.0 percent. While the first two quarters of 2008 showed an increase in traffic at SDIA, O&D passenger traffic is expected to decline 2.4 percent in the second half of 2008 vs. 2007. Overall, domestic seat capacity is expected to increase 0.7 percent in 2008

according to the airline schedules in the OAG. This increase can be attributed to planned capacity increases by Southwest, jetBlue, Virgin America and AirTran offsetting capacity reductions by American, United and US Airways. Average load factors are projected to be 74.7 percent in 2008, down from 75.3 percent in 2007. Domestic O&D traffic is expected to maintain its 90 percent share of domestic enplanements through 2008.

Table 3.5-2 shows 2008 estimated domestic and international outbound activity based on the above assumptions. Total passenger enplanements are projected to increase 1.0 percent to nearly 9.3 million enplanements in 2008. Domestic O&D traffic is projected to increase by 1.4 percent over 2007 to 8.8 million enplanements. Over the same period, international O&D traffic is projected to decline 3.3 percent to 117,000 in 2008.

TABLE 3.5-2
2008 DOMESTIC OUTBOUND ACTIVITY ESTIMATE
San Diego International Airport

Calendar Year	Passenger Enplanements				Seats	Load Factor
	Originating					
	Domestic	International	Connecting	Total		
2006	8,278,386	113,778	367,505	8,759,669	11,712,856	74.8%
2007	8,699,454	121,006	352,506	9,172,966	12,189,880	75.3%
2008	8,817,956	116,966	329,226	9,264,148	12,397,448	74.7%
			% Change:			
2006-2007	5.1%	6.4%	-4.1%	4.7%	4.1%	0.6%
2007-2008	1.4%	-3.3%	-6.6%	1.0%	1.7%	-0.7%

H:\SAN San Diego Vision Plan\Aviation Forecast\Source Data\[2008 Estimate.xls]Chart
Sources: Airport Records; USDOT, Schedule T-100; USDOT, *Air Passenger Origin-Destination Survey*; *Official Airline Guide*, as of July 2008; Landrum & Brown analysis

4 FACTORS THAT AFFECT THE COST OF AIR TRAVEL

The aviation industry currently faces an unprecedented period of uncertainty. Oil prices have surged to historically high levels just as the U.S. airline industry as a whole returned to profitability in 2006 and 2007 following the most recent economic downturn and the aftermath of the September 11, 2001 terrorist attacks. Airlines face significant upward pressure on their costs but have limited ability to extract further cost savings from labor, which provided significant concessions in the last round of restructuring following September 11, 2001. With fuel costs largely beyond their control, airlines are increasing fares, cutting traditional amenities, and charging for checked bags, among other measures to balance the variables of supply and demand.

Until now, the post deregulation airline industry environment has been characterized as a period of declining fares which has ostensibly commoditized air travel causing passenger traffic to reach record levels. This decline in fares was especially true at SDIA where the expansion of service by low-cost carriers has resulted in less than average airfares driving traffic growth at a faster rate than many other U.S. airports.

Now as the industry is collectively facing significantly higher costs and the traveling public sees higher fares, there is the possibility that fewer people will fly. In the current weak consumer environment, increases in airfares are likely to have a much greater dampening effect on demand. Airlines are recognizing this and are cutting capacity, parking aircraft, and restructuring route networks. A proposed federal bill addressing climate change also has the potential to further increase airline operating expenses as a cost is attached to airline emissions as part of a cap and trade system.

The new higher-cost industry will affect each airport differently, depending upon the mix of airlines, aircraft, and air services offered. Historical activity indicates that SDIA tends to weather industry downturns better than other airports. Overall, passenger enplanements have continued to grow over time –

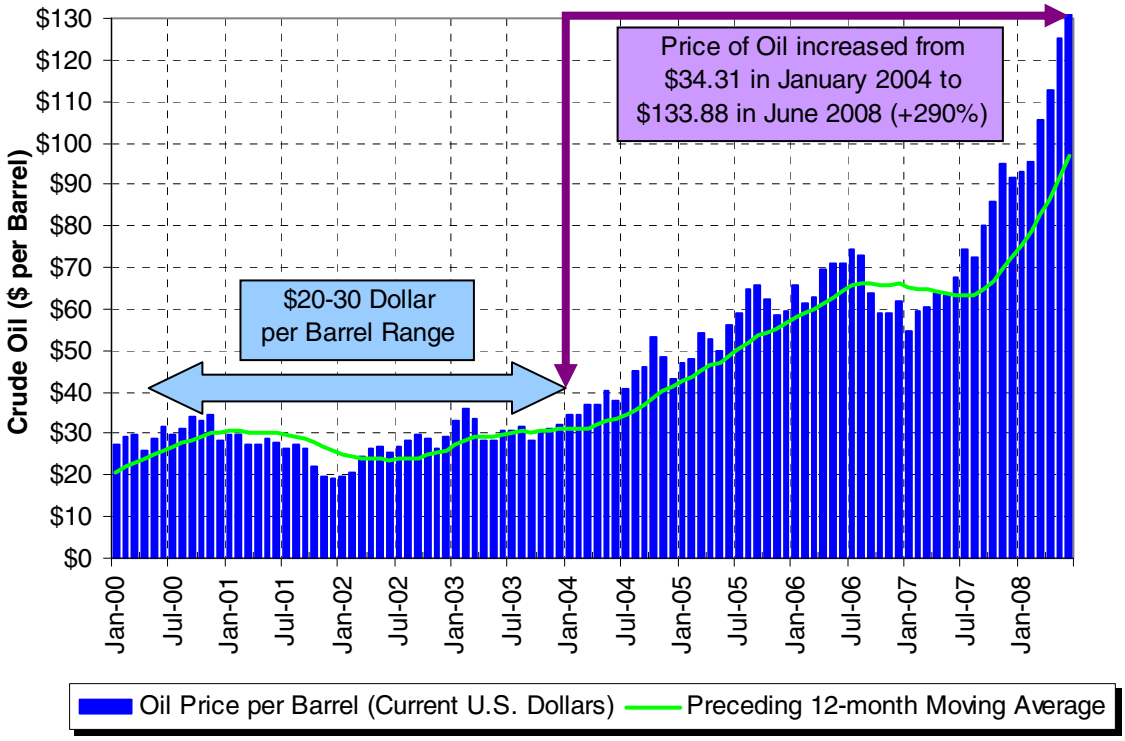
requiring airports to continue to plan for the future, especially given the long lead time required to implement airport improvements.

This section summarizes the potential impact that the price of fuel, domestic capacity cutbacks, airline economics, aircraft economics, and future emissions costs will potentially have on the forecasts of aviation demand at SDIA. While these factors have their origin in the airlines' ability to supply capacity at an airport, these factors are reflected in the form of ticket prices to consumers which drives passenger demand.

4.1 Price of Fuel

The price of jet fuel is directly linked to the price of oil and subsequent refining costs. The price of oil has increased dramatically since 2004, posting a 290 percent increase in June 2008 versus January 2004 (see **Figure 4.1-1**). 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. Several factors are driving 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.

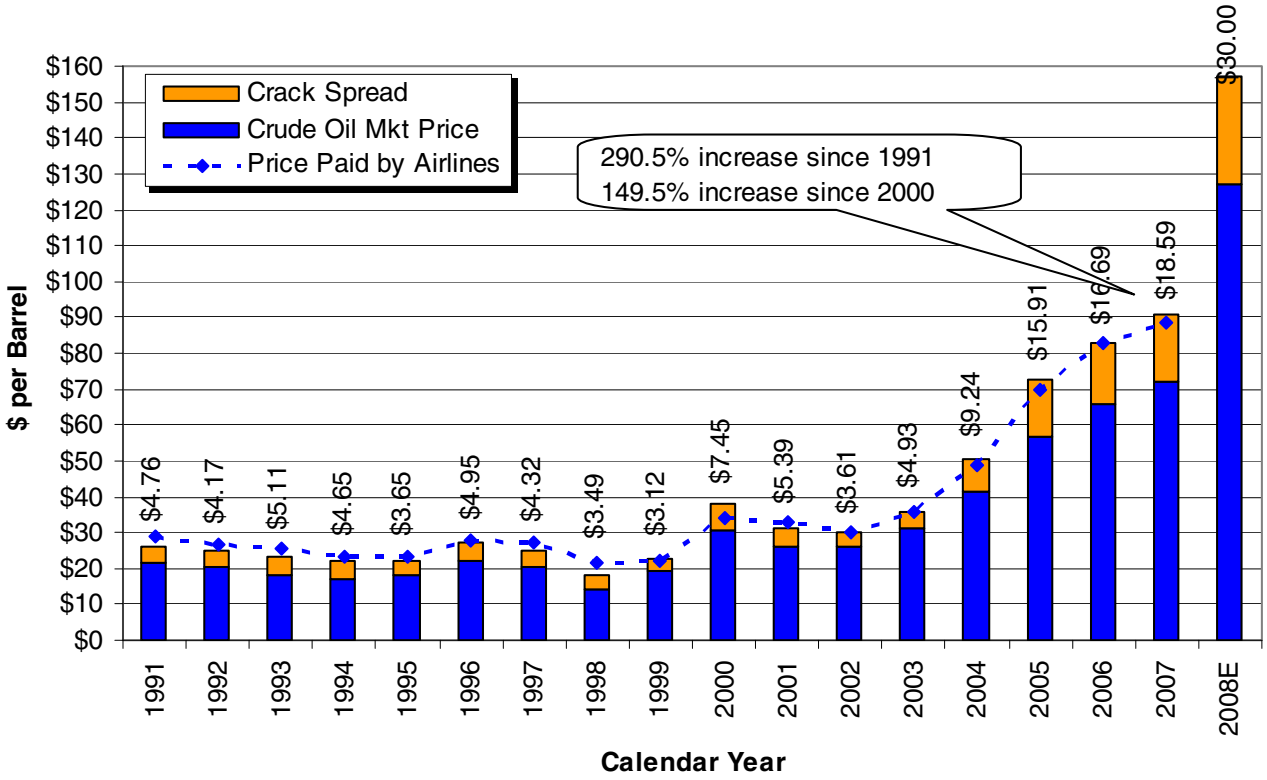
FIGURE 4.1-1
CRUDE OIL PRICES [1/]



Sources: Energy Information Administration; Landrum & Brown analysis
[1/] Prices shown are spot prices for West Texas Intermediate (WTI) crude oil (spot prices require immediate payment vs. forward prices which can be settled in the future).

As a result of the surge in the price of oil, airlines have seen their jet fuel costs rise significantly. Indeed, airlines are expected to pay an average $152 per barrel of jet fuel in 2008. This price includes a $122 per barrel of crude oil as well as an additional $30 in refinement cost. In comparison, airlines were paying $48 and $88 for the same barrel of jet fuel in 2004 and in 2007, respectively. The refinement cost, also called crack spread, corresponds to the price to "crack" crude oil into petroleum products. The crack spread in 2008 is expected to be around $30 (25 percent of jet fuel price), six times the $5 historical norm. **Figure 4.1-2** presents the historical crude oil and crack spread prices for the past 18 years.

FIGURE 4.1-2
HISTORICAL JET FUEL PRICES [1/]



Sources: Energy Information Administration; Air Transport Association; Landrum & Brown analysis
[1/] EIA 2008 estimate based on June 10, 2008.

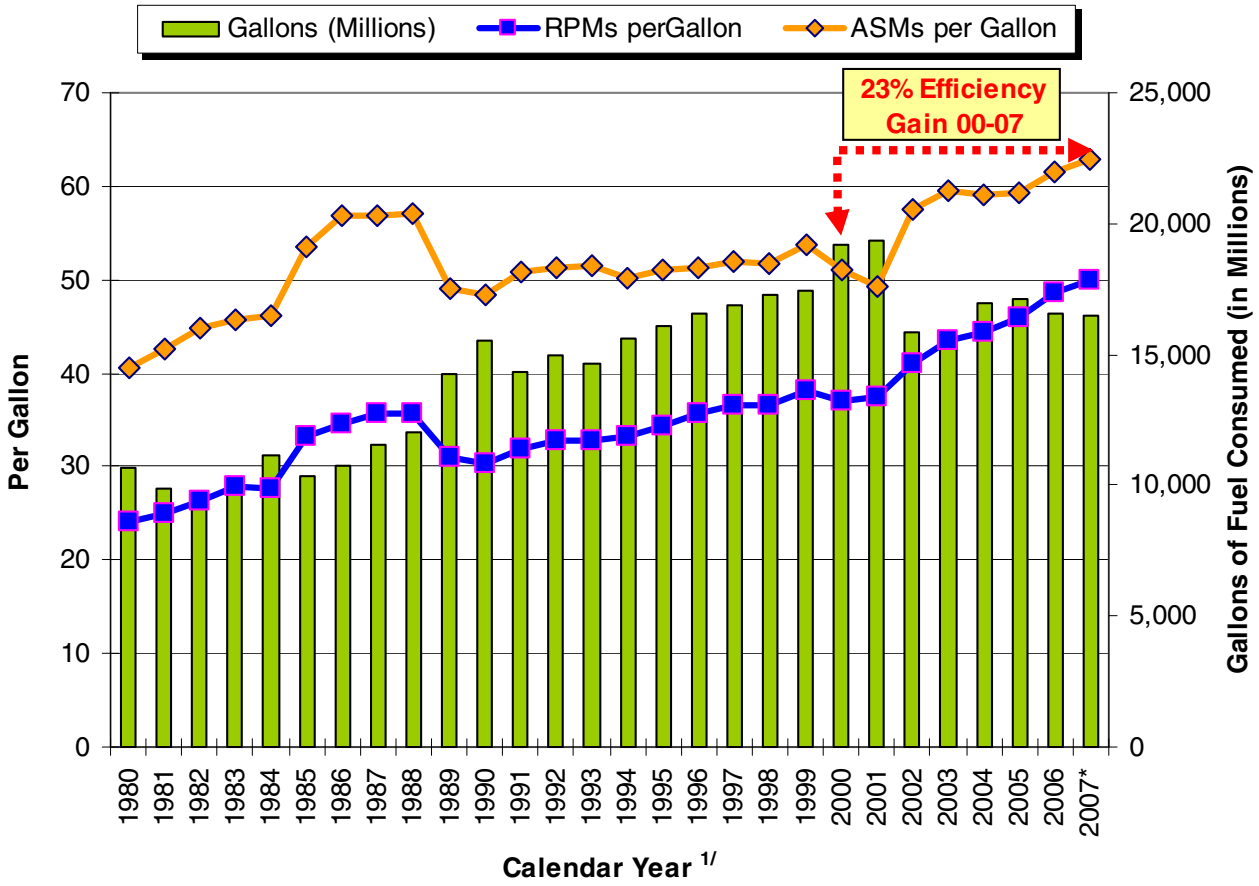
Over the years, airline fuel efficiency has been constantly improving. According to the Air Transport Association (ATA), airlines now achieve 60 available seat miles (ASMs) per gallon of fuel versus only 40 ASM per gallon in the early 1980s. In 2007, fuel efficiency increased by 23 percent compared to 2000 while fuel consumption decreased by 14 percent over the same period (see **Figure 4.1-3**). Load factor increases have also improved fuel productivity per revenue passenger mile (RPM). The operational and planning techniques used by airlines to mitigate fuel consumption include:

Self-imposed grounding of aircraft during delays instead of airborne holding;
Shutting down engines during ground delays and single-engine taxi procedures;

Reduced power takeoffs and no reversed thrust on landing;
Optimizing flight planning for minimum fuel burn, flying at higher altitudes with longer cruise times and shorter approach procedures;
Modernizing aircraft fleet with more fuel-efficient aircraft and adding winglets to reduce drag and decrease fuel consumption during the flight;
Redesigning hubs and schedules to alleviate congestion.

Alternative fuels are currently not an option for the existing fleet of aircraft in order to improve fuel efficiency.

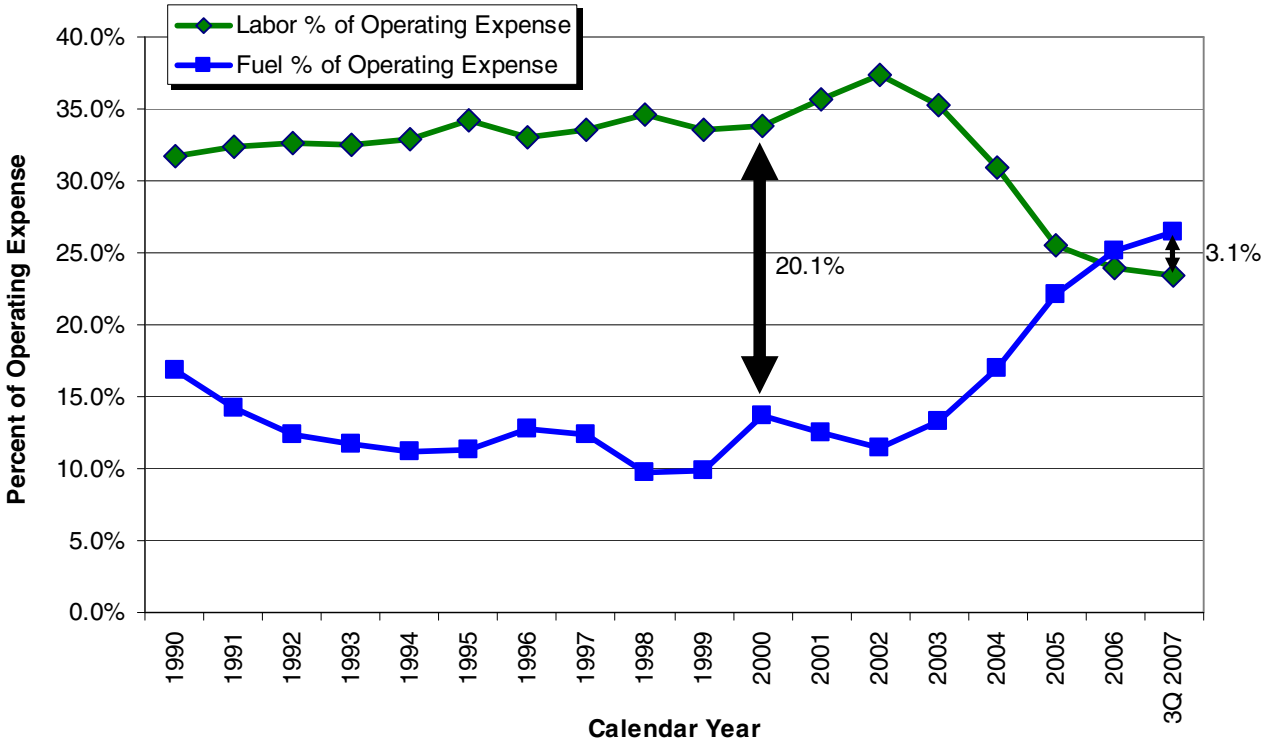
FIGURE 4.1-3
U.S. CARRIERS FUEL CONSUMPTION AND EFFICIENCY



Sources: Air Transport Association; Landrum & Brown analysis
1/ 2007*is 12 months ended September 2007

Despite the efficiency gains achieved by U.S. airlines, jet fuel has accounted for an increasing share of the total airline operating costs in the 21st century (see **Figure 4.1-4**). Rising fuel costs completely wiped out the labor cost savings legacy carriers were able to obtain during bankruptcy proceedings. Labor costs accounted for 37 percent of airline total operating expenses in 2002 while fuel costs represented only 11 percent of these total costs. In contrast, 2007 fuel costs accounted for about 27 percent of airline total operating costs while labor represented 24 percent. Fuel costs have become the major driver of airline operating costs. As airlines have already imposed major reductions in labor costs, there is limited potential to further reduce these costs.

FIGURE 4.1-4
FUEL AND LABOR AS PERCENT OF AIRLINE[1/] TOTAL OPERATING EXPENSES



Sources: Air Transport Association; Landrum & Brown analysis
[1/] U.S. passenger airlines

While jet fuel prices are expected to grow 67.2 percent in 2008 over 2007, airline fuel costs per ASM are projected to increase only 53 percent due to the airlines' fuel hedges. Fuel hedging refers to an airline making an advance purchase of fuel at a set price. LCCs tend to have better fuel hedges than legacy carriers (see **Table 4.1-1**). Southwest, the largest airline at SDIA, will benefit the most from its fuel hedges, with 70 percent of its 2008 fuel and 55 percent of 2009 fuel being hedged at $51 per barrel. Southwest is the only airline with fuel hedges extending through 2012. AirTran and Frontier also have effective fuel hedges for 2008 and 2009. On the legacy side, Alaska is the only carrier with at least half of its 2008 fuel hedged while most of the other legacy airlines have hedged only a third of their 2008 fuel needs. As a result of fuel hedges, LCC fuel costs per ASM are expected

to grow only 42 percent in 2008 while legacy carriers will see their fuel bills increase 55 percent.

This rise in fuel prices is expected to have a significant impact on air fares in the near future. As airlines cannot reduce non-fuel costs significantly enough to account for the increase in jet fuel prices, airlines came up with several price increases, fees, and capacity reductions.

TABLE 4.1-1
AIRLINE FUEL HEDGES

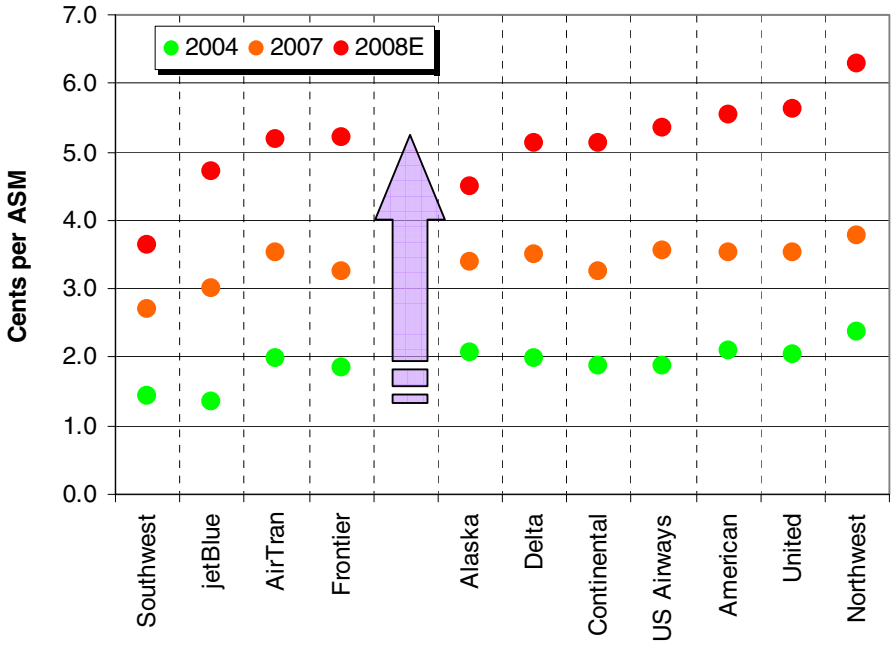
	Calendar Year				
Airline	**2008**	**2009**	**2010**	**2011**	**2012**
AirTran	49%	20%			
as of 4/23/08	$92	$90			
Alaska	50%	13%			
as of 5/7/08	$76	$83			
Frontier	40%	6%			
as of 1/29/08	$92	$102			
Jet Blue	32%				
as of 4/25/08	$95				
Southwest	70%	55%	30%	15%	15%
as of 4/21/08	$51	$51	$63	$64	$63
American	27%				
as of 4/18/08	$77				
Continental	23%				
as of 4/29/08	$83				
Delta	29%	10%	5%		
as of 4/25/08	$79	$64	$67		
Nothwest	30%				
as of 4/30/08	$107				
United	25%				
as of 5/9/08	$100				
US Airways	31%	2%			
as of 4/24/08	$84	$95			

Sources: Airline SEC Filings; Landrum & Brown analysis

Figure 4.1-5 demonstrates how the carriers that have successfully hedged fuel prices have not seen their costs increase as dramatically as other carriers. Southwest has a significant advantage over the other carriers with estimated fuel costs below

four cents per ASM in 2008. JetBlue and Alaska are both expected to have fuel costs under five cents per ASM in 2008 while the other carriers' 2008 fuel costs are estimated to be over five cents per ASM.

FIGURE 4.1-5
AIRLINE FUEL COST PER ASM [1/]



Sources: USDOT, Form 41; Energy Information Administration; Landrum & Brown analysis
[1/] 2008 assumes crude oil at $122 per barrel and $30 crack spread.

4.2 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. Since then, most LCC and legacy carriers had returned to profitability in 2006 as savings from labor cost reductions, salary concessions and removal of many in-flight perks were realized. Increased fuel costs have pushed the airlines to start raising fares and reducing capacity. The success of restructuring has produced an industry that is already streamlined with very few cost reductions left to make. 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. A domestic capacity reduction range of 10 to 15 percent is currently scheduled in the fourth quarter of 2008 for most airlines with the exception of Southwest which is still scheduled to operate with more capacity in 2008 than 2007.[16] Southwest is also making schedule adjustments, reducing frequencies or pulling out of markets with poor demand, and modifying their growth plans for 2009.

Serving numerous airports with 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 overall capacity 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 resultant 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 drive rather than fly. 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 that have a wide array of needs and requests for how and when they will travel. Demand is certain to fall as air fares rise and capacity decreases, due mainly to the lack of convenience and fit for specific travel plans. These factors were taken into consideration in the forecasts for SDIA.

[16] Source: *Official Airline Guide* as of June 2008

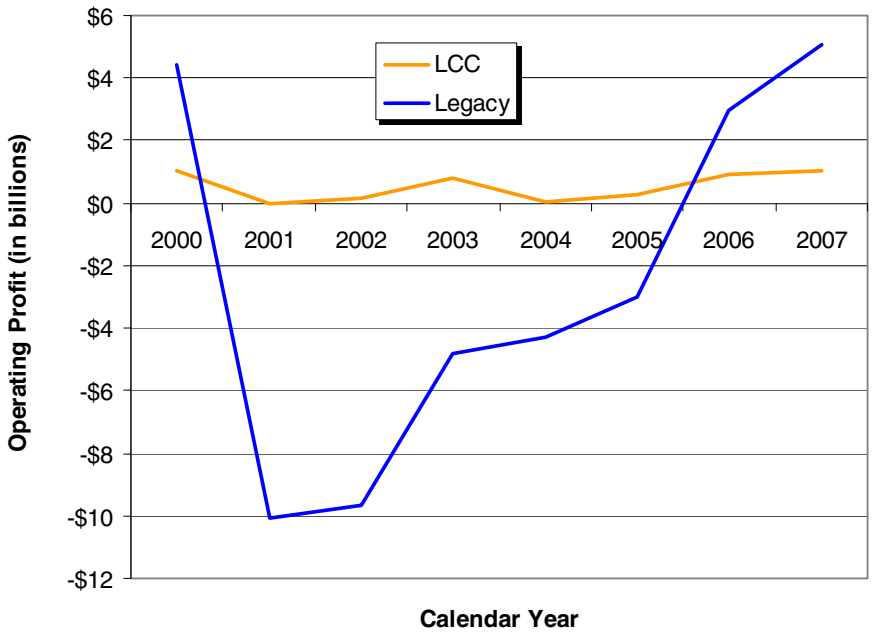
4.3 Airline Economics

A discussion regarding the current economic state of the airlines is presented in this section.

4.3.1 Airline Profitability

For the past eight years, the LCCs have succeeded in maintaining their operating profits despite an economic recession and the September 11, 2001 terrorist attacks. Conversely, legacy carriers recorded their first operating profit in 2006 after five years of economic downturn and bankruptcies. (See **Figure 4.3-1**)

FIGURE 4.3-1
U.S. AIRLINES OPERATING PROFITS

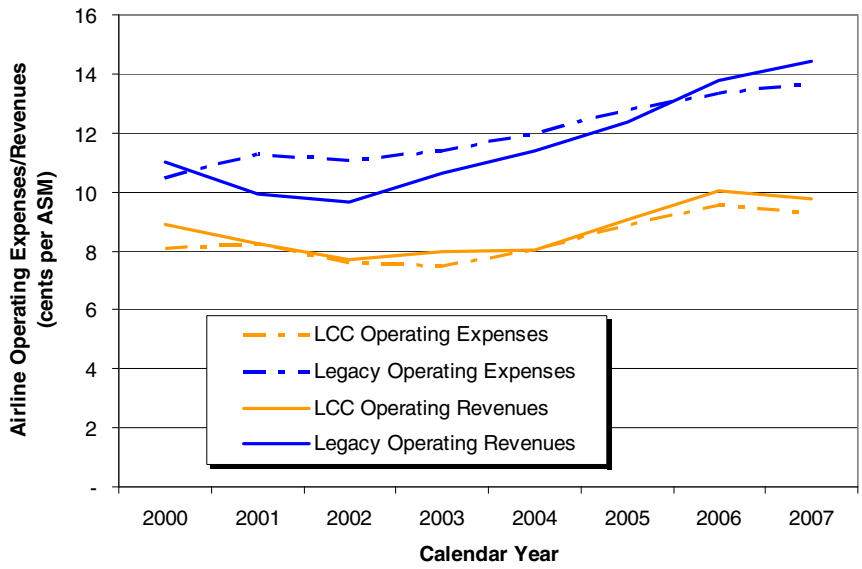


Sources: USDOT, Form 41; Landrum & Brown analysis

Record fuel prices threaten the airlines' ability to continue operating profitably. **Figure 4.3-2** compares the revenues and expenses for the legacy carriers to the LCCs. The legacy carriers' revenues per ASM and expenses per ASM increased 3.9 percent annually from 2000 to 2007. In the same time period, LCC operating revenues have been relatively flat increasing at 1.4 percent annually while LCC operating expenses per ASM grew

2.0 percent. This confirms that airlines need to increase revenues as costs rise.

FIGURE 4.3-2
U.S. AIRLINES OPERATING EXPENSES VS. REVENUES



Sources: USDOT, Form 41; Landrum & Brown analysis

Revenues derived from ticket rates constitute the majority of airline operating revenues. Yield is the aviation industry's measure for average ticket prices. Yield is defined as the average revenue an airline obtains from carrying a passenger one mile. It generally reflects the fare, length of haul, the level of competition, carrier costs, and other factors. Yield is a commonly accepted measure of the price of air travel and a crucial determinant of airline profitability. As prices decline, passengers can better afford to fly and traffic typically increases. Conversely, as air fares increase, demand for air travel can be expected to decline.

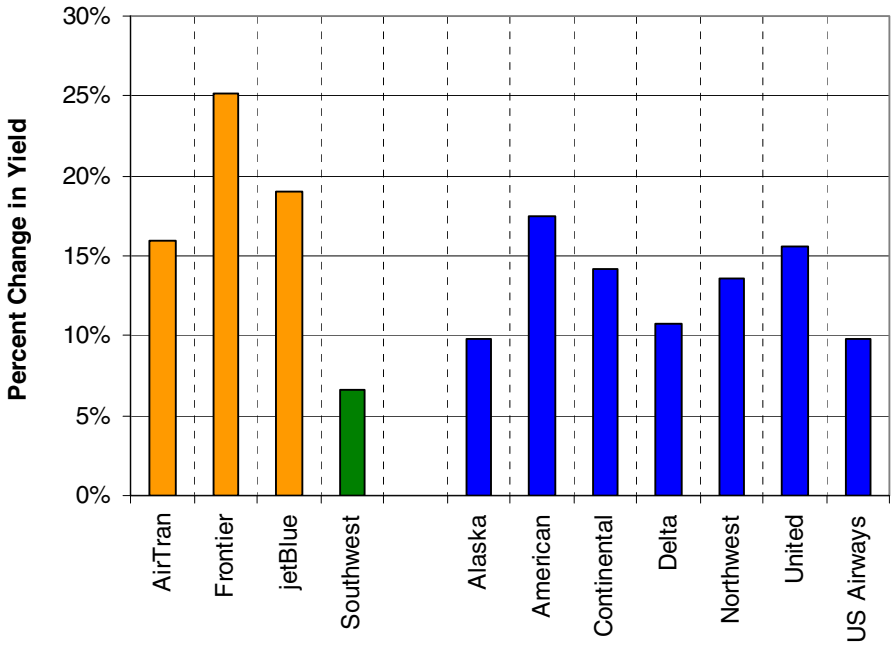
As revenues fail to keep up with rising costs, the airlines must charge higher fares (increase their yield) in order to make a profit. Airline fuel costs per ASM are expected to increase by over 50 percent in 2008 over 2007 (equivalent to a 14 percent increase in total operating costs).[17] **Figure 4.3-3** presents the growth in yield that will be required for the airlines to record a

[17] Assumes other non-fuel operating costs remain constant.

five percent profit margin in 2008 (the airlines collectively recorded a 5.4 percent profit margin in 2007). Southwest largely benefits from its significant fuel hedges and will require an increase in yield of only 6.6 percent. There should be less near term upward pressure on air fares at airports such as SDIA where Southwest has a significant presence. The airlines have imposed a series of significant air fare increases in 2008 and most are imposing fuel surcharges to help compensate for high fuel prices without directly raising fares to completely cover the cost of doing business. Recent announcements from airlines to cope with high fuel prices include:

- Fees for checked baggage;
- Fees for redeeming frequent flier miles;
- Reduced amenities during the flight – passengers will now have to pay for food and drinks and other on-flight services;
- Capacity cuts, retirement of old aircraft, and corresponding employee reductions;
- Increase in air fares.

FIGURE 4.3-3
REQUIRED CHANGE IN AIRLINE YIELD TO MAINTAIN PROFITABILITY [1/]
2008 vs. 2007



Sources: USDOT, Form 41; Energy Information Administration; Landrum & Brown analysis

[1/] 2008 assumes crude oil at $122 per barrel and $30 crack spread. Assumes 5% profit margin

4.3.2 Airline Bankruptcies

While fuel costs have driven the latest round of airline bankruptcies, other, earlier bankruptcies have had a variety of causes. Major airlines have had to use bankruptcy protection to overhaul labor contracts, reduce fleet size, and restructure defined-benefit retirement programs.

The post-deregulation period is littered with bankruptcies and liquidations which are symptomatic of an industry associated with boom and bust cycles. Facing soaring fuel costs, seven airlines have ceased operations since December 2007:

MAXjet - Filed for bankruptcy on December 24, 2007. High fuel prices was the main cause of their failure but also cited was increased competition in their routes from

London to Las Vegas and Los Angeles to New York, and the inability to raise additional capital.

Big Sky - Announced on December 20, 2007 that it would likely soon cease operations. Operations ended on January 7, 2008 after rising oil costs and the loss of a Delta capacity contract.

Aloha - Filed for bankruptcy protection on March 20, 2008 and then announced a week later that they would cease all passenger operations as of March 31, 2008. Aloha had been involved in an airfare market competition with go! and Hawaiian Airlines since 2006.[18] All three airlines have reported losses since go! entered the Hawaii market in 2006. High fuel costs and strong competition were cited as the airline's reason for failure after 60 years of operation.

ATA - Filed for bankruptcy protection and ceased all operations on April 2, 2008. ATA cited the loss of a large military contract that was compensating for losses due to rising fuel costs.

Skybus - Filed for bankruptcy protection on April 4, 2008 and ceased all operations on April 5, 2008 citing record fuel costs as the cause of their failure. The no-frills airlines business model was based on lower fuel costs ($65 per barrel).

Eos - Filed for bankruptcy protection on April 26, 2008 and ceased all operations on April 27, 2008. The airline operated business class-only flights from New York to London.

Champion - Announced on March 31, 2008 that its business model was no longer viable in a changing economy with heightened oil prices. Coupled with the loss of VIP charter service contracts to Northwest Airlines, rising fuel costs were cited as the primary drivers of the bankruptcy declaration.

Frontier is the most recent airline which has filed for bankruptcy protection. However, Frontier is continuing operations under Chapter 11 protection as it restructures and cuts back capacity to find a way to be profitable with rising fuel costs.

[18] Go! is a regional brand of Mesa Airlines and is based in Honolulu, Hawaii.

Bankruptcies have had a major impact on the airline industry as of late and have spurred speculation of further bankruptcies or industry consolidation. Seven of the eight airlines that have filed in the last year have ceased operations. ExpressJet announced in July 2008 that it will cease branded operations as of September 2, 2008. It will continue to operate flight operations under its Continental Express contract and corporate charters.

4.3.3 Airline Mergers/Alliances

In January 2001 (prior to the September 11, 2001 terrorist attacks) TWA filed for bankruptcy protection which was requested by American Airlines as a preliminary step toward the merging of the two airlines. The resulting larger American Airlines became the world's largest carrier and the merger aided American in expanding its international business with utilization of TWA's rights to foreign flight routes.

In May 2005, US Airways and America West announced their plan to merge in order to create the fifth-largest airline in the U.S. In September 2005, US Airways filed for bankruptcy protection clearing the way for the merger to close. In 2006 and 2007, US Airways and America West consolidated their operations under US Airways branding until September 2007, when the US government allowed the two airlines to operate under a single operating certificate.

A merger is currently pending between Delta and Northwest. Combined, the new Delta Airlines would be the largest carrier in the world. The merger process has gone further than many analysts expected, but it still has to pass a vote by the shareholders and gain regulatory approval. The proposed merger would create a global airline that is expected to realize yearly synergy savings and enhanced revenues of over $1 billion. With very little overlap in major flight routes and well placed hubs, the merger proposes no capacity reductions. Most of the changes currently being implemented by Delta and Northwest operations are directly due to the drastic rise in oil prices and are necessary with or without the pending merger. The merger is facing some opposition from those who believe the new airline would be too big and would therefore have the ability to control prices. Currently over 90 percent of domestic air passenger

service is provided by ten airlines. Four of these are LCC or regional carriers whose business models and pricing are being driven towards those of legacy carriers due to the higher operating costs of the current environment.

Two additional mergers have been considered but are now "off the table" – United/US Airways and United/Continental. United/US Airways would have created an airline in similar size to a merged Delta/Northwest while United/Continental would have been the largest airline in the world in terms of revenue passenger miles.

Continental has proposed joining the Star Alliance and codesharing with United. This codesharing is pending regulatory approval. If the alliance is approved, the collaborative efforts made by both airlines would provide revenue generating opportunities and cost savings through the codeshare benefits of linked networks, frequent flyer programs, facilities, and services. The alliance could also improve aircraft, maintenance, and route efficiencies, helping each airline continue operations and increase profitability in the industry's currently troubled state. Continental and United plan to establish joint ventures that will allow them to compete more effectively in a growing global air market.

4.4 Aircraft Economics

Fuel costs, aircraft seating capacity, and aircraft age have an impact on which aircraft the airlines choose to fly. A general discussion of fleet plans for domestic airlines and the differences in the cost structures for different aircraft types is presented in this section.

4.4.1 Current Domestic Airline Fleet

U.S. carriers have a vast fleet of over 5,700 aircraft. **Table 4.4-1** presents the distribution of aircraft by class and average age. Narrowbody aircraft represent nearly half of all aircraft flown by the largest airlines in the U.S. today. In the mix of the narrowbody fleet are many next-generation Boeing 737s and Airbus A320/321s that have among the best fuel economy in the industry. These aircraft represent over 20 percent of today's

fleet. Airlines have recently designated certain aircraft for retirement that have poor fuel economy compared to newer models. The MD-80/90, DC-9, and B737-300,400,500 have all been marked for reduced use or retirement by many domestic airlines. If all of these jets were to be retired it would mean an overall fleet reduction of over 1,100 jets, or 19 percent of the current fleet. Small regional jets like the EMB-135/140 and the CRJ-100/200, as well as the EMB-120 turboprop are also under scrutiny for reductions.

TABLE 4.4-1
FLEET SUMMARY OF TOP 20 U.S. AIRLINES (JULY 2008)

	Fleet	Aircraft Class						Average
Airline	Total	Turboprop	Small RJ	Large RJ	Narrow Body	757	Wide Body	Age
American	946	99	206	25	372	124	120	13.1
United	735	66	126	87	242	97	117	13.0
Delta	592		111	30	204	136	111	12.8
Northwest	564	49	157	22	217	71	48	12.8
Southwest	535				535			13.5
Skywest	436	71	246	119				6.8
Continental	376				272	58	46	10.1
US Airways	362			17	283	43	19	12.2
Express Jet	274		274					6.6
Alaska	180	50		20	110			7.5
Air Tran	142				143			4.8
Jet Blue	142			35	107			3.4
Mesa	107	12	39	56				7.0
Air Wisconsin	76	7	69					7.4
Republic	65			65				2.1
Frontier	60				60			4.1
Colgan	53	53						12.7
Allegiant	37				37			18.3
Midwest	37				37			10.6
Hawaiian	29	-	-	-	11	-	18	10.2
Total	5,748	407	1,228	476	2,630	529	479	

Sources: Airline 10K SEC filings; airfleets.net; Landrum & Brown analysis

Aircraft targeted for retirement have generally been used less frequently with each passing year. Scheduled flights on the MD80/90 and DC-9 aircraft have dropped dramatically in the last eight years. The collective group of MD80s is currently scheduled at only 50 percent of the 2000 level whereas the CRJ-900 and the next generation 737s are up sharply since 2000.[19] In the past, less fuel-efficient and aging aircraft have always been

[19] *Official Airline Guide*, 2000 to 2008.

phased out; however, due to the current economic conditions and fuel prices, this phenomenon is being accelerated.

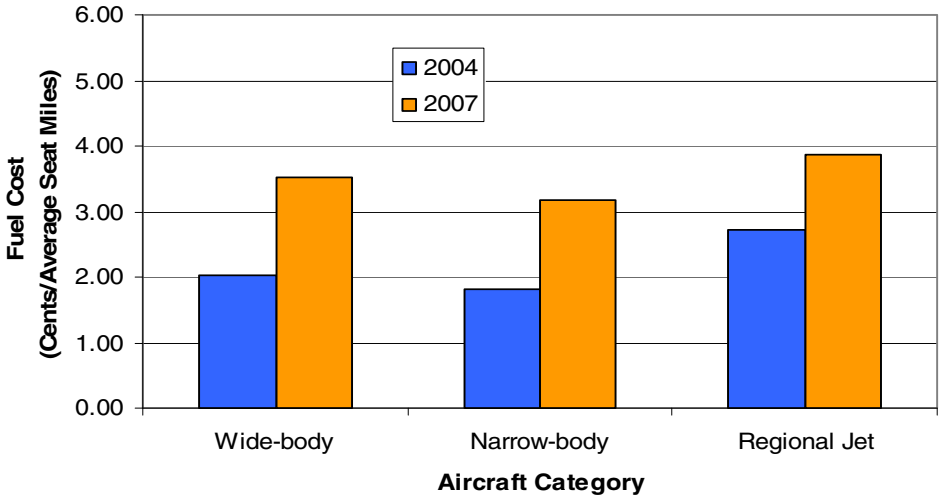
Increasing yields and reducing total operating costs are the focal points of airlines today as they reschedule routes and adjust capacities and frequencies. Since 2003, load factors and gauge have been increasing. With the planned scheduled capacity reductions, load factors and gauge will likely continue to increase. By exchanging more efficient aircraft with similar seat configurations, and retiring many smaller aircraft that are no longer profitable given current fuel costs, the remaining aircraft will be utilized with greater frequency. Airlines are reviewing the true costs and demand for their scheduled routes and determining where to eliminate routes or reduce frequency, where to expand, and which aircraft are most appropriate to operate.

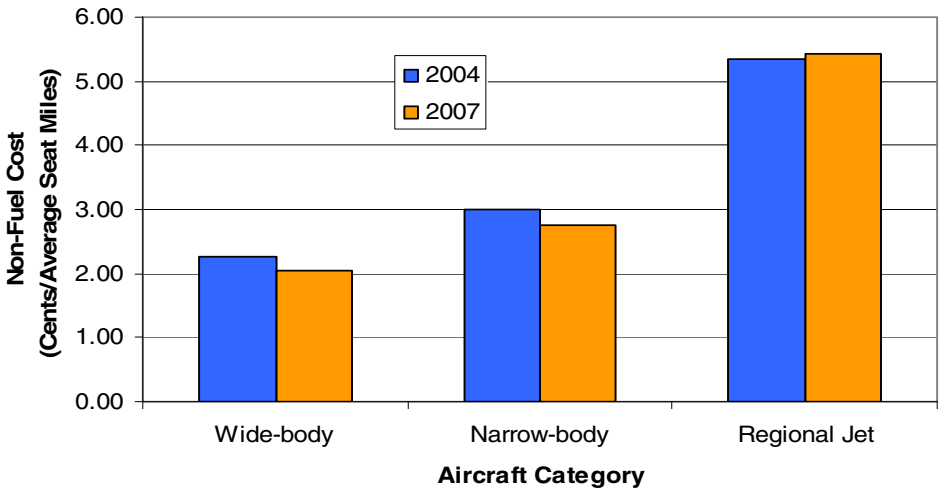
4.4.2 Aircraft Operating Costs

The main components that influence aircraft operating costs are labor, capital costs, maintenance, and fuel. Historically, fuel has been a smaller segment of the overall operating costs averaging only 12 percent from 1990 to 2003, and increasing from 17 percent in 2004 to 27 percent in 2007. Fuel costs could possibly reach 50 percent of total operating costs by the end of 2008 for some airlines.

Average fuel costs per ASM have increased by 73 percent from 2004 to 2007. **Figure 4.4-1** shows the variations in operating costs for the major aircraft types used by U.S. airlines. Clearly, fuel has been a major driver of airline operating costs increases from 2004 to 2007. Small regional jets are increasingly expensive to operate, due to their relatively low fuel-efficiency and low seating capacity. B737-300s can be replaced by B737-700s that are more efficient both in terms of fuel costs and non-fuel costs. This figure also clearly depicts the operating advantages of a B737-800/900 versus an MD-80. Airlines will tend to upgrade their fleet to more fuel-efficient aircraft with higher seating capacity in order to increase revenues.

FIGURE 4.4-1
AIRCRAFT FUEL COSTS & NON-FUEL COSTS PER ASM
(Calendar Year 2007 vs. 2004)





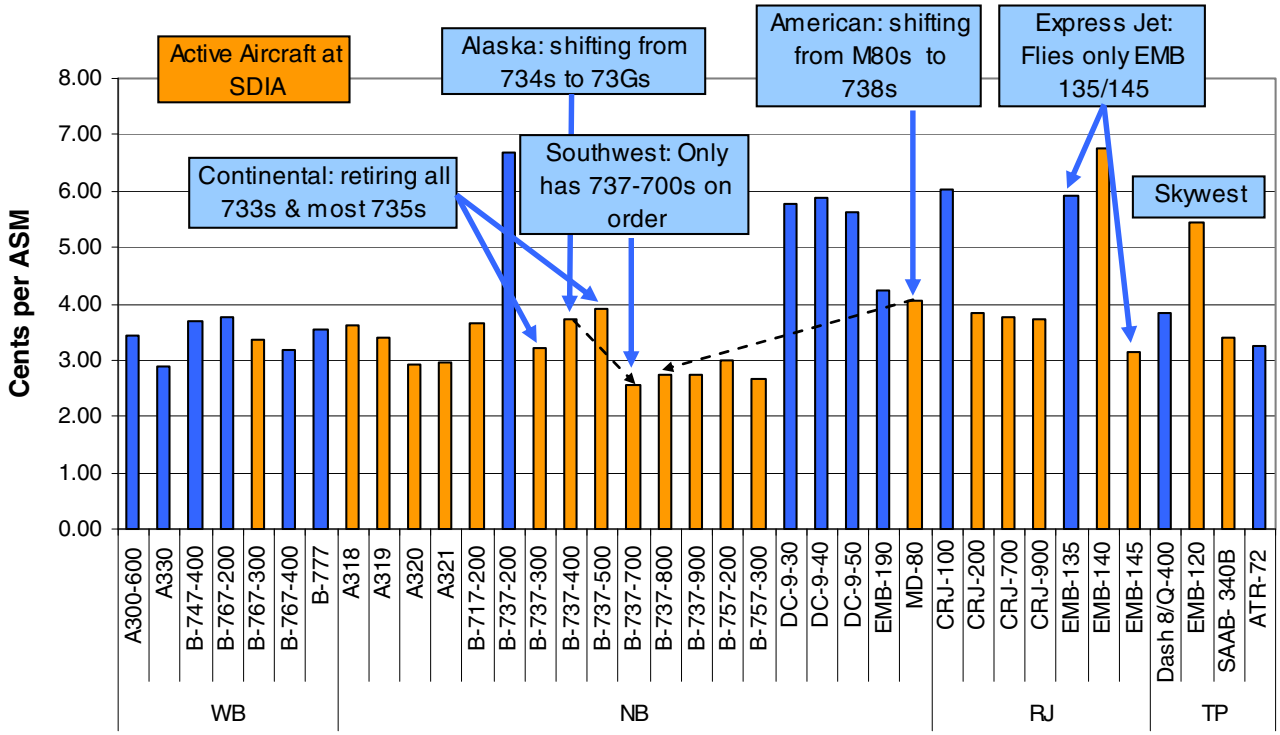
Sources: USDOT, Form 41; Landrum & Brown analysis

Figure 4.4-2 shows the range of fuel costs per ASM associated with the most common aircraft being flown domestically in the U.S. and internationally from U.S. cities. The red columns are those aircraft that make up the SDIA fleet mix. Certain airlines such as Alaska, American, and Continental have already announced plans to retire certain jets and switch to others in order to curb their fuel bills. ExpressJet, which flies only EMB-135/145s, announced in July 2008 that they will suspend branded service as of September 2008 due to high fuel prices (the airline will continue to operate as Continental Express). Skywest operates 59 EMB-120 Brasilias, which are among the least fuel-efficient aircraft. The EMB-120s are considerably less fuel-

efficient than the CRJ-200s. In spite of this, the EMB-120s have proven to be cost-efficient on the short-haul trips that are very common in California and the rest of the west coast. In its 2007 10K SEC report,[20] Skywest described plans to reduce their dependence on EMB-120s in the next few years but has not make any public announcements regarding specific fleet plans.

[20] SEC Filings: financial statements submitted to the U.S. Securities and Exchange Commission (SEC) and used by investors and financial professionals to evaluate companies for investment purposes.

FIGURE 4.4-2
2007 AIRCRAFT FUEL COSTS PER ASM



Sources: USDOT, Form 41; *Official Airline Guide*; Landrum & Brown analysis

The high price of jet fuel is forcing airlines to make the strategic decisions that will optimize the usage of their aircraft. Many aircraft are being parked, sold, or returned early from their leases in lieu of continued operation, due solely to the high cost of fuel. Choosing to fly newer and more fuel-efficient aircraft is an easy decision to make but much harder to finance, especially when unexpected fuel costs have financially constrained the majority of domestic airlines. Orders to Boeing and Airbus are being placed on hold, or cancelled in some cases, even though the new aircraft represent millions of dollars in fuel savings. Nonetheless, Southwest and Continental are expecting to take delivery of dozens of new B737s in 2009 to replace older, first-generation B737s. In addition, American has increased their orders for B738s to 76 through 2010.

4.4.3 Airline Fleet Initiatives

As previously mentioned, the airline industry had rebounded from the impact of the 9/11 terrorist attacks and the recession, returning to profitability at the end of 2006. During 2007, capacity was increasing and airlines were growing as they emerged from bankruptcy protection. Although noticeable, the rapid rise in oil and fuel costs that the industry had been experiencing since 2004 was not causing tremendous financial stress to most airlines. Some of the costs were being offset by similar reductions in labor costs from recent concessions. The rapid increases in fuel costs that hit the industry in late 2007 have made the existing fleet unprofitable. The airlines have been raising fares. However, in the midst of an economy focused on avoiding a recession and high inflation, the airlines' ability to continue to raise prices without dampening demand is decreasing. Domestic capacity reductions have been announced by almost all large airlines and only Southwest still expects to grow in 2009, but at a much lower rate of two to three percent versus the eight to nine percent experienced in 2006 and 2007. The domestic capacity reductions are directly affecting the number of flight crews and aircraft that the airlines are operating. International capacity growth is helping to slightly offset the domestic reductions. **Table 4.4-2** shows the most recent initiatives that the airlines are taking to optimize their operations, and the potential impact to SDIA's outbound traffic.

TABLE 4.4-2
AIRLINE INITIATIVES SUMMARY

Airline	Aircraft	Airline initiatives	Avg. Age(yr)	Possible affected routes from SDIA
Alaska	734	Replacing 734s with 738s	13.1	PDX, SEA, SFO
	M80	Retiring all by Aug.2008-will be an all 737 fleet	16.7	PDX, SEA
Allegiant	M80	n/a	18.5	BLI
American	757	n/a	13.8	DFW, JFK, **BOS-will stop service 8/30/08**
	M80	Replacing with 738s	18.4	DFW, ORD, STL
	SF3	Retiring 35-40 RJs and Turbo-Props	16.1	LAX
Continental	733	Retiring all 733s by 2009	16.6	IAH
	735	Retiring at least 19 by 2009	16.6	IAH
Delta	757	n/a	15.9	SLC, ATL
	M90	n/a	12.6	SLC
Midwest	M80	Grounding all 12 MD-80s by Fall 2008	24.5	MCI
Southwest	733	New 73Gs will replace	17.0	ABQ,ELP,LAS,OAK,PHX,RNO,SFO,SJC,SMF,TUS
	735	older 733s and 735s	17.0	ABQ,ELP,LAS,OAK,PHX,RNO,SFO,SJC,SMF,TUS
United	733, 735	Retiring 94 737s, and will return 56 A320s from TED to mainline fleet	18.6	DEN, SFO
	752	n/a	16.0	DEN, SFO, IAD, ORD, HNL
US Airways	733	Replacing with EMB 190	19.8	PHX, LAS
	752	n/a	18.3	PHX

Sources: *Official Airline Guide*, airfleets.net; Airline Press Releases; Airline 10K SEC filings; Landrum & Brown analysis

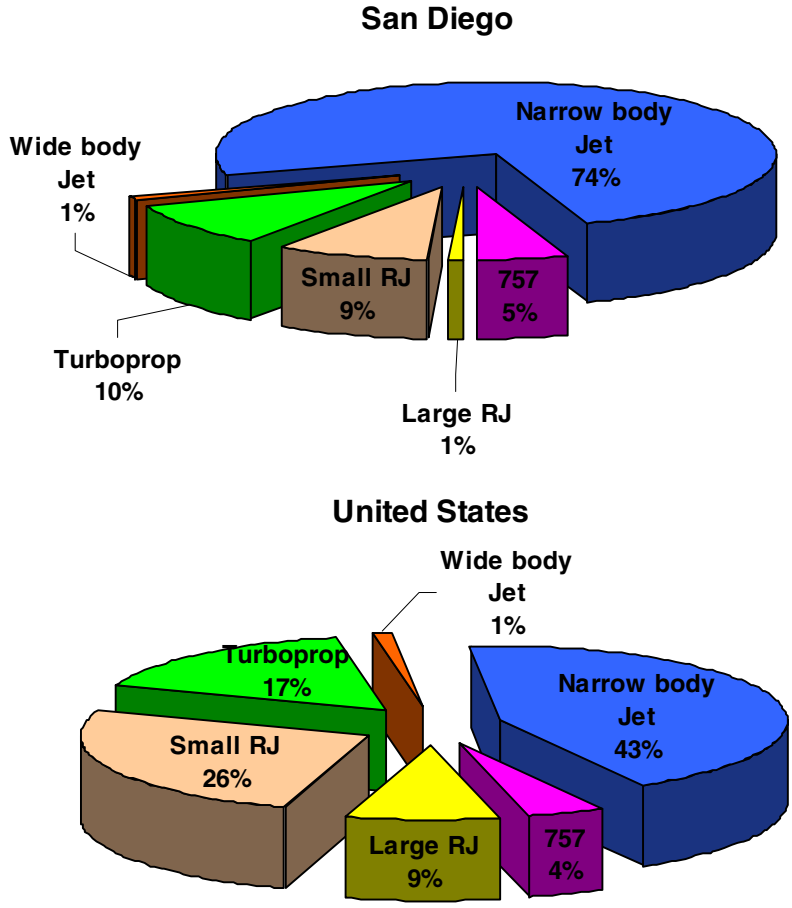
Allegiant operates an entire fleet of MD-80s but has yet to announce any decisions to adjust routes or seek replacement aircraft. Delta has made a blanket statement to reduce 15 to 20 mainline jets by 2009 but has not yet specified the MD-80s. Next generation B737s (-700,-800, and -900 models) are common replacement aircraft being purchased or leased by domestic airlines to replace aging and less fuel-efficient aircraft in their fleet. In the interim, most airlines are deferring or canceling many of their aircraft orders due to limited cash reserves and the additional costs associated with grounding or retiring jets. Many leases are being cancelled and terminated early, and airlines like Delta are selling their newly-purchased jets to generate more cash flow and minimize their fleet capacity.

4.4.4 SDIA Fleet Base

The increasing presence of LCCs at SDIA has resulted in the use of narrowbody aircraft at higher than average concentrations. Southwest in particular has been responsible for nearly 70 percent of domestic O&D growth at SDIA since 1990. SDIA has

less exposure to the 30 to 50-seat regional jet reductions than many other U.S. airports. Turboprop usage at LAX, for example, is significantly higher than at SDIA. The pie charts in **Figure 4.4-3** compare the aircraft mix of the SDIA fleet to the U.S. domestic fleet.

FIGURE 4.4-3
2008 DOMESTIC SCHEDULED PASSENGER OPERATIONS



Sources: *Official Airline Guide* as of June 2008; Landrum & Brown analysis

The low number of wide body aircraft at SDIA can be explained by airfield capacity restrictions. The U.S.-Asia and trans-Atlantic routes are typically flown on Boeing 747 and 777 aircraft which cannot takeoff from SDIA's 9,401-foot long runway without a weight penalty. Most of SDIA's international traffic to Europe and Asia connects to another U.S. gateway before reaching its final destination. New wide body aircraft such as the Airbus

A350 and Boeing 787 may open nonstop routes from SDIA to destinations in Europe and Asia.

Looking ahead, SDIA will likely see fewer MD-80s, first generation 737s, and small regional jets as the airlines reduce capacity to overcome quickly rising fuel costs and shift more fuel efficient aircraft into high demand routes.

4.5 Cost of Carbon

In recent years there has been an increasing focus on global warming and increases in the production of man-made greenhouse gases. As a result, some political bodies have taken steps to reduce greenhouse gas emissions by enacting legislation to regulate those greenhouse gases. Currently the largest program is the European Union's Emission Trading Scheme (EU ETS). The EU ETS is called a "cap and trade" system as the government puts a limit on the total allowable emissions for a given time period, and participants must remain within their limits or trade allowances with those operating below their limit.

Aside from the EU, other countries, including the U.S., have either adopted a similar cap and trade system or are currently in the process of creating one. On October 18, 2007, the Lieberman-Warner Climate Security Act of 2007 (S.2191) was introduced by Senator Lieberman into the U.S. Senate. S.2191 has since been replaced by the Lieberman-Warner Climate Security Act of 2008 (S.3036) which failed passage by the Senate on June 6, 2008. The potential for an emissions cap and trade system for the U.S. is strong enough that consideration for future usage has been accounted for in the SIDA forecast.

At the request of the sponsoring senators, the Environmental Protection Agency (EPA) conducted a study as to the effects and costs that might result if such a bill were to pass. Using a combination of the EPA's study estimates, Air Transport Association (ATA) calculations of U.S. passenger airlines' fuel consumption, and the 2008 FAA Aerospace Forecast for future fuel consumption, an estimate was developed of the cost this system would impose on the U.S. domestic passenger industry starting in 2012 (see **Table 4.5-1**). From the emissions of tCO_2 (total carbon dioxide), the average system-wide cost per ASM was calculated to estimate the additional cost burden to the

airlines. This additional cost has been included in the forecasts through the use of yield as a variable affecting passenger demand.

TABLE 4.5-1
CARBON TAX EFFECT ON PROJECTED YIELD

Calendar Year	Jet Fuel Gallons (Millions) [1]	Capacity ASMs [1] (Millions)	Emissions tCO2 [2] (Millions)	Cost per tCO2 [3]	System Wide [4] (Millions)	Per ASM (Cents)	SDIA Projected Yield w/o CO2 Tax	SDIA Projected Yield w CO2 Tax	SDIA Projected Yield % Diff.
2008	17,091.48	1,079,478	163.54	-	-	-	11.25	11.25	0.0%
2009	17,723.87	1,122,657	169.59	-	-	-	12.02	12.02	0.0%
2010	18,379.65	1,167,564	175.87	-	-	-	12.29	12.29	0.0%
2011	19,059.70	1,214,266	182.37	-	-	-	12.41	12.41	0.0%
2012	19,764.91	1,262,837	189.12	$25.4	$4,799.55	0.38	12.41	12.79	3.1%
2013	20,496.21	1,313,350	196.12	$26.6	$5,223.49	0.40	12.51	12.91	3.2%
2014	21,254.57	1,365,884	203.37	$28.0	$5,684.88	0.42	12.51	12.93	3.3%
2015	22,040.99	1,420,520	210.90	$29.3	$6,187.02	0.44	12.51	12.95	3.5%
2016	22,856.50	1,477,340	218.70	$30.8	$6,734.49	0.46	12.51	12.97	3.6%
2017	23,702.19	1,536,434	226.80	$32.3	$7,330.41	0.48	12.51	12.99	3.8%
2018	24,579.18	1,597,891	235.19	$33.9	$7,979.06	0.50	12.51	13.01	4.0%
2019	25,488.60	1,661,807	243.89	$35.6	$8,685.11	0.52	12.51	13.04	4.2%
2020	26,431.68	1,728,279	252.91	$37.4	$9,453.63	0.55	12.51	13.06	4.4%
2021	27,409.66	1,797,410	262.27	$39.2	$10,289.44	0.57	12.51	13.09	4.6%
2022	28,423.81	1,869,307	271.97	$41.2	$11,199.14	0.60	12.51	13.11	4.8%
2023	29,475.49	1,944,079	282.04	$43.2	$12,189.27	0.63	12.51	13.14	5.0%
2024	30,566.09	2,021,842	292.47	$45.4	$13,266.94	0.66	12.51	13.17	5.2%
2025	31,697.03	2,102,716	303.29	$47.6	$14,439.89	0.69	12.51	13.20	5.5%
2026	32,869.82	2,186,825	314.52	$50.0	$15,715.65	0.72	12.51	13.23	5.7%
2027	34,086.01	2,274,298	326.15	$52.4	$17,104.11	0.75	12.51	13.27	6.0%
2028	35,347.19	2,365,270	338.22	$55.0	$18,615.25	0.79	12.51	13.30	6.3%
2029	36,655.03	2,459,880	350.73	$57.8	$20,259.90	0.82	12.51	13.34	6.6%
2030	38,011.27	2,558,276	363.71	$60.6	$22,049.85	0.86	12.51	13.38	6.9%

[1] Jet fuel gallons based on U.S. passenger airlines and forecast using FAA Aerospace Forecasts 2008-2025
[2] Based on the Voluntary Reporting of Greenhouse Gases Program by the US Energy Information Administration - 21.095 pounds of CO2 produced for each gallon of jet fuel
[3] U.S. Environmental Protection Agency, EPA Analysis of the Lieberman-Warner Climate Security Act of 2008, S. 2191 in 110th Congress, March 14, 2008
[4] System Wide cost = Cost per tCO2 x Emissions
Sources: ATA, *Quarterly Cost Index: US Passenger Airlines*; FAA, Aerospace Forecast 2008-2025; US EPA Office of Atmospheric Programs: *EPA Analysis S.2191*; Landrum & Brown analysis

The system-wide costs to the aviation industry would be in the billions of dollars in the first year of enactment alone and grow at an average annual rate of 8.8 percent. This growth is mainly driven by the jet fuel forecast provided by the FAA which assumes an annual growth rate of 3.7 percent over the forecast period and by the cost per tCO2 forecast to grow 5.0 percent per annum. Overall, this would equate to an increase of 0.38 cents per ASM in 2012 and grow by almost 4.7 percent annually. Our analysis estimates the effect on yield would be a 6.9 percent increase by 2030.

In addition, the implementation of a cap and trade system would have a variable impact on different markets and routes. It would have a greater effect on airlines with predominantly older fleets. Newer generation aircraft have lower emissions so airlines that fly these aircraft would not be as affected. All airlines would be subject to additional operating costs and a cap and trade system would influence which routes they choose to operate and the equipment they choose to use. Generally speaking, on a per seat-mile basis, long haul flights are more fuel efficient than short haul flights, and larger aircraft are more efficient than regional jets. Therefore, short haul travel would be disproportionately affected by an increase in operational costs as the cost per ASM is likely to be proportionately higher. All airlines would need to increase load factors from current levels to be more cost effective. Routes that would not meet certain efficiency levels could be eliminated.

5 ENPLANEMENTS FORECAST

The enplanement forecast drives the facilities planning process, in that it allows for the evaluation of airside, terminal, and landside facilities and access roadways. The enplanement forecast provides the critical path for the commercial passenger operations forecast which are derived based on assumptions related to average aircraft size and load factor.

Passenger traffic at SDIA was divided into four segments for purposes of developing the forecast: (1) domestic O&D 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 1-3) 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 using a trend analysis.

The passenger forecast is driven principally by the domestic O&D traffic which accounts for almost 90 percent of enplanements at SDIA today. 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 projects growth at SDIA, albeit at slower rates than have been experienced historically. Total enplanements are forecast to increase from 9.2 million in 2007 to 14.1 million in 2030, averaging growth of 1.9 percent per year.

The forecast is very dependent on the projections related to the price of jet fuel which drive the yield forecasts. Significant deviations in the price of oil from projected levels could result in

actual results deviating markedly from forecast values. The price of oil is inherently difficult to predict so low- and high scenarios were developed to provide a probable range of passenger enplanements. The low forecast projects 11.7 million enplanements in 2030 and the high forecast projects 15.5 million enplanements in 2030.

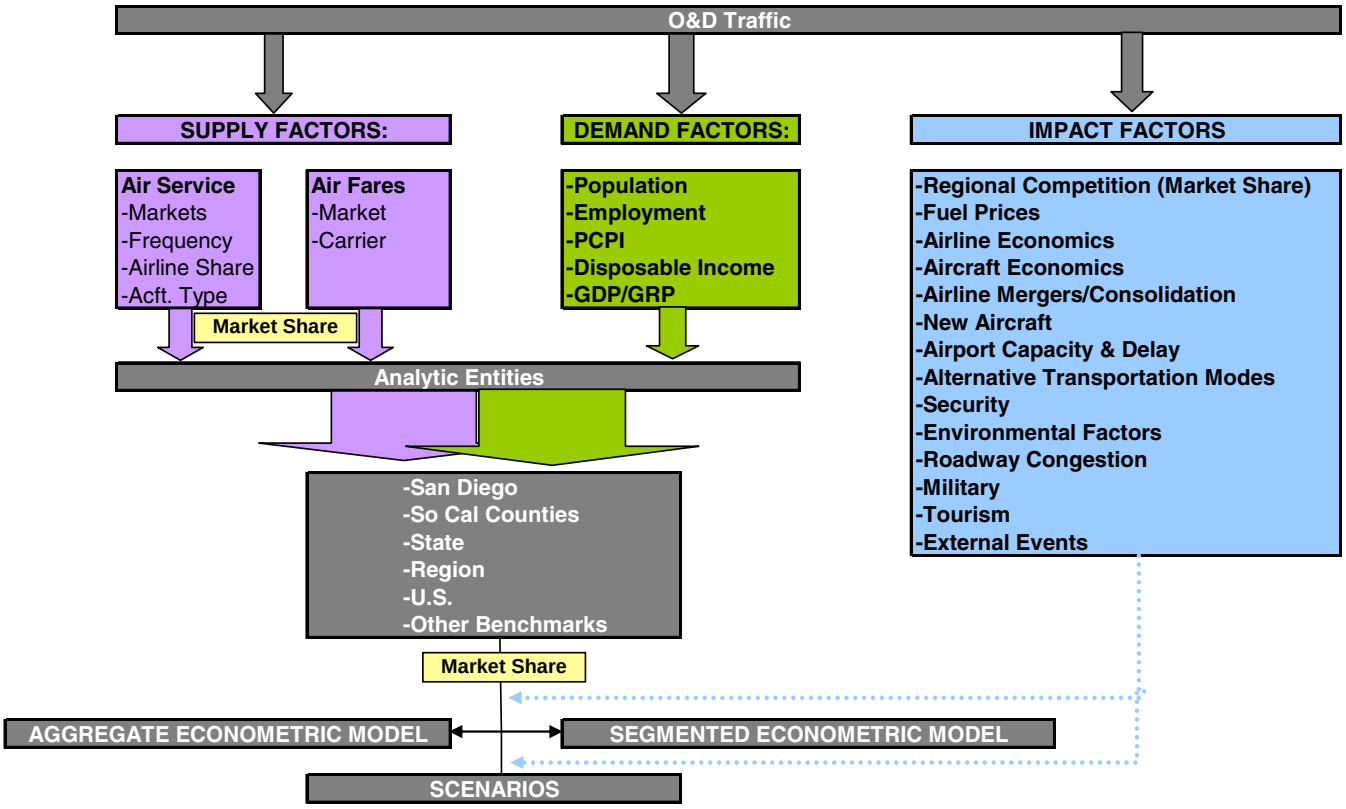
5.1 Domestic O&D Enplanements Forecast

This section contains a discussion of the approach and key assumptions that were applied in developing the domestic O&D enplanements forecast.

5.1.1 Approach

The domestic O&D enplanements forecasts were developed using econometric forecast models that quantify the relationship between local passengers and independent demographic and economic variables (see **Figure 5.1-1)**. The forecast models are developed using multi-linear regression techniques, with the dependent variable (local passengers) computed using a linear function. This methodology for preparing the O&D forecasts recognizes that key parameters such as yield and personal income will change over time. However, it assumes that the fundamental mathematical relationships between the independent variables and domestic O&D passenger traffic will persist, thereby supporting the development of realistic forecasts.

FIGURE 5.1-1
FORECAST PROCESS FLOWCHART – DOMESTIC O&D ENPLANEMENTS
San Diego International Airport



Source: Landrum & Brown analysis

Several regressions of various combinations of independent variables were tested but ultimately rejected for various reasons, such as:

Inadequate test statistics (i.e. low r-squared values[21] or other inadequate regression statistics) which indicates the independent variables are not good predictors of SDIA traffic.

Poor forecast results (Regression models produce "forecasts" of historical data. A satisfactory model will generate estimates that are close to actual values.)

[21] R-squared is a statistical term that indicates how well the independent variables predict the dependent variable. R-squared values can range from 0.0 to 1.0. The closer the r-squared value is to 1.0, the more reliable the regression results are.

Theoretical contradictions (e.g. the model indicates that GDP growth is negatively correlated with traffic growth).
Overly aggressive or low forecast results that are incompatible with historical averages and professional judgment.

In the evaluation of the various regressions, yield and personal income proved to be of particular importance in explaining local traffic at SDIA. In addition, the regression models include dummy variables to consider unusual events that do not correlate to underlying socioeconomic trends and airline yields. The only unusual event with a noticeable impact on SDIA traffic was the September 11, 2001 terrorist attacks. This event had the effect of depressing traffic at U.S. airports and throughout the world for several years. The use of a dummy variable corrects for the downturn in traffic that is not reflected in the standard socioeconomic variables used to forecast future aviation activity.

Four scenarios were developed for the domestic O&D enplanements forecast, using the same methodology of econometric modeling, but based on different yield and personal income forecasts:

Baseline Aggregate Model: This model evaluated SDIA domestic O&D traffic in aggregate using the most likely assumptions for personal income and yield.
High scenario Aggregate Model: This model considered aggregate traffic under more optimistic personal income and yield assumptions than those used in the baseline model.
Low Growth Aggregate Model: The pessimistic model used more conservative assumptions to forecast future domestic O&D traffic.
Baseline Regional Model: The regional model evaluated domestic O&D traffic to the different regions of the country independently using the baseline yield and personal income assumptions specific to each region.

5.1.2 Key Assumptions

The approach for each of the four scenarios is the same – each is based on an econometric model using San Diego County

personal income, SDIA yield, and a dummy variable as independent variables to predict the dependent variable – domestic O&D enplanements. As outlined above, the scenarios differ in the underlying assumptions for the independent variables. Further detail regarding these differences is provided in the sections that follow.

5.1.2.1 Economic Assumptions

To develop the econometric models, several socio-economic variables of San Diego County were considered including population, employment, PCPI, personal income, and GDP. Personal income (a combination of population and per capita personal income) was the best predictor of domestic O&D traffic at SDIA.

Historical and forecast personal income data was obtained from the SANDAG 2030 Regional Forecast and Wood and Poole Economics. The personal income growth rates were adjusted for each scenario as appropriate:

The baseline aggregate forecast was developed using the personal income projection provided by SANDAG, which assumes a growth rate of 2.4 percent annually through 2030.

The high aggregate forecast was developed based on personal income growth of three percent per annum over the forecast period.

The low scenario forecast was developed using the personal income projection provided by SANDAG with some adjustments. It was assumed that personal income would remain constant in 2009 and 2010, grow slowly at half the SANDAG growth rate from 2011 to 2013, and then grow at the SANDAG rate thereafter (2.4 percent annually).

The baseline regional forecast used personal income projections provided by Woods and Poole Economics for San Diego County and each U.S. region.

5.1.2.2 Yield Assumptions

Yield corresponds to the revenues generated by the airlines on each passenger and each mile flown. This variable is strongly related to passenger activity levels at an airport since it is related to fares charged to passengers. Indeed, as fares decrease, passenger traffic at an airport tends to increase. Yield provides an excellent correlation factor to passenger activity and is typically used in econometric models to forecast enplanements.

A key component of yield is the price of oil. The Energy Information Administration (EIA) publishes forecasts of crude oil prices. In April of 2008, the EIA published a long-term forecast of crude oil prices (through 2030) in its *Annual Energy Outlook 2008*, which predicts an overall increase in fuel prices of 1.5 percent annually from 2016 to 2030. The EIA also released a short-term forecast in May of 2008 that predicts higher prices than the Annual Energy Outlook. The short-term forecast predicts crude oil prices per barrel of $122 in 2008, $126 in 2009, and $86 in 2010.

The EIA projections were used and adjusted as appropriate for the baseline, high, and low forecasts:

The baseline crude oil projection assumes an increase in oil prices to $122 per barrel in 2008, as predicted by the EIA. The baseline forecast assumes crude oil prices increase to $135 per barrel in 2009 (compared to the EIA projection of $126). It was assumed that crude oil prices will remain flat at $135 per barrel thereafter instead of declining as predicted by the EIA.

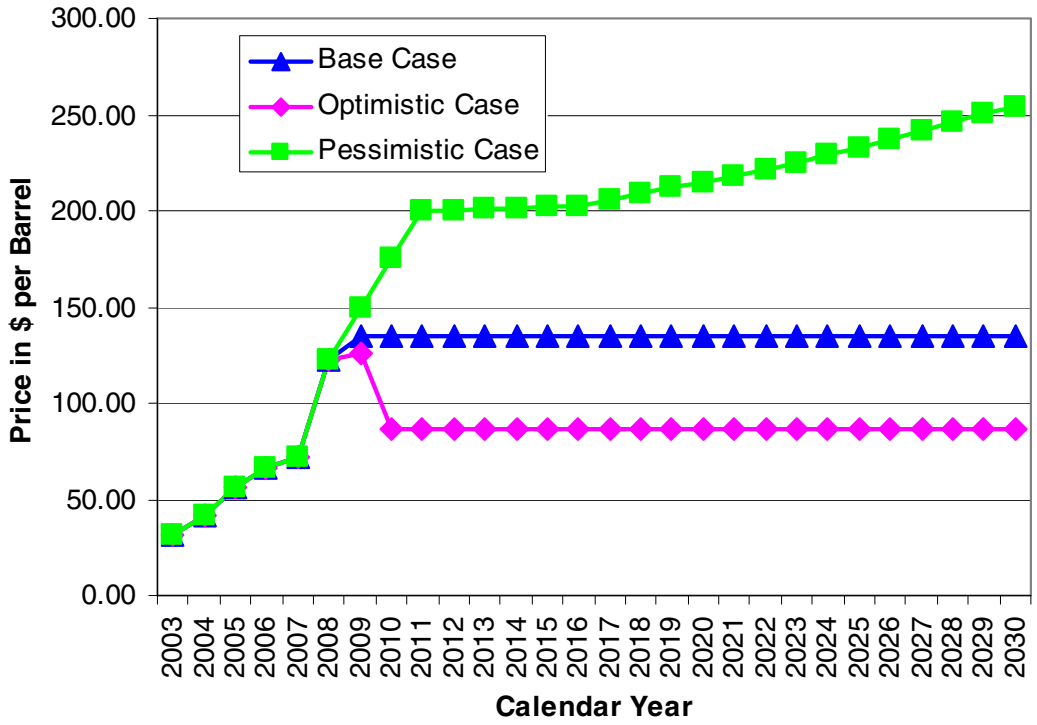
The optimistic crude oil projection (used in the high scenario) assumes the same values in 2008 and 2009 as the baseline forecast. However, the optimistic projection assumes crude oil prices decrease to $86 per barrel in 2010 as predicted by the EIA. Crude oil prices would then remain flat at $86 per barrel through 2030, instead of growing as predicted by the EIA.

Finally, the pessimistic crude oil projection (used in the low scenario) assumes $122 per barrel in 2008 (EIA projection), $150 per barrel in 2009, $175 per barrel in 2010, and $200 per barrel in 2011. Growth rates provided by the EIA in the *Annual Energy Outlook 2008* for the 2016

to 2030 time period were used to forecast crude oil from 2012 to 2030.

The crude oil price projections for the three scenarios are illustrated on **Figure 5.1-2**.

FIGURE 5.1-2
CRUDE OIL PROJECTIONS
San Diego International Airport



Sources: EIA; Air Transport Association; Landrum & Brown analysis

In addition to crude oil prices, the yield projections were derived based on:

Crack Spread: As discussed in Chapter 4, the crack spread is becoming an increasing share of the jet fuel price. In the forecast scenarios, it was assumed that the crack spread will continue to account for an increasing part of the jet fuel cost in line with the growth in crack spread observed in the past 5 years.

Fuel Hedges: As discussed in Chapter 4, airlines make advance purchases of fuel at a set price. The fuel hedges

for the individual airlines were taken into consideration in the yield projections.

Carrier Concentration: SDIA has a strong LCC presence and fares are generally lower on markets served by the LCCs. As a result, the yield projections were developed individually for three specific airline groups - Southwest, other LCCs, and the legacy carriers.

Logarithmic form of aircraft cost curve: As a general rule, fuel consumption tends to decrease when trip length increases. This efficiency is due to the fact that aircraft consume less fuel during cruise than during approach and takeoff. Because short-haul flights are not at cruise speed for long periods of time, short-haul flights reflect a drastically higher aircraft operating cost than longer-haul flights.

Carbon Tax: As discussed in Chapter 4, greenhouse gas emissions are a growing concern worldwide. Major countries are considering implementing legislation to address greenhouse gas emissions. For the purposes of this forecast, it was assumed that a carbon tax would be a component of fuel prices in the future.

5.1.2.3 Dummy Variable Assumptions

A dummy variable was used to reflect the impact of the September 11, 2001 terrorist attacks on SDIA passenger traffic. A dummy value of 1.0 was applied in 2001, 2002, and 2003 for the aggregate scenarios. For the baseline regional regressions, different dummy variables were used for each region depending on traffic levels (see Appendix C). No dummy variable was applied in the future in any of the scenarios as SDIA traffic has sufficiently recovered from the 9/11 impact on air traffic.

5.1.2.4 Summary of Assumptions

Table 5.1-1 provides a summary of the assumptions discussed in the preceding subsections.

TABLE 5.1-1
DOMESTIC O&D ENPLANEMENTS – FORECAST MODEL SCENARIOS
San Diego International Airport

Variable	Baseline Aggregate	Baseline Regional	High-Growth Aggregate	Low-Growth Aggregate
Personal Income (Population x PCPI)	San Diego County - SANDAG forecast growth rate of 2.4% per annum	San Diego County & each region - Woods & Poole Economics	San Diego County - SANDAG with a stronger growth rate of 3.0% per annum	San Diego County - No growth in 2009 & 2010; 1/2 the SANDAG growth rate in 2011-2013; SANDAG growth rate thereafter
Yield (Fare Paid per Mile)	Oil Prices: •EIA estimate for 2008 •$135/barrel of crude oil in 2009 •Crude oil prices remain flat after 2009 (in constant $)	Oil Prices: •EIA estimate for 2008 •$135/barrel of crude oil in 2009 •Crude oil prices remain flat after 2009 (in constant $)	Oil Prices: •EIA estimate for 2008 •$135/barrel of crude oil in 2009 •EIA estimate for 2010 at $86/barrel and remain flat after 2010 (in constant $)	Oil Prices: •EIA estimate for 2008 •$150/barrel of crude oil in 2009; $175 in 2010; $200 in 2011 •EIA 2008 *Annual Energy Outlook* 2016-2030 growth rates applied to 2012-2030 period
Dummy Variable (9/11)	Applied in 2001 - 2003	Applied as necessary to each specific region	Applied in 2001 - 2003	Applied in 2001 - 2003

Source: Landrum & Brown analysis

5.1.3 *Aggregate Forecast Scenarios*

The three aggregate forecast scenarios were developed based on the assumptions described in Section 5.1.2. The results of the three aggregate forecast scenarios are provided in **Table 5.1-2**. Details concerning the econometric model and independent variables can be found in Appendix C.

Table 5.1-2
DOMESTIC O&D ENPLANEMENTS FORECAST – AGGREGATE SCENARIOS
San Diego International Airport

Calendar Year	Baseline Aggregate Forecast	High Scenario Aggregate Forecast	Low Scenario Aggregate Forecast
Actual			
1990	5,034,630	5,034,630	5,034,630
1995	6,022,320	6,022,320	6,022,320
2000	7,038,390	7,038,390	7,038,390
2005	7,724,980	7,724,980	7,724,980
2006	7,739,110	7,739,110	7,739,110
2007	8,148,830	8,148,830	8,148,830
Forecast			
2010	8,336,000	8,821,000	7,729,000
2015	9,101,000	9,719,000	7,880,000
2020	9,804,000	10,808,000	8,464,000
2025	10,418,000	12,011,000	9,054,000
2030	11,288,000	13,335,000	9,662,000
CAGR 1990-2007	2.9%	2.9%	2.9%
CAGR 2007-2015	1.4%	2.2%	-0.4%
CAGR 2015-2030	1.4%	2.1%	1.4%
CAGR 2007-2030	1.4%	2.2%	0.7%

Sources: USDOT, *Air Passenger Origin-Destination Survey*; SANDAG 2030 Regional Growth Forecast; Landrum & Brown analysis

The baseline scenario predicts domestic O&D enplanements will grow from 8.1 million in 2007 to 11.3 million in 2030. This represents an average annual growth of 1.4 percent over the forecast period. In contrast, domestic O&D enplanements are forecast to reach 13.3 million enplanements by 2030 in the high scenario. Under the low scenario, domestic O&D enplanements are forecast to decline through 2010 due to rising fuel prices.

Traffic recovers and grows at a rate of 1.1 percent annually to 9.7 million enplanements in 2030.

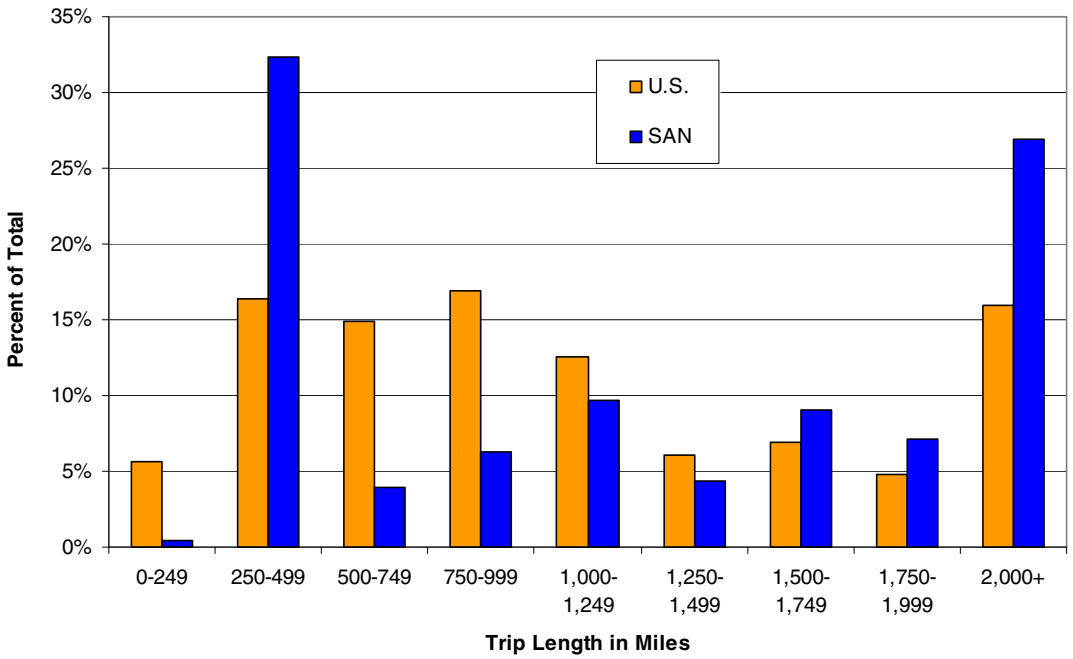
5.1.4 Regional Baseline Forecast

While the three previous forecast scenarios considered SDIA domestic O&D traffic on an aggregate level, a fourth scenario was developed for purposes of understanding what factors drive demand from SDIA to each U.S. region. This analysis accounts for each region's unique characteristics that affect demand.

As can be seen on **Figure 5.1-3**, SDIA is characterized by service to destinations in the 250 to 499-mile range (over 32 percent of domestic O&D traffic) and in the greater than 2,000-mile range (27 percent). The length of haul has implications on the type of service offered, aircraft fleet choices, airfares, and the frequency of service. In addition, while SDIA has a significant LCC presence, some regions of the country are almost exclusively served by legacy carriers. This differential leads to different pricing strategies by market. Indeed, as each part of the U.S. has its own particular socioeconomic characteristics combined with different fare pricing, demand to these regions varies.

The regional approach accounts for these factors and the different levels of demand by region. As a result, this fourth scenario provides a more accurate projection of future SDIA domestic O&D enplanements than the aggregate forecast as it segments demand into key regions of SDIA traffic.

FIGURE 5.1-3
DISTRIBUTION OF 2007 DOMESTIC O&D PASSENGERS BY TRIP LENGTH
San Diego International Airport

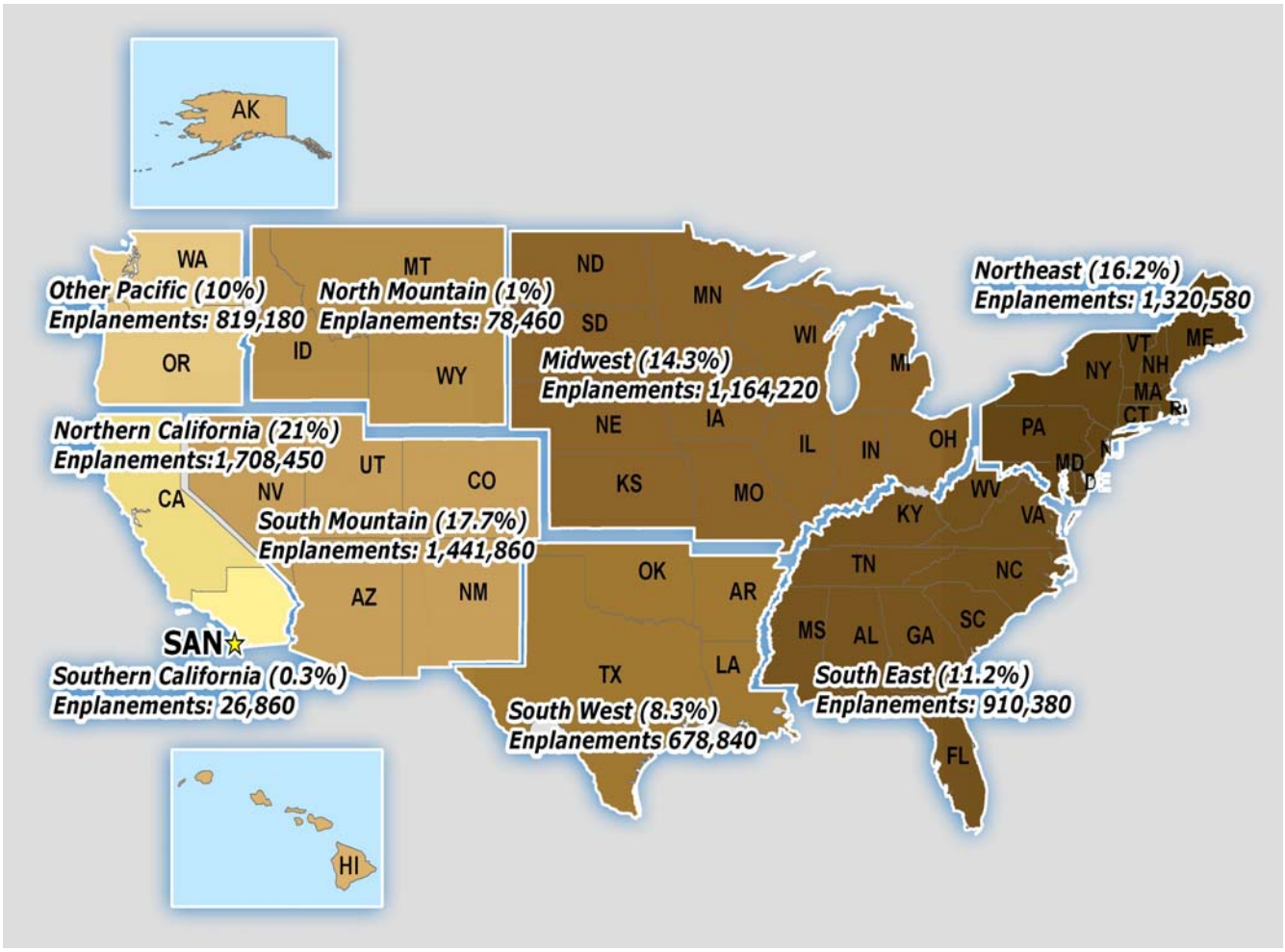


Sources: U.S. DOT, Air Passenger Origin-Destination Survey; Landrum & Brown analysis

This approach forecasts demand from SDIA for nine regional segments of the U.S. The segments are shown on **Figure 5.1-4** and are defined as: Northern California, Southern California, North Mountain, South Mountain, Northeast, Midwest, South East, Pacific, and South West.

A separate econometric regression model was developed for each region, reflecting the traffic growth, personal income, and yield characteristics for each region. The model did not provide reasonable results for the Southern California and South East regions so a trend analysis was used to forecast future domestic O&D traffic for these regions.

FIGURE 5.1-4
2007 REGIONAL DOMESTIC O&D SEGMENTATION
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis.

Table 5.1-3 provides a summary of the traffic from SDIA to each region of the U.S. A detailed analysis of each region can be found in Appendix B.

TABLE 5.1-3
REGIONAL DOMESTIC O&D BY SEGMENT
San Diego International Airport

		CAGR 1990-2007				
Region	2007 % Share	Enplanements	Yield	Avg. One-Way Fares	2007 LCC % Share	2007 % of Pass. Flying Nonstop
Northern California	21.0%	2.4%	1.7%	1.7%	77.4%	97.2%
South Mountain	17.7%	1.1%	2.1%	3.1%	74.8%	90.1%
Northeast	16.2%	3.9%	-0.6%	-0.6%	27.5%	51.0%
Midwest	14.3%	3.4%	-0.5%	-0.5%	31.7%	52.5%
South East	11.2%	5.0%	-0.7%	-0.7%	21.3%	21.7%
Pacific	10.1%	5.1%	0.4%	0.0%	11.6%	65.6%
South West	8.3%	3.5%	0.4%	0.6%	33.8%	52.5%
North Mountain	1.0%	4.5%	0.5%	0.4%	14.5%	25.4%
Southern California	0.3%	-10.9%	5.4%	5.4%	0.0%	98.3%
Total	**100.0%**	**2.9%**	**0.0%**	**0.9%**	**44.9%**	**66.1%**

Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis.

The paragraphs below discuss the general trends for groups of similar regions. As a result, the information presented for combinations of regions will not match the individual region information presented in the table.

Almost 39 percent of SDIA's domestic O&D traffic was bound for the Northern California and South Mountain regions in 2007. This traffic is short-haul in nature and is dominated by LCCs (76.2 percent). The presence of LCCs in the Northern California service (particularly Southwest) has kept yields relatively low. In contrast, the LCC-dominated South Mountain region had one of the highest average yields at SDIA in 2007. Yields to both regions have increased since 1990. Because these markets are short-haul, virtually all passengers travel nonstop to their final destination from SDIA. San Francisco, Las Vegas, Phoenix, and Denver account for 71.0 percent of the SDIA traffic to these two regions. These two regions are the largest regional segments but have shown relatively lower growth compared to the other regions from 2000 to 2007: Northern California domestic O&D traffic grew 0.1 percent and the South Mountain region grew 0.9 percent.

The east coast of the U.S. is the second largest traffic segment at SDIA, with the Northeast and South East markets making up over 27 percent of SDIA domestic O&D traffic in 2007. These regions are dominated by the legacy carriers (75.0 percent of the traffic) and have little LCC service. As a result of the dominance by legacy carriers providing connecting service to their respective hubs and the long-haul nature of the traffic, only 39.0 percent of the passengers to these regions are traveling to their final destination non-stop from SDIA. Although the east coast markets are dominated by legacy carriers, the LCC segment is growing at a rate of 15.7 percent annually since 1990 – resulting in a decline in average fares of 15.2 percent per annum since 1990. Southwest and jetBlue began nonstop trans-continental service in 2003 to BWI and JFK respectively; resulting in lower fares and stimulated traffic from SDIA.

The Midwest and South West regions accounted for almost 23 percent of SDIA domestic O&D traffic in 2007. These markets are dominated by the legacy carriers (67.5 percent) but are seeing increasing service from the LCCs (almost one-third of the traffic to these regions was served by LCCs in 2007). As a result, one-way fares have declined at a rate of only 0.2 percent annually since 1990. Due to the distance to these markets, just over 50 percent of the passengers to these regions are able to travel nonstop to their final destination from SDIA.

The Pacific and North Mountain regions together made up just over 11 percent of SDIA domestic O&D enplanements. Approximately 88.2 percent of the traffic to these regions is on legacy carriers. Average one-way fares have increased 0.1 percent annually since 1990.

SDIA traffic to Southern California has substantially decreased from 192,170 enplanements in 1990 to 26,860 enplanements in 2007. The Southern California market now makes up less than one percent of domestic O&D traffic from SDIA. The Southern California region historically has been characterized by feeder service to connecting flights out of LAX. The dramatic decline in traffic to this region can be attributed to changes in passenger behavior (travelers tend to drive to LAX) as well as the expansion of SDIA traffic to domestic and international

destinations. Legacy carriers have made up most of Southern California traffic since 1990. However, over time the number of carriers serving this region has decreased resulting in a dramatic increase in yield.

Table 5.1-4 provides the results of the baseline regional forecast for domestic O&D enplanements at SDIA. The individual forecasts for each region result in total domestic O&D enplanements growing at 1.7 percent annually, from 8.1 million in 2007 to 12.0 million in 2030. Details on the regression results for each region can be found in Appendix C.

The regressions show that the Northern California and South Mountain regions seem to be more sensitive to ticket prices than the economy due to the strong LCC presence in these markets. As a result of the increasing air fares predicted in this forecast, growth in traffic to these regions will average less than one percent annually through 2030. Increasing yield will also have a major impact on growth in traffic to the Pacific region, resulting in average annual growth through 2030 of just under two percent.

Traffic to the Northeast and South East regions is largely driven by growth in the economy. Due to the fast growing economies in these regions, traffic to the Northeast and South East regions is expected to grow faster than any other region (2.6 percent and 3.3 percent average annual growth, respectively. The Northeast region is expected to become the largest region served from SDIA in 2030 (it was the third largest region in 2007). Future traffic growth to the South West and Midwest regions is also strongly linked to economic growth. Domestic O&D enplanements to these regions are expected to grow in line with the forecast growth in personal income. Enplanements to these two regions are expected to grow at a combined rate of 1.7 percent per annum.

The North Mountain region is expected to continue to make up just one percent of the domestic O&D traffic from SDIA. Southern California traffic is expected to continue to decline over the forecast period and will make up just 0.1 percent of SDIA domestic O&D traffic in 2030.

TABLE 5.1-4
DOMESTIC O&D ENPLANEMENTS - BASELINE REGIONAL FORECAST
San Diego International Airport

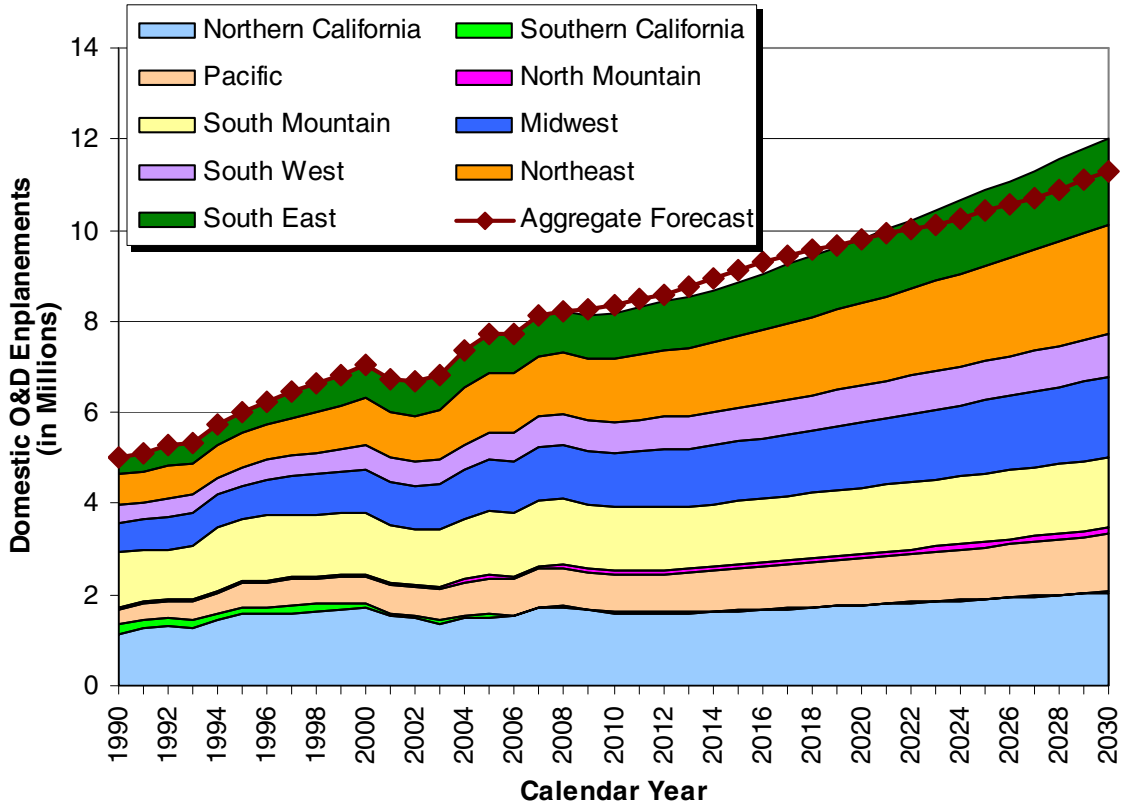
Calendar Year	Northern California	Southern California	Pacific	North Mountain	South Mountain	Midwest	South West	Northeast	South East	Total
Actual										
1990	1,146,180	192,170	348,850	37,300	1,192,070	659,830	377,860	685,460	394,910	5,034,630
1995	1,564,130	168,980	513,250	44,470	1,350,080	758,050	400,840	747,830	474,690	6,022,320
2000	1,698,770	92,400	602,000	55,920	1,354,870	946,240	533,850	1,037,920	716,420	7,038,390
2005	1,507,120	64,260	784,390	71,420	1,399,080	1,129,330	591,090	1,304,330	873,960	7,724,980
2006	1,519,460	30,170	790,140	71,870	1,397,920	1,127,970	624,560	1,306,910	870,110	7,739,110
2007	1,708,450	26,860	819,180	78,460	1,441,860	1,164,220	678,840	1,320,580	910,380	8,148,830
Forecast										
2010	1,599,600	25,100	817,000	81,400	1,389,600	1,198,900	690,000	1,387,300	995,500	8,184,400
2015	1,638,800	21,400	893,800	92,000	1,402,500	1,307,900	737,600	1,577,700	1,196,900	8,868,600
2020	1,765,100	18,700	1,006,300	104,800	1,451,000	1,443,100	799,400	1,813,600	1,415,000	9,817,000
2025	1,899,200	16,700	1,130,900	119,300	1,499,600	1,592,500	867,200	2,087,000	1,649,700	10,862,100
2030	2,041,600	15,100	1,268,500	135,800	1,548,300	1,757,700	940,300	2,404,100	1,901,000	12,012,400
CAGR 1990-2007	2.4%	-10.9%	5.1%	4.5%	1.1%	3.4%	3.5%	3.9%	5.0%	2.9%
CAGR 2007-2015	-0.5%	-2.8%	1.1%	2.0%	-0.3%	1.5%	1.0%	2.2%	3.5%	1.1%
CAGR 2015-2030	1.5%	-2.3%	2.4%	2.6%	0.7%	2.0%	1.6%	2.8%	3.1%	2.0%
CAGR 2007-2030	0.8%	-2.5%	1.9%	2.4%	0.3%	1.8%	1.4%	2.6%	3.3%	1.7%
2007 Market Share	21.0%	0.3%	10.1%	1.0%	17.7%	14.3%	8.3%	16.2%	11.2%	100.0%
2030 Market Share	17.0%	0.1%	10.6%	1.1%	12.9%	14.6%	7.8%	20.0%	15.8%	100.0%

Sources: USDOT, *Air Passenger Origin-Destination Survey*; SANDAG 2030 Regional Growth Forecast; Landrum & Brown analysis

5.1.5 Forecast Scenario Compilation

Figure 5.1-5 provides a comparison between the aggregate baseline forecast and the regional baseline forecast for domestic O&D enplanements at SDIA. In the regional scenario, enplanements are expected to grow at 1.7 percent annually through 2030 versus 1.4 percent annually under the aggregate forecast scenario.

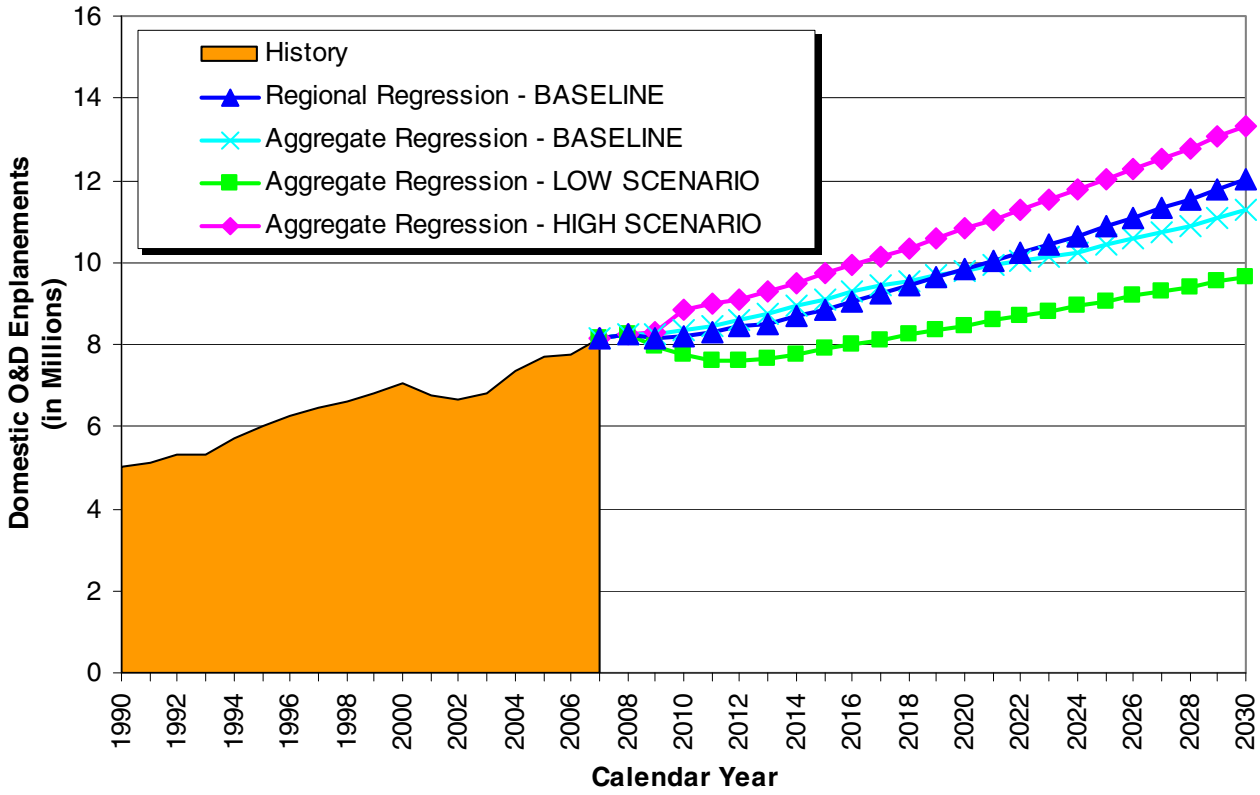
FIGURE 5.1-5
AGGREGATE VERSUS REGIONAL BASELINE FORECASTS
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; SANDAG 2030 Regional Growth Forecast; Landrum & Brown analysis

Figure 5.1-6 presents the results for the four forecasting scenarios for domestic O&D enplanements at SDIA.

FIGURE 5.1-6
DOMESTIC O&D ENPLANEMENTS FORECASTS COMPARISON
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; SANDAG 2030 Regional Growth Forecast; Landrum & Brown analysis

The baseline regional forecast was deemed to be the most appropriate for future planning as it represents the most likely future scenario. The high and low aggregate scenarios provide a range of future demand.

5.2 International O&D Enplanements

5.2.1 Approach

Forecasts were created for two categories of international O&D enplanements:

1. **Bound for International Destinations**: This category refers to passengers bound for international destinations that connect through U.S. gateway airports.
2. **International O&D Enplanements**: This category refers to passengers that fly nonstop to an international destination from SDIA.

The forecast for the first category of international O&D enplanements was prepared using the same methodology as the domestic O&D passenger forecast. Econometric models were developed for the aggregate level and on a world region basis. The forecast for the second category was prepared based on an analysis of the potential for new nonstop international service, taking into consideration runway length limitations.

Similar to the domestic O&D passenger forecast, a full range of regression analyses was developed. The chosen regression for the aggregate "bound for international destinations" enplanements model used the combined GDP for the most frequent international destinations from the region. For the regional approach, "bound for international destinations" enplanements to each world region were regressed against the GDP of the region considered.

The following sections present historical trends in international traffic at SDIA and describe the results of both the bound for international destinations enplanements and international O&D enplanements forecasts.

5.2.2 SDIA Enplaned Passengers Bound for International Destinations through U.S. Gateways

This section summarizes the forecast of SDIA passengers that are bound for an international destination connecting through U.S. gateway airports, (e.g. LAX, SFO, O'Hare).

5.2.2.1 Historical Trends

Over 540,000 SDIA passengers connected through another U.S. gateway to travel internationally in 2007 (see **Table 5.2-1**). This traffic segment has been growing at an average growth of 5.6 percent per year since 1990. Europe, Asia-Pacific, and Canada are the key regions for "bound for international destinations" enplanements from SDIA. Europe accounted for 44 percent of total bound for international destination enplanements, followed by Asia-Pacific (20 percent) and Canada (18 percent).

TABLE 5.2-1
HISTORICAL BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS
San Diego International Airport

Calendar Year	Europe, Mid. East & Africa	Asia-Pacific	Canada	Mexico	Central America	America & Caribbean	Total
1990	93,990	36,896	48,242	21,238	4,350	10,605	215,321
1991	74,381	37,910	43,840	11,706	3,341	7,205	178,383
1992	91,292	41,097	46,925	12,878	4,092	9,040	205,324
1993	95,545	46,074	55,373	12,402	4,214	9,819	223,427
1994	101,912	57,407	52,593	14,900	5,446	13,333	245,591
1995	109,147	67,695	52,002	12,979	5,790	13,487	261,100
1996	113,190	67,961	60,540	17,722	5,916	14,729	280,058
1997	138,245	79,525	86,070	14,943	7,167	19,262	345,212
1998	149,209	77,238	67,565	15,769	9,763	24,563	344,107
1999	170,369	81,057	86,821	21,328	10,769	25,189	395,533
2000	188,297	89,955	89,990	26,449	11,011	29,389	435,091
2001	164,881	82,649	90,079	20,523	10,186	27,275	395,593
2002	163,921	73,847	82,564	25,522	9,656	28,206	383,716
2003	165,423	63,032	98,317	26,196	10,704	28,006	391,678
2004	208,200	78,314	112,447	30,297	15,397	32,799	477,454
2005	213,961	97,716	101,182	35,150	19,263	36,886	504,158
2006	226,120	104,886	90,474	44,957	20,466	41,723	528,626
2007	238,447	106,679	96,385	38,170	17,974	42,399	540,054
CAGR 1990-1995	3.0%	12.9%	1.5%	-9.4%	5.9%	4.9%	3.9%
CAGR 1995-2000	11.5%	5.9%	11.6%	15.3%	13.7%	16.9%	10.8%
CAGR 2000-2005	2.6%	1.7%	2.4%	5.9%	11.8%	4.6%	3.0%
CAGR 2005-2007	5.6%	4.5%	-2.4%	4.2%	-3.4%	7.2%	3.5%
CAGR 1990-2007	5.6%	6.4%	4.2%	3.5%	8.7%	8.5%	5.6%

Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis.

Table 5.2-2 shows the primary gateways and the corresponding destination regions for passengers originating from SDIA. LAX and SFO, the top two U.S. gateways, are the primary gateways to the Asia-Pacific region from SDIA, accounting for 17.8 percent and 14.4 percent of total "bound for international destinations" enplanements respectively. Chicago O'Hare, Atlanta, and New York-JFK airports are the primary gateways to Europe from SDIA, accounting for 24 percent of SIDA "bound for international destinations" enplanements. Seattle and Denver are the major gateways to Canada from SDIA, accounting for almost six percent of total SDIA "bound for international

destinations" enplanements. The major gateway from SDIA for Mexico is Phoenix, which accounts for almost four percent of total SDIA "bound for international destinations" enplanements. Miami has 1.4 percent of total "bound for international destinations" enplanements with 86 percent of the traffic from SDIA going to South America and the Caribbean.

TABLE 5.2-2
2007 BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS BY TOP GATEWAYS
San Diego International Airport

				Region as % of Gateway Total					
Rank	Gateway	SDIA Enpax.	% of Tot.	Europe, Mid. East & Africa	Asia-Pacific	Canada	Mexico	Central America	S. Amer. & Caribbean
1	LAX	95,961	17.8%	24.1%	60.0%	7.6%	4.7%	1.9%	1.7%
2	SFO	78,030	14.4%	19.1%	53.3%	26.8%	0.7%	0.0%	0.0%
3	ORD	50,886	9.4%	70.1%	3.0%	24.7%	0.2%	0.0%	1.9%
4	ATL	44,717	8.3%	72.5%	0.7%	2.0%	1.3%	3.7%	19.9%
5	JFK	35,279	6.5%	88.1%	1.9%	2.8%	0.1%	0.1%	7.1%
6	IAH	31,781	5.9%	22.4%	0.1%	1.5%	23.0%	29.8%	23.2%
7	DFW	28,757	5.3%	33.0%	0.7%	7.0%	24.1%	12.1%	23.1%
8	EWR	22,231	4.1%	85.7%	2.8%	6.3%	0.0%	0.7%	4.5%
9	PHX	20,830	3.9%	1.1%	0.0%	23.3%	73.4%	2.2%	0.0%
10	PHL	20,727	3.8%	91.9%	0.0%	4.2%	0.0%	0.0%	3.8%
11	IAD	19,705	3.6%	83.6%	1.3%	6.9%	0.1%	0.0%	8.1%
12	SEA	17,897	3.3%	4.8%	5.1%	90.1%	0.0%	0.0%	0.0%
13	DEN	13,448	2.5%	16.8%	0.7%	70.5%	11.7%	0.3%	0.0%
14	MSP	12,672	2.3%	68.3%	2.2%	29.5%	0.0%	0.0%	0.0%
15	DTW	8,785	1.6%	74.5%	0.6%	24.9%	0.0%	0.0%	0.0%
16	MIA	7,720	1.4%	4.5%	0.0%	0.1%	0.6%	9.2%	85.6%
	Other	30,628	5.7%	36.2%	8.2%	36.8%	3.9%	0.4%	14.4%
	Total	540,054	100.0%	44.2%	19.8%	17.8%	7.1%	3.3%	7.9%

Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis.

Regional traffic volumes support the potential for additional nonstop service at SDIA. However, fragmentation of individual markets limits nonstop service opportunities. The top markets in Europe, the Asia-Pacific region, and Canada are London Heathrow (23,816 enplanements), Narita (25,814 enplanements), and Vancouver (26,879 enplanements) respectively (see **Table 5.2-3**). The other markets result in relatively lower levels of demand by comparison.

TABLE 5.2-3
2007 BEYOND U.S. GATEWAYS REGIONS AND MARKETS
San Diego International Airport

Europe, Mid. East & Africa			Asia-Pacific			Canada		
Airport	Enpax	% of Tot.	Airport	Enpax	% of Tot.	Airport	Enpax	% of Tot.
LHR	23,816	10.0%	NRT	25,814	24.2%	YVR	26,879	27.9%
CDG	16,717	7.0%	MNL	10,325	9.7%	YYC	15,376	16.0%
FRA	12,590	5.3%	ICN	7,517	7.0%	YYZ	15,166	15.7%
FCO	12,380	5.2%	HKG	5,529	5.2%	YUL	11,116	11.5%
LGW	11,811	5.0%	SGN	5,242	4.9%	YEG	8,414	8.7%
AMS	8,977	3.8%	TPE	4,597	4.3%	YOW	4,310	4.5%
MAD	8,688	3.6%	PEK	4,134	3.9%	YYJ	4,066	4.2%
ZRH	7,239	3.0%	KIX	4,003	3.8%	YWG	3,584	3.7%
MAN	6,998	2.9%	SYD	3,689	3.5%	YLW	1,628	1.7%
MXP	6,312	2.6%	PVG	3,461	3.2%	YHZ	1,242	1.3%
Other	122,919	51.5%	Other	32,368	30.3%	Other	4,604	4.8%
Total	238,447	100.0%	Total	106,679	100.0%	Total	96,385	100.0%

Mexico			Central America			S. America & Caribbean		
Airport	Enpax	% of Tot.	Airport	Enpax	% of Tot.	Airport	Enpax	% of Tot.
CUN	13,440	35.2%	SJO	6,877	38.3%	GRU	6,412	15.1%
PVR	7,996	20.9%	LIR	2,561	14.2%	EZE	4,812	11.3%
MEX	5,103	13.4%	PTY	2,538	14.1%	GIG	3,394	8.0%
SJD	3,430	9.0%	BZE	1,738	9.7%	NAS	2,981	7.0%
MZT	1,729	4.5%	GUA	1,615	9.0%	LIM	2,367	5.6%
MTY	1,129	3.0%	MGA	981	5.5%	SCL	2,221	5.2%
GDL	1,032	2.7%	SAL	789	4.4%	MBJ	1,666	3.9%
LTO	694	1.8%	SAP	334	1.9%	CCS	1,627	3.8%
ACA	572	1.5%	TGU	277	1.5%	BOG	1,515	3.6%
ZIH	544	1.4%	RTB	264	1.5%	SXM	1,178	2.8%
Other	2,501	6.6%	Other	0	0.0%	Other	14,226	33.6%
Total	38,170	100.0%	Total	17,974	100.0%	Total	42,399	100.0%

Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis.

5.2.2.2 Aggregate and Regional Forecasts

The aggregate regression was completed using the GDP of Canada, Europe/Africa/Middle East, Asia-Pacific, and Latin America/Caribbean as the independent variable. The regional approach consisted of regressing each world region's traffic against the region's GDP forecast.

Based on the GDP forecasts provided by the *FAA Aerospace Forecasts 2008-2025*, "bound for international destinations" enplanements are expected to grow 3.7 percent annually from 540,054 enplanements in 2007 to 1.24 million enplanements in 2030 in the aggregate forecast (see **Table 5.2-4**). The world regional model results in slightly lower growth (3.5 percent annually to 1.20 enplanements in 2030).

Due to its mature characteristics of the Europe/Africa/Middle East region, it is expected to be one of the slowest in terms of GDP growth over the forecast period (see Appendix C). "Bound for international destinations" enplanements for this region are expected to grow at a slower pace than the past seventeen years, at 3.6 percent per annum through 2030. Nonetheless, the Europe/Africa/Middle East region will remain the largest region in terms of "bound for international destinations" enplanements through 2030. Similarly, Canada is a well established and mature world destination. As such, "bound for international destinations" enplanements are expected to grow 1.3 percent annually over the forecast period

The Asia-Pacific region is in constant expansion as evidenced by its GDP forecast (see Appendix C). The Asia-Pacific region will remain the second largest region in terms of "bound for international destinations" enplanements and is expected to reach 260,600 enplanements by 2030. The Mexico/Central America/South America/Caribbean region is the region with the most potential for growth through 2030, with expected GDP growth of 4.0 percent per annum (see Appendix C). "Bound for international destinations" enplanements in this region are forecast to grow at a combined robust rate of 6.1 percent annually. Central America is expected to quadruple its traffic. South America/Caribbean and Mexico will have a lower but still robust growth rate over the forecast period.

TABLE 5.2-4
BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS FORECAST
San Diego International Airport

		Regional Forecast						
Calendar Year	Aggregate Forecast	Europe, Mid. East & Africa	Asia-Pacific	Canada	Mexico	Central America	South America & Caribbean	Total
Actual								
1990	215,321	93,990	36,896	48,242	21,238	4,350	10,605	215,321
1995	261,100	109,147	67,695	52,002	12,979	5,790	13,487	261,100
2000	435,091	188,297	89,955	89,990	26,449	11,011	29,389	435,091
2005	504,158	213,961	97,716	101,182	35,150	19,263	36,886	504,158
2006	528,626	226,120	104,886	90,474	44,957	20,466	41,723	528,626
2007	540,054	238,447	106,679	96,385	38,170	17,974	42,399	540,054
Forecast								
2010	622,800	254,800	127,100	109,600	54,400	23,000	50,900	619,800
2015	730,600	313,400	142,400	116,400	61,300	33,100	55,900	722,500
2020	866,900	376,500	164,900	122,000	69,100	45,200	71,300	849,000
2025	1,041,100	452,200	208,100	126,700	77,500	59,400	88,200	1,012,100
2030	1,244,700	537,400	260,600	130,700	89,200	75,600	106,500	1,200,000
CAGR 1990-2007	5.6%	5.6%	6.4%	4.2%	3.5%	8.7%	8.5%	5.6%
CAGR 2007-2015	3.8%	3.5%	3.7%	2.4%	6.1%	7.9%	3.5%	3.7%
CAGR 2015-2030	3.6%	3.7%	4.1%	0.8%	2.5%	5.7%	4.4%	3.4%
CAGR 2007-2030	3.7%	3.6%	4.0%	1.3%	3.8%	6.4%	4.1%	3.5%

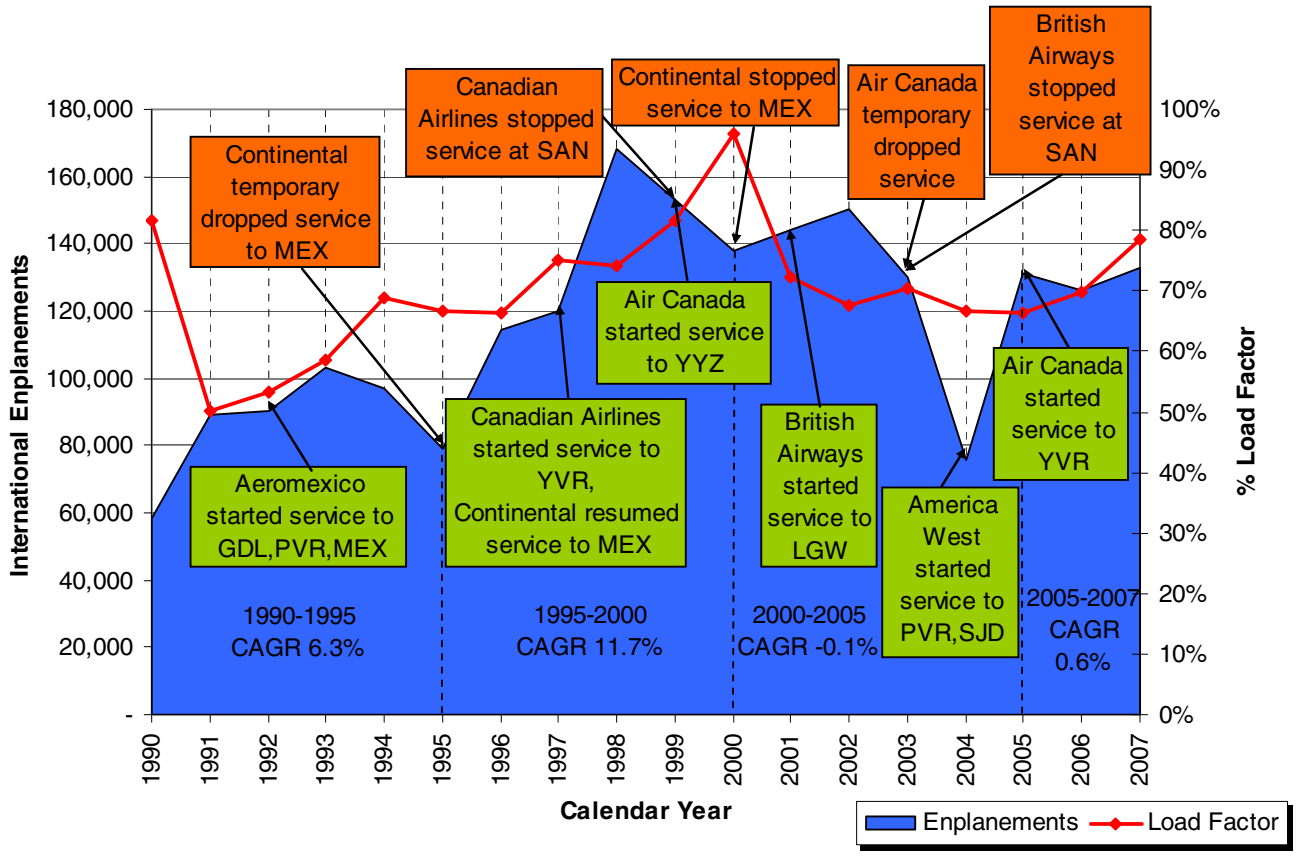
Sources: Airport Records; USDOT, *Air Passenger Origin-Destination Survey*; USDOT, Schedule T-100; FAA Aerospace Forecasts various years; Landrum & Brown analysis

5.2.3 International O&D Enplanements Forecast

5.2.3.1 Historical Trends

International enplanements (originating and connecting) accounted for just over one percent of total SDIA passenger enplanements in 2007. Demand for international air travel from San Diego has increased from 58,492 enplanements in 1990 to 132,686 enplanements in 2007, which represents average annual growth of five percent. International traffic has experienced major fluctuations due to airlines entering and exiting the market between 1990 and 2007 (see **Figure 5.2-1**). Historically, demand at SDIA has responded to the offering of air service to international destinations. Average load factors have varied widely since 1990, ranging from 50 to 96 percent.

FIGURE 5.2-1
INTERNATIONAL PASSENGER ENPLANEMENTS
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis.

The SDIA originating-connecting passenger split has ranged from 88 to over 95 percent since 1990 (see **Table 5.2-5**).

TABLE 5.2-5
INTERNATIONAL ENPLANEMENTS – O&D VERSUS CONNECTIONS
San Diego International Airport

Calendar Year	International Enplanements			% Share		
	Originating	Connecting	Total	Originating	Connecting	Total
1990	55,002	3,490	58,492	94.0%	6.0%	100.0%
1991	82,495	6,790	89,285	92.4%	7.6%	100.0%
1992	82,103	8,090	90,193	91.0%	9.0%	100.0%
1993	96,616	6,820	103,436	93.4%	6.6%	100.0%
1994	88,064	9,190	97,254	90.6%	9.4%	100.0%
1995	70,693	8,590	79,283	89.2%	10.8%	100.0%
1996	106,157	8,080	114,237	92.9%	7.1%	100.0%
1997	107,351	12,770	120,121	89.4%	10.6%	100.0%
1998	152,745	15,670	168,415	90.7%	9.3%	100.0%
1999	143,120	10,190	153,310	93.4%	6.6%	100.0%
2000	127,739	10,320	138,059	92.5%	7.5%	100.0%
2001	136,612	7,320	143,932	94.9%	5.1%	100.0%
2002	143,043	6,960	150,003	95.4%	4.6%	100.0%
2003	122,025	8,310	130,335	93.6%	6.4%	100.0%
2004	67,326	8,570	75,896	88.7%	11.3%	100.0%
2005	115,670	15,310	130,980	88.3%	11.7%	100.0%
2006	113,778	12,220	125,998	90.3%	9.7%	100.0%
2007	121,006	11,680	132,686	91.2%	8.8%	100.0%
CAGR 1990-1995	5.1%	19.7%	6.3%			
CAGR 1995-2000	12.6%	3.7%	11.7%			
CAGR 2000-2005	-2.0%	8.2%	-1.0%			
CAGR 2005-2007	2.3%	-12.7%	0.6%			
CAGR 1990-2007	4.7%	7.4%	4.9%			

Sources: Airport Records; USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis.

International air travel from San Diego is predominantly focused on Mexico and Canada. In terms of O&D enplanements, Mexico is the largest market accounting for 53 percent of international O&D passengers, followed by Canada (47 percent) in 2007. Notably, SDIA passenger enplanements to London (Gatwick) between 2001 and 2003 were served by British Airways (see **Table 5.2-6**).

TABLE 5.2-6
INTERNATIONAL O&D PASSENGER ENPLANEMENTS BY REGION
San Diego International Airport

Calendar Year	Europe, Mid. East & Africa	Asia-Pacific	Canada	Mexico	Central America	South America & Caribbean	Total
1990	-	-	962	54,040	-	-	55,002
1991	-	-	44	82,451	-	-	82,495
1992	-	-	69	82,034	-	-	82,103
1993	-	-	-	96,616	-	-	96,616
1994	-	-	201	87,863	-	-	88,064
1995	-	-	1,507	69,186	-	-	70,693
1996	-	-	22,817	83,340	-	-	106,157
1997	877	-	1,915	104,558	-	-	107,351
1998	-	-	41,699	111,046	-	-	152,745
1999	4,342	85	29,380	109,313	-	-	143,120
2000	-	-	34,077	93,662	-	-	127,739
2001	42,696	-	26,916	67,000	-	-	136,612
2002	47,462	-	26,975	68,606	-	-	143,043
2003	44,828	-	10,564	66,633	-	-	122,025
2004	-	-	-	67,326	-	-	67,326
2005	-	-	27,030	88,640	-	-	115,670
2006	-	-	52,928	60,850	-	-	113,778
2007	-	-	56,861	64,145	-	-	121,006
CAGR 1990-1995	n.a.	n.a.	9.4%	5.1%	n.a.	n.a.	5.1%
CAGR 1995-2000	n.a.	n.a.	86.6%	6.2%	n.a.	n.a.	12.6%
CAGR 2000-2005	n.a.	n.a.	-4.5%	-1.1%	n.a.	n.a.	-2.0%
CAGR 2005-2007	n.a.	n.a.	45.0%	-14.9%	n.a.	n.a.	2.3%
CAGR 1990-2007	n.a.	n.a.	27.1%	1.0%	n.a.	n.a.	4.7%

Sources: Airport Records; USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis.

LAX and TIJ provide significant competition for existing and future international service at SDIA. LAX is the second largest international gateway in the U.S., accommodating 102 flights per day to 45 international airports. LAX is also the largest U.S. gateway to Mexico and the Asia-Pacific region, accommodating 43 daily flight to 19 airports in Mexico and 27 daily flights to 10 airports in the Asia-Pacific region.

Compared to U.S. airports, TIJ is the third largest in terms of scheduled capacity to Mexico accommodating 45 daily flights to

22 airports in Mexico. In addition, TIJ also has nonstop service to Shanghai and Tokyo.

5.2.3.2 International O&D Enplanements Forecast

The level of international O&D enplanements is very closely related to the level of "bound for international destinations" enplanements. Indeed, the higher the level of "bound for international destinations" enplanements in a particular region, the more potential for non-stop service. Therefore, the forecast of international O&D enplanements was based on the following key considerations:

- Potential non-stop service to world regions;
- Long-haul aircraft that can operate on SDIA's current runway without payload penalty. The length of the current runways limits the type of aircraft that can be operated at the airport. Indeed, most wide body aircraft cannot takeoff with a payload penalty. This factor was closely considered in the international O&D forecast as wide body aircraft are usually used for flights to Europe and the Asia-Pacific region;
- The close proximity of LAX and TIJ. These airports constitute significant competition to the expansion of international O&D traffic at SDIA. This factor was taken into account by tempering the amount of international activity that could potentially exist at SDIA in the future.

Based on these considerations, several key assumptions were used to develop the international O&D enplanements forecast:

- Zoom service to England with B767-300ER, which started in June 2008, will continue to grow through 2030;
- Possible new non-stop service to the Asia-Pacific region. Service to begin in 2015 with A350 or B787 aircraft;
- Increase in nonstop service to Canada and Mexico;
- Potential new non-stop service to the South America/Caribbean region starting in 2015 using narrowbody aircraft.

As a result of these assumptions, international O&D enplanements to Canada and Mexico are expected to remain the

largest portion (69 percent) of international O&D traffic in 2030 (see **Table 5.2-7**). Europe/Africa/Middle East and the Asia-Pacific region will constitute another 26 percent of the international O&D enplanements activity at SDIA by 2030. International O&D enplanements are expected to grow 5.2 percent annually from 121,006 enplanements in 2007 to 388,600 enplanements in 2030.

TABLE 5.2-7
INTERNATIONAL O&D ENPLANEMENTS FORECAST
San Diego International Airport

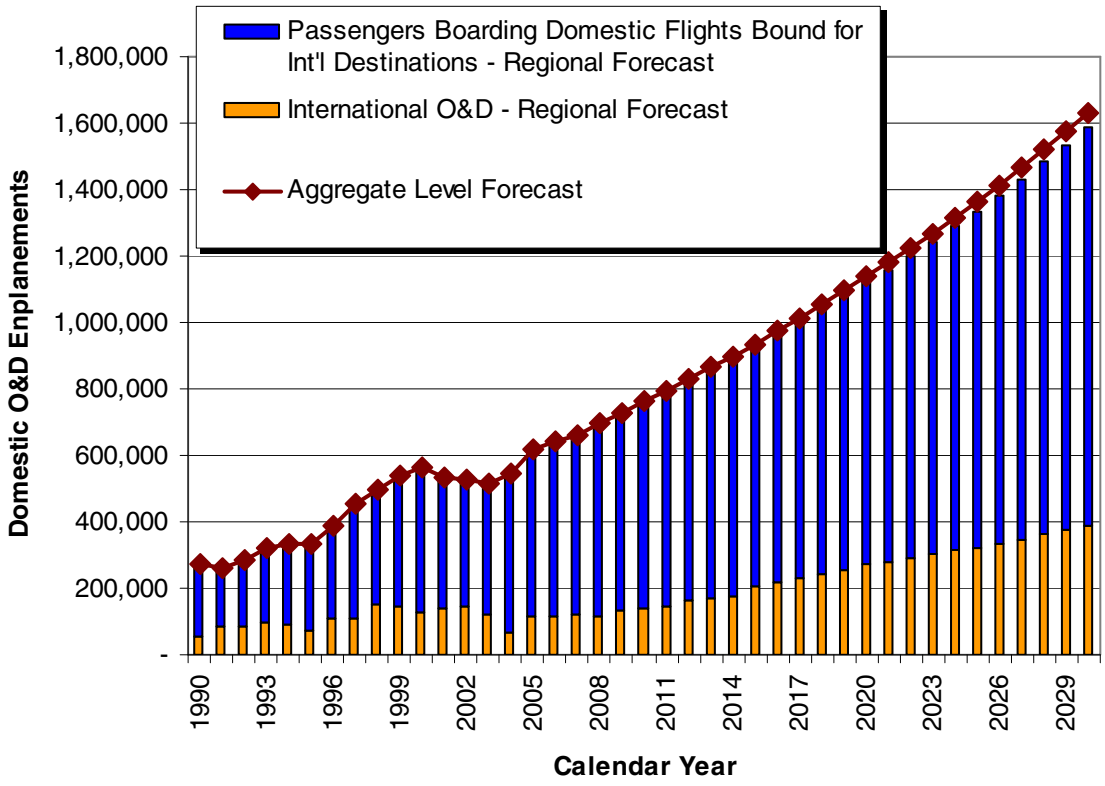
Calendar Year	Europe, Mid. East & Africa	Asia-Pacific	Canada	Mexico	Central America	South America & Caribbean	Total
Actual							
1990	-	-	962	54,040	-	-	55,002
1995	-	-	1,507	69,186	-	-	70,693
2000	-	-	34,077	93,662	-	-	127,739
2005	-	-	27,030	88,640	-	-	115,670
2006	-	-	52,928	60,850	-	-	113,778
2007	-	-	56,861	64,145	-	-	121,006
Forecast							
2010	22,900	-	54,100	62,500	-	-	139,500
2015	31,200	19,600	64,600	78,900	-	10,900	205,200
2020	41,600	39,100	77,000	99,600	-	13,200	270,500
2025	46,500	43,700	91,800	125,800	-	16,000	323,800
2030	52,000	48,900	109,500	158,800	-	19,400	388,600
CAGR 1990-2007	n.a.	n.a.	27.1%	1.0%	n.a.	n.a.	4.7%
CAGR 2007-2015	n.a.	n.a.	1.6%	2.6%	n.a.	n.a.	6.8%
CAGR 2015-2030	3.5%	6.3%	3.6%	4.8%	n.a.	3.9%	4.3%
CAGR 2007-2030	n.a.	n.a.	2.9%	4.0%	n.a.	n.a.	5.2%

Sources: Airport Records; USDOT, *Air Passenger Origin-Destination Survey*; USDOT, Schedule T-100; FAA Aerospace Forecasts various years; Landrum & Brown analysis

5.2.4 Forecast Summary and Comparison

Figure 5.2-2 presents the comparison between the aggregate and regional regression forecasts. The aggregate and regional approaches yield similar results. The aggregate level regression results in a slightly faster growth rate of 4.0 percent annually, versus 3.9 percent annual average growth in the regional approach. Total international demand is expected to reach 1.63 million enplanements in 2030 in the aggregate level approach versus 1.59 million enplanements with the regional level approach.

FIGURE 5.2-2
INTERNATIONAL O&D ENPLANEMENTS AND BOUND FOR INTERNATIONAL DESTINATIONS
ENPLANEMENTS FORECASTS COMPARISON
San Diego International Airport



Sources: Airport Records; USDOT, *Air Passenger Origin-Destination Survey*; USDOT, Schedule T-100; FAA Aerospace Forecasts various years; Landrum & Brown analysis

5.3 Connecting Passengers

This section describes the forecast of connecting passengers.

5.3.1 Historical Trends

Connecting enplanements represented 3.8 percent of the total enplanements in 2007 at SDIA. The volume of connecting passengers occurs largely as a result of airline network management strategies rather than through any unique characteristic of the airport's local market.

There are three forms of connecting enplanements:

1. **Domestic-to-domestic**: Passengers connecting between two domestic flights such as Phoenix-SDIA-LAX;
2. **International-to-domestic**: Passengers connecting from an international flight to a domestic flight such as Mexico-SDIA-LAX.
3. **Domestic-to-international**: Passengers connecting from a domestic flight to an international flight such as LAX-SDIA-Mexico.

For purposes of this forecast, the first two categories are considered domestic connections. In 2007, total domestic connecting enplanements at SDIA accounted for 3.5 percent of total domestic enplanements at SDIA. Historically, domestic-to-domestic connections generally have accounted for 94 to 99 percent of total domestic connections at SDIA since 1990 (see **Table 5.3-1**). International-to-domestic and domestic-to-international connections at SDIA have historically represented a relatively small portion of connecting traffic. About 70 percent of international-to-domestic connecting traffic is served by Alaska Airlines.

TABLE 5.3-1
CONNECTING ENPLANEMENTS
San Diego International Airport

Calendar Year	D-to-D Connections	I-to-D Connections	Total Domestic Connections	D-to-I Connections	Total Connections
1990	216,840	3,150	219,990	3,490	223,480
1991	223,470	5,930	229,400	6,790	236,190
1992	287,660	5,040	292,700	8,090	300,790
1993	272,340	3,400	275,740	6,820	282,560
1994	354,630	5,500	360,130	9,190	369,320
1995	303,990	5,790	309,780	8,590	318,370
1996	291,800	6,250	298,050	8,080	306,130
1997	315,740	8,470	324,210	12,770	336,980
1998	253,020	9,390	262,410	15,670	278,080
1999	261,020	8,510	269,530	10,190	279,720
2000	298,170	8,760	306,930	10,320	317,250
2001	256,900	6,440	263,340	7,320	270,660
2002	227,070	5,320	232,390	6,960	239,350
2003	234,750	7,600	242,350	8,310	250,660
2004	242,500	9,580	252,080	8,570	260,650
2005	268,620	16,320	284,940	15,310	300,250
2006	292,070	9,810	301,880	12,220	314,100
2007	305,560	9,620	315,180	11,680	326,860
CAGR 1990-1995	7.0%	12.9%	7.1%	19.7%	7.3%
CAGR 1995-2000	-0.4%	8.6%	-0.2%	3.7%	-0.1%
CAGR 2000-2005	-2.1%	13.3%	-1.5%	8.2%	-1.1%
CAGR 2005-2007	6.7%	-23.2%	5.2%	-12.7%	4.3%
CAGR 1990-2007	2.0%	6.8%	2.1%	7.4%	2.3%

Note: D-to-D connections refer to domestic-to-domestic connections. I-to-D connections refer to passengers connecting from an international flight to a domestic flight.
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis.

SDIA's geographic position and LCC base are a naturally limiting factor for domestic-to-domestic connections. The top two major regions for domestic-to-domestic connections at SDIA are Northern California (31 percent) and South Mountain (15 percent), followed by Southern California (14 percent) and South West (11 percent) (see **Table 5.3-2**).

TABLE 5.3-2
2007 DOMESTIC-TO-DOMESTIC CONNECTING ENPLANEMENTS
San Diego International Airport

Origin	Northern California	Southern California	Pacific	North Mountain	South Mountain	Midwest	South West	Northeast	South East	Total
Enplanements by Destination										
Northern California	1,650	4,200	870	-	22,310	15,190	19,610	12,360	13,080	89,270
Southern California	4,650	3,260	1,310	70	4,340	5,530	7,120	6,950	2,600	35,830
Pacific	880	970	250	-	3,830	2,960	2,640	1,720	1,170	14,420
North Mountain	70	20	10	-	20	20	10	-	30	180
South Mountain	23,600	5,820	4,470	50	8,690	1,170	1,520	1,970	3,990	51,280
Midwest	15,190	10,480	3,660	50	1,350	90	140	40	10	31,010
South West	21,190	6,530	5,400	20	1,280	90	450	170	20	35,150
Northeast	13,530	9,370	2,880	-	1,600	10	540	110	-	28,040
South East	13,420	2,770	1,160	40	2,630	10	50	120	180	20,380
Total	**94,180**	**43,420**	**20,010**	**230**	**46,050**	**25,070**	**32,080**	**23,440**	**21,080**	**305,560**
% Share of Total D-to-D Connections by Destination										
Northern California	0.5%	1.4%	0.3%	0.0%	7.3%	5.0%	6.4%	4.0%	4.3%	29.2%
Southern California	1.5%	1.1%	0.4%	0.0%	1.4%	1.8%	2.3%	2.3%	0.9%	11.7%
Pacific	0.3%	0.3%	0.1%	0.0%	1.3%	1.0%	0.9%	0.6%	0.4%	4.7%
North Mountain	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
South Mountain	7.7%	1.9%	1.5%	0.0%	2.8%	0.4%	0.5%	0.6%	1.3%	16.8%
Midwest	5.0%	3.4%	1.2%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	10.1%
South West	6.9%	2.1%	1.8%	0.0%	0.4%	0.0%	0.1%	0.1%	0.0%	11.5%
Northeast	4.4%	3.1%	0.9%	0.0%	0.5%	0.0%	0.2%	0.0%	0.0%	9.2%
South East	4.4%	0.9%	0.4%	0.0%	0.9%	0.0%	0.0%	0.0%	0.1%	6.7%
Total	**30.8%**	**14.2%**	**6.5%**	**0.1%**	**15.1%**	**8.2%**	**10.5%**	**7.7%**	**6.9%**	**100.0%**

Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis.

Southwest, United, and American are the major drivers of domestic-to-domestic connecting traffic at SDIA. In 2007, Southwest accounted for 43 percent of the domestic-to-domestic enplanements, followed by United with 21 percent and American with 19 percent (see **Table 5.3-3**).

TABLE 5.3-3
2007 DOMESTIC-TO-DOMESTIC CONNECTING TRAFFIC BY AIRLINE
San Diego International Airport

	Enplanements						
Destination	**Southwest**	**United**	**American**	**US Airways**	**Delta**	**Other**	**Total**
Northern California	58,170	20,830	10,750	1,020	200	3,210	94,180
Southern California	10	17,010	16,050	50	3,610	6,690	43,420
Pacific	1,920	4,190	5,810	230	360	7,500	20,010
North Mountain	40	40	-	-	40	110	230
South Mountain	25,270	7,250	40	8,350	1,970	3,170	46,050
Midwest	8,720	7,130	6,680	260	80	2,200	25,070
South West	17,710	210	11,640	190	20	2,310	32,080
Northeast	7,030	6,950	5,120	1,780	900	1,660	23,440
South East	13,170	1,220	520	1,660	4,160	350	21,080
Total	**132,040**	**64,830**	**56,610**	**13,540**	**11,340**	**27,200**	**305,560**

Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis.

5.3.2 Connecting Enplanements Forecast

In order to forecast future connecting traffic volumes, it was assumed that domestic-to-domestic connections are a function of the domestic O&D activity at SDIA. International-to-domestic and domestic-to-international traffic is assumed to be a function of international O&D activity at the airport.

Domestic-to-domestic connections accounted for 3.7 percent of the domestic O&D traffic in 2007, down from five percent in 1995. It is expected that this type of connecting traffic will account for a decreasing share of domestic activity at SDIA over the forecast period dropping to 3.5 percent by 2030. **Table 5.3-4** shows the domestic-to-domestic connecting enplanements forecast for each domestic O&D scenario.

TABLE 5.3-4
DOMESTIC-TO-DOMESTIC CONNECTIONS FORECAST
San Diego International Airport

Calendar Year	Domestic O&D Aggregate	D-to-D Connections	as % of Domestic O&D
Actual			
1990	5,034,630	216,840	4.3%
1995	6,022,320	303,990	5.0%
2000	7,038,390	298,170	4.2%
2005	7,724,980	268,620	3.5%
2006	7,739,110	292,070	3.8%
2007	8,148,830	305,560	3.7%
CAGR 1990-2007	2.9%	2.0%	
BASELINE REGIONAL SCENARIO			
Forecast			
2010	8,184,000	306,900	3.8%
2015	8,868,000	319,300	3.6%
2020	9,817,000	353,400	3.6%
2025	10,862,000	380,200	3.5%
2030	12,012,000	420,400	3.5%
CAGR 2007-2030	1.7%	1.4%	
HIGH SCENARIO			
Forecast			
2010	8,821,000	330,800	3.8%
2015	9,719,000	349,900	3.6%
2020	10,808,000	389,100	3.6%
2025	12,011,000	420,400	3.5%
2030	13,335,000	466,700	3.5%
CAGR 2007-2030	2.2%	1.9%	
LOW SCENARIO			
Forecast			
2010	7,729,000	289,800	3.7%
2015	7,880,000	283,700	3.6%
2020	8,464,000	304,700	3.6%
2025	9,054,000	316,900	3.5%
2030	9,662,000	338,200	3.5%
CAGR 2007-2030	0.7%	0.4%	

Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

It was assumed that the share of international-to-domestic and domestic-to-international connections to international O&D enplanements would remain constant over the forecast period as shown in **Table 5.3-5**.

TABLE 5.3-5
INTERNATIONAL-TO-DOMESTIC AND DOMESTIC-TO-INTERNATIONAL CONNECTIONS FORECAST
San Diego International Airport

Calendar Year	International O&D	I-to-D Connections	I-to-D as % of International O&D	D-to-I Connections	D-to-I as % of International O&D
Actual					
1990	55,002	3,150	5.7%	3,490	6.3%
1995	70,693	5,790	8.2%	8,590	12.2%
2000	127,739	8,760	6.9%	10,320	8.1%
2005	115,670	16,320	14.1%	15,310	13.2%
2006	113,778	9,810	8.6%	12,220	10.7%
2007	121,006	9,620	8.0%	11,680	9.7%
Forecast					
2010	139,600	11,100	8.0%	14,000	10.0%
2015	205,100	16,400	8.0%	20,500	10.0%
2020	270,500	21,600	8.0%	27,100	10.0%
2025	323,800	25,900	8.0%	32,400	10.0%
2030	388,600	31,100	8.0%	38,900	10.0%
CAGR 1990-2007	4.7%	6.8%		7.4%	
CAGR 2007-2015	6.8%	6.9%		7.3%	
CAGR 2015-2030	4.4%	4.4%		4.4%	
CAGR 2007-2030	5.2%	5.2%		5.4%	

Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

5.4 Forecast Summary and Market Share

This section summarizes the results of the previously described enplanements forecast segments.

5.4.1 Forecast Summary

Table 5.4-1 presents the results of the enplanements forecast for the 2007 to 2030 time period. The forecast selected for use in the rest of this forecast document and for subsequent analyses is the baseline regional approach forecast for both domestic and international demand. The baseline scenario projects 14.1 million total enplanements in 2030. Enplanements would

range from 11.7 million in the low scenario to 15.5 million in the high scenario.

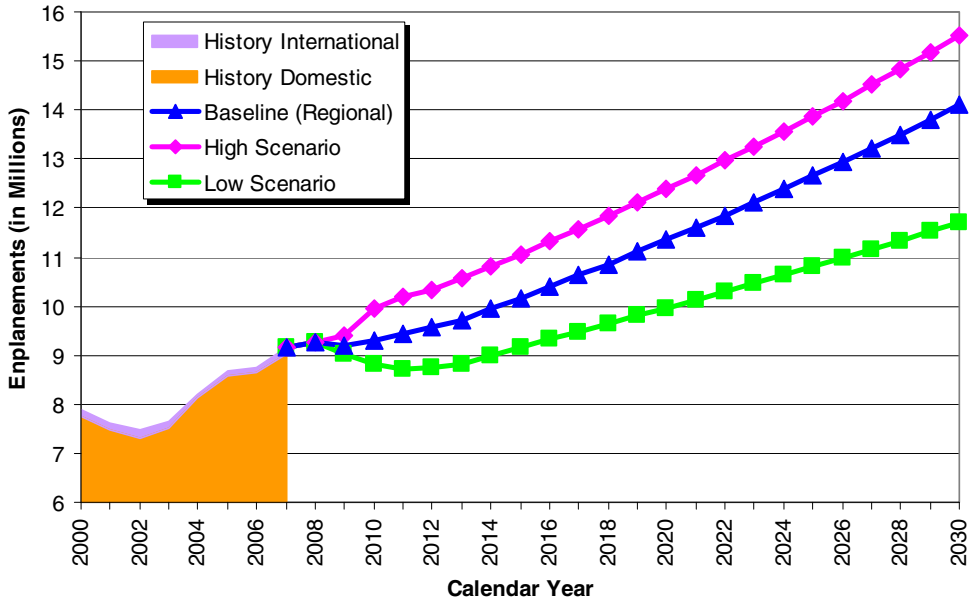
TABLE 5.4-1
ENPLANEMENTS FORECAST COMPARISON
San Diego International Airport

Calendar Year	Enplaned Passengers: Domestic O&D Pure O&D	Domestic O&D Other Domestic [1/]	Domestic O&D Total	Int'l O&D	Connecting [2/]	Total
Actual						
1990	5,034,630	295,896	5,330,526	55,002	223,480	5,609,008
1995	6,022,320	274,761	6,297,081	70,693	318,370	6,686,144
2000	7,038,390	421,064	7,459,454	127,739	317,250	7,904,443
2005	7,724,980	551,794	8,276,774	115,670	300,250	8,692,694
2006	7,739,110	592,681	8,331,791	113,778	314,100	8,759,669
2007	8,148,830	576,270	8,725,100	121,006	326,860	9,172,966
CAGR 1990-2007	2.9%	4.0%	2.9%	4.7%	2.3%	2.9%
BASELINE REGIONAL SCENARIO						
Forecast						
2010	8,184,500	630,400	8,814,900	139,600	331,900	9,286,400
2015	8,868,400	734,000	9,602,400	205,100	356,200	10,163,700
2020	9,816,900	861,700	10,678,600	270,500	402,100	11,351,200
2025	10,862,100	1,026,100	11,888,200	323,800	438,500	12,650,500
2030	12,012,300	1,215,500	13,227,800	388,600	490,400	14,106,800
CAGR 2007-2030	1.7%	3.3%	1.8%	5.2%	1.8%	1.9%
HIGH SCENARIO						
Forecast						
2010	8,820,700	634,200	9,454,900	139,600	355,800	9,950,300
2015	9,719,500	743,200	10,462,700	205,100	386,800	11,054,600
2020	10,808,400	880,900	11,689,300	270,500	437,800	12,397,600
2025	12,010,500	1,056,700	13,067,200	323,800	478,700	13,869,700
2030	13,334,500	1,262,000	14,596,500	388,600	536,700	15,521,800
CAGR 2007-2030	2.2%	3.5%	2.3%	5.2%	2.2%	2.3%
LOW SCENARIO						
Forecast						
2010	7,729,200	632,800	8,362,000	139,600	314,900	8,816,500
2015	7,880,500	740,800	8,621,300	205,100	320,600	9,147,000
2020	8,464,000	877,900	9,341,900	270,500	353,400	9,965,800
2025	9,054,400	1,052,800	10,107,200	323,800	375,200	10,806,200
2030	9,662,000	1,257,200	10,919,200	388,600	408,100	11,715,900
CAGR 2007-2030	0.7%	3.4%	1.0%	5.2%	1.0%	1.1%

[1/] Includes bound for international destination, non-revenue, charter, and other domestic enplanements
[2/] Includes both domestic and international connecting enplanements
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

Figure 5.4-1 shows a comparison of three of the enplanements forecasts.

FIGURE 5.4-1
ENPLANEMENTS FORECASTS COMPARISON
San Diego International Airport



Sources: FAA 2007 Terminal Area Forecast; USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

Enplanements were segmented into air carrier and commuter categories for the domestic traffic as presented in **Table 5.4-2**. These segmentations are based on the aircraft operations forecasts presented in Section 7. The baseline forecast calls for domestic air carrier enplanements to grow at a rate of 2.5 percent annually over the forecast period. Domestic commuter enplanements are forecast to decrease through 2030 in the baseline forecast. This projected decrease occurs for two reasons. First, small regional jets are forecast to be progressively replaced by larger regional jets (which are considered part of the air carrier classification). Second, traffic to the Southern California region, which is served exclusively by turboprop aircraft, is expected to decrease over time. Domestic commuter enplanements are forecast to decrease from 191,500 by 2030 versus 587,660 enplanements in 2007. The international enplanements are a small component of the passenger base and are exclusively on air carrier aircraft.

TABLE 5.4-2
ENPLANED PASSENGER FORECAST BY AIR CARRIER AND COMMUTER
San Diego International Airport

Calendar Year	Domestic Enplanements			International Enplanements	Total Enplanements
	Air Carrier	Commuter	Total		
Actual					
1995	6,298,447	308,414	6,606,861	79,283	6,686,144
2000	7,398,719	367,665	7,766,384	138,059	7,904,443
2005	8,067,817	493,897	8,561,714	130,980	8,692,694
2006	8,143,613	490,058	8,633,671	125,998	8,759,669
2007	8,452,620	587,660	9,040,280	132,686	9,172,966
CAGR 1995-07	2.5%	5.5%	2.6%	4.4%	2.7%
BASELINE SCENARIO (REGIONAL APPROACH)					
Forecast					
2010	8,612,300	520,600	9,132,900	153,500	9,286,400
2015	9,719,500	218,600	9,938,100	225,600	10,163,700
2020	10,854,600	199,000	11,053,600	297,600	11,351,200
2025	12,097,500	196,700	12,294,200	356,200	12,650,400
2030	13,487,900	191,500	13,679,400	427,400	14,106,800
CAGR 2007-30	2.1%	-4.8%	1.8%	5.2%	1.9%
HIGH SCENARIO					
Forecast					
2010	9,238,400	558,400	9,796,800	153,500	9,950,300
2015	10,590,800	238,200	10,829,000	225,600	11,054,600
2020	11,882,200	217,800	12,100,000	297,600	12,397,600
2025	13,297,300	216,200	13,513,500	356,200	13,869,700
2030	14,883,100	211,300	15,094,400	427,400	15,521,800
CAGR 2007-30	2.5%	-4.3%	2.3%	5.2%	2.3%
LOW SCENARIO					
Forecast					
2010	8,169,300	493,800	8,663,100	153,500	8,816,600
2015	8,725,100	196,300	8,921,400	225,600	9,147,000
2020	9,494,200	174,000	9,668,200	297,600	9,965,800
2025	10,282,800	167,200	10,450,000	356,200	10,806,200
2030	11,130,500	158,000	11,288,500	427,400	11,715,900
CAGR 2007-30	1.2%	-5.6%	1.0%	5.2%	1.1%

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

5.4.2 Market Share

Passengers originating from San Diego County have their choice of a number of nearby airports including SDIA, LAX, ONT (Ontario International Airport), LGB (Long Beach Airport), SNA (John Wayne Airport) and TIJ (in Mexico). SDIA accounted for 90 percent (9.2 million passengers) of total enplaned passengers originating from within San Diego County in 2007. This report focused on the San Diego County passengers that use SDIA and did not attempt to forecast the portion of San Diego County demand that flies from other airports. This section discusses airport choice statistics for San Diego County passengers in 2007.

LAX is the primary alternate U.S. airport for San Diego County, accounting for almost five percent (471,900 passengers) of total enplaned passengers originating from San Diego County in 2007. ONT accounted for 0.4 percent (39,639 passengers) of the total in 2007.

TIJ has significant number of passengers (502,550 passengers in 2007) originating from San Diego County due to the volume of affordable air service to Mexican destinations offered at TIJ. This traffic is expected to grow to 1.8 million by 2030 in the high case scenario.[22] Notably, there was also a reverse traffic flow of 283,986 passengers traveling from Tijuana to use SDIA for U.S. destinations in 2007.

San Diego County total international demand for 2007 was estimated to be 1.3 million enplanements (see **Table 5.4-3**). Almost 50 percent of the international passengers originated their travel at SDIA. San Diego County passengers mainly use SDIA for travel to international destinations other than Mexico. Out of the total San Diego County international demand to Europe, 77 percent of travelers use SDIA versus 55.8 percent of Asia-Pacific travelers, 92.5 percent of Canada travelers, 90 percent of Central America travelers (not including Mexico), and 87.2 percent of South America/Caribbean travelers. Approximately 82 percent of San Diego County passengers that do not use SDIA and that traveled to destinations in Mexico used Tijuana and one percent used LAX in 2007. LAX is another important gateway for San Diego County travelers bound for the

[22] Based on the Cross-Border Terminal - Market Demand Study 2006

Asia-Pacific region and Europe. Travel to these regions through LAX accounts for 39 percent and 23 percent of total San Diego County demand, respectively, in 2007.

TABLE 5.4-3
2007 ESTIMATE OF TOTAL DEMAND FOR INTERNATIONAL TRAVEL FROM SAN DIEGO COUNTY

	Europe, Mid. East & Africa	Asia-Pacific	Canada	Mexico	Central America	S. Amer. & Caribbean	Total
SDIA International Itineraries							
Bound for Int'l Destinations	238,447	106,679	96,385	38,170	17,974	42,399	540,054
Purely International	-	-	56,861	64,145	-	-	121,006
Total	**238,447**	**106,679**	**153,246**	**102,315**	**17,974**	**42,399**	**661,060**
San Diego County Residents Traveling from:							
LAX	71,254	74,296	12,048	8,032	2,008	6,218	173,857
ONT	-	-	396	-	-	-	396
TIJ	-	10,051	-	492,499	-	-	502,550
Total	**71,254**	**84,347**	**12,444**	**500,531**	**2,008**	**6,218**	**676,803**
Total San Diego County International Demand:	**309,701**	**191,026**	**165,690**	**602,846**	**19,982**	**48,617**	**1,337,863**
SDIA as % of Total Demand	**77.0%**	**55.8%**	**92.5%**	**17.0%**	**90.0%**	**87.2%**	**49.4%**

Sources: Airport Records; USDOT, *Air Passenger Origin-Destination Survey*; LAX Passenger Survey 2006; Cross-Border Terminal - Market Demand Study 2006.

6 AIR CARGO TONNAGE FORECAST

Air cargo (freight and mail) is shipped to and from airports by two methods: 1) in the cargo compartment, or belly, of passenger aircraft and 2) aboard all-cargo or freighter aircraft. Most passenger airlines accommodate air cargo as a by-product to the primary activity of carrying passengers. It fills belly space in their aircraft that would otherwise be empty. The incremental costs of carrying cargo in a passenger aircraft have traditionally been negligible, and include only ground handling expenses and an increase in fuel consumption.

There are different ways to ship cargo by air, namely with integrators or freight forwarders. Integrators such as FedEx and UPS provide door-to-door service for their customers. Integrators provide their own trucks, handling, sort facilities, and aircraft. In contrast, freight forwarders are commercial businesses that arrange for the transportation of freight by a carrier. A freight forwarder is similar to a travel agent – the forwarders do not typically own aircraft, trucks, or ships; rather they book cargo space for their customers.

It is important to remember that virtually all air cargo begins or ends its journey on a truck making the ground distribution system equally critical. The design and location of airports and their cargo facilities must take this into consideration and be capable of accommodating growth in the landside component of the operation commensurate with growth on the airside.

One of the most difficult variables to evaluate in air cargo is the truck substitution component. Trucks have nearly replaced regional air freight service due to the savings and increasingly efficient service. Both freight forwarders and integrated carriers will ultimately choose to move freight in the most cost effective manner.

6.1 Air Cargo Industry Historical Trends and Future Forecasts

The air cargo industry has experienced many changes in the last decade. The general economic downturn that began in 2000 adversely affected air cargo in terms of growth rates, and in some markets total volumes. After the terrorist attacks of September 11, 2001, cargo activity in the U.S. was immediately impacted. Critical impacts included:

- Increased use of trucks
- Escalation of insurance costs
- Consolidation among smaller firms
- Failure of many small cargo airlines and smaller support firms
- Higher security costs
- Longer processing time because of increased security measures
- Increased available freighter capacity, driving down rates

In addition to the changes in the industry since the 2001 terrorist attacks, fuel prices have surged to record highs, further increasing costs for the cargo industry. Although the U.S. economy has recovered in recent years, fuel prices have hampered the recovery of domestic air cargo due to the resulting modal shift to trucks.

The passenger airlines have decreased the number of flights they operate and have reduced the size of aircraft on many remaining flights. These changes have reduced the aircraft belly capacity available for cargo, which has consequently forced the diversion of cargo to trucking and dedicated freighter/integrator aircraft. Additionally, because of the more stringent application of the "known shipper rule,"[23] passenger carriers are either reluctant to, or constrained from accepting some freight. As a result, more freight flows through to freight forwarders, who make use of multiple modes of cargo shipment. Cargo security requirements

[23] On October 8, 2001, the FAA issued the "known shipper rule" (Emergency Amendment EA 109-01-01A). This rule requires freight forwarders to verify the legitimacy of their customers unless they had done business with the customer before September 1, 1999, and have booked at least 24 shipments with the shipper.

for cargo shipped on passenger aircraft are becoming increasingly stringent. The *Improving America's Security Act of 2007* was signed into law by President Bush on August 3, 2007. This law requires that 50 percent of cargo on passenger aircraft be screened by February 2009, and 100 percent be screened by August 2010. According to the FAA, "…the law will lead to increased cost and time requirements for shipment of cargo on passenger air carriers."[24]

This forecast assumes that the structural changes to the air cargo industry discussed in this section are permanent and that emerging trends for air cargo security will continue. In spite of increasing security requirements, modal shifts, and high fuel costs, the air cargo industry has demonstrated growth each year since 2001 (see **Table 6.1-1**). Growth slowed down in 2005, due in part to record high fuel prices, but is rebounding.

TABLE 6.1-1
WORLDWIDE AIR CARGO GROWTH

Calendar Year	Growth in Tons
2000	8.1%
2001	-5.1%
2002	9.0%
2003	6.7%
2004	9.4%
2005	2.7%
2006	5.1%
2007 (estimate)	3.8%

Source: FAA Aerospace Forecast, Fiscal Years 2008-2025

According to Boeing, intra-North America and North America-Latin America cargo traffic shrunk in 2005[25] (-2.4 percent and -2.6 percent, respectively) while Europe-North America and Asia-North America cargo traffic increased in 2005 (1.4 percent and 1.3 percent growth respectively).[26]

The FAA, Boeing, and Airbus publish cargo forecasts on an annual basis. These forecasts were consulted to provide an

[24] *FAA Aerospace Forecast, Fiscal Years 2008-2025*
[25] The year 2005 is the latest year for which cargo volumes by world region was available.
[26] Boeing 2006/2007 World Air Cargo Forecast

understanding of future cargo trends at a national and international level.

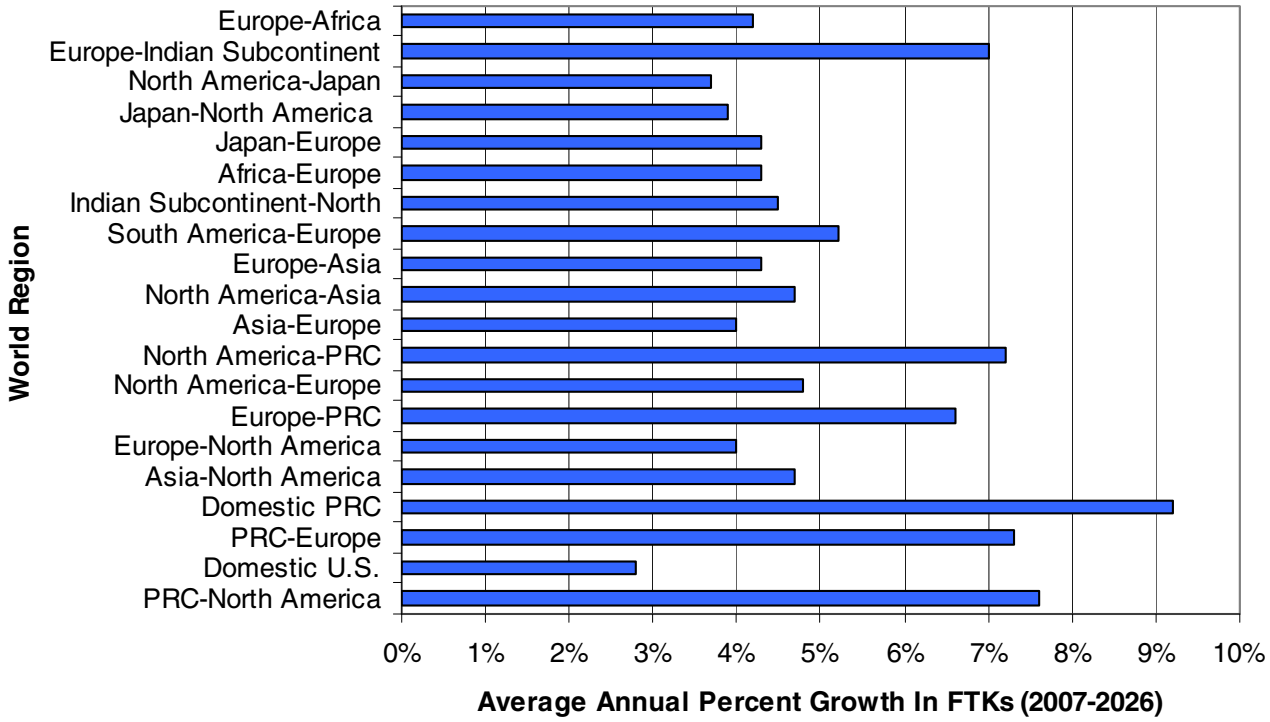
The FAA predicts domestic cargo Revenue Ton Miles (RTMs) will increase by 2.8 percent in 2008, by 4.4 percent in 2009, and at an annual rate of 2.9 percent from 2009 to 2025. The resulting annual growth rate for the 2008 through 2025 period is 3.0 percent. The FAA expects the all-cargo (freighter) share of cargo to increase to 84.4 percent by 2025, from 80.9 percent in 2007.[27]

Boeing expects world air cargo traffic to grow at a rate of 6.1 percent annually over the next 20 years, with most of the growth experienced in Asian markets. North American and European markets are forecast to experience lower than average growth.[28]

Airbus's forecast by region is shown in **Figure 6.1-1**. Airbus expects world cargo to grow at an average annual rate of 5.8 percent from 2007 to 2026. Domestic U.S. Freight Ton Kilometers (FTK) is expected to grow at an annual rate of 2.8 percent through 2026.[29]

[27] *FAA Aerospace Forecasts, Fiscal Year 2008-2025*
[28] Boeing 2006/2007 World Air Cargo Forecast
[29] Airbus Global Market Forecast, 2007-2026

FIGURE 6.1-1
AIRBUS 2007-2026 FORECAST GROWTH RATES BY REGION
San Diego International Airport



Source: Airbus Global Market Forecast, 2007-2026
Note: PRC – People's Republic of China

6.2 Historical Cargo Volumes at SDIA

As the cargo industry undergoes the major changes described in the preceding section, the basic requirements for a successful regional air cargo operation have remained essentially unchanged. These factors include a robust regional highway network, and multiple airports where air cargo can transfer from truck to air. However, the factors that make the region a success also dampen cargo demand at SDIA. Air cargo often by-passes SDIA on its way to other regional airports where more diverse air service, especially international air service, is available (for example LAX), where more cargo building/apron is available, or where an air cargo airline operates a major connecting hub such as Oakland International Airport or San Francisco International Airport.

Air cargo activity data provided by SDIA was analyzed for the years 2003 to 2007. This data was supplemented with Form T-100 data from the U.S. Department of Transportation (USDOT). **Table 6.2-1** summarizes historical cargo tonnage at SDIA. Total cargo tonnage has been up and down over the last five years.

TABLE 6.2-1
HISTORICAL AIR CARGO TONNAGE (in tons)
San Diego International Airport

Calendar Year	Total Cargo		
	All-cargo	Belly	Total
2003	125,348	29,258	154,606
2004	129,231	23,026	152,257
2005	167,539	20,167	187,705
2006	190,351	17,642	207,992
2007	141,653	13,036	154,689
CAGR 2003-2007	3.1%	-18.3%	0.0%

Sources: San Diego County Regional Airport Authority reports; Landrum & Brown analysis

The majority of cargo at SDIA is shipped on freighter aircraft. The percentage of belly cargo has steadily declined from 18.9 percent in 2003 to 8.4 percent in 2007 due to changes in security requirements and increasing passenger load factors on passenger aircraft.

According to airport records, SDIA was served by four all-cargo carriers in 2007 (see **Table 6.2-2**). This table also reflects the significant affect that mergers have had on the industry in recent years. Emery is now part of UPS, and Airborne is now part of DHL. FedEx has had majority market share at SDIA over the last five years, increasing from 64.1 percent of cargo shipped on freighters in 2003 to 78.9 percent in 2007. FedEx primarily flies to its sorting facilities in Memphis, Indianapolis, Dallas-Forth Worth, and Oakland, but FedEx also operates feeder service to Imperial County Airport (IPL) in California. UPS was the second largest cargo carrier at SDIA in 2007 with a 10.3 percent market share. Seventy-five percent of its 2007 flights were to its hub in Louisville, while the remaining 25 percent were bound for

Hawaii. Airborne had an 8.2 percent market share in 2007 exclusively serving its hub in Wilmington, Ohio.

TABLE 6.2-2
2007 ALL-CARGO MARKET SHARE BY CARRIER
San Diego International Airport

Carrier	2003	2004	2005	2006	2007
FedEx	64.1%	65.1%	74.2%	81.0%	78.9%
United Parcel Service	14.5%	14.8%	11.1%	9.2%	10.3%
Airborne	9.8%	8.8%	6.2%	5.1%	8.2%
Burlington	3.6%	3.5%	2.7%	2.0%	2.6%
Frontier	0.4%	0.6%	0.5%	0.2%	0.0%
Kitty Hawk	0.0%	0.0%	0.9%	1.3%	0.0%
Emery	4.2%	5.0%	0.0%	0.0%	0.0%
UPS - Supply Chain Solutions	0.0%	0.0%	3.5%	1.2%	0.0%
DHL	2.8%	2.0%	1.0%	0.0%	0.0%
Gemini Air Cargo	0.8%	0.0%	0.0%	0.0%	0.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Sources: San Diego County Regional Airport Authority reports; Landrum & Brown analysis

6.3 Air Cargo Volume Forecast

Three air cargo volume forecasts were prepared: baseline, high, and low scenarios.

6.3.1 Baseline Forecast

It can be reasonably assumed that the tonnage of air cargo handled at SDIA will, over the long-term, be linked to economic activity both locally and nationally. As illustrated in the economic base section, the expected growth of population, employment, and income projected for the SDIA Air Service Area and the broader U.S. economy should increase the demand for the shipment of goods and services over the forecast period.

All of the air cargo at SDIA leaves on domestic flights. As a result, the higher growth rates that industry analysts have projected for Asia-North America are not expected to apply at SDIA. Moreover, the higher end of the domestic growth rate is more likely to be experienced at the national and regional air hubs of the major integrators.

Consequently, it was assumed that the long-term growth rate going forward would likely be somewhat less than domestic North America annual growth rate of 3.0 percent suggested by the FAA or the 2.8 percent growth rate predicted by Airbus. Ultimately based on the preceding assumptions and professional judgment, two-thirds of the FAA growth rate was deemed reasonable to apply to all-cargo volumes for the 2007 through 2030 period. This results in the application of 1.9 percent growth in 2008, 2.9 percent growth in 2009, and 1.9 percent average annual growth thereafter. Based on these assumptions, all-cargo tonnage is expected to increase from 141,653 tons in 2007 to 222,000 by 2030 (see **Table 6.3-1**).

TABLE 6.3-1
AIR CARGO TONNAGE FORECAST – BASELINE SCENARIO
San Diego International Airport

Calendar Year	Freighter	Belly	Total
Actual			
2003	125,348	29,258	154,606
2004	129,231	23,026	152,257
2005	167,539	20,167	187,705
2006	190,351	17,642	207,992
2007	141,653	13,036	154,689
Forecast			
2010	151,400	12,800	164,200
2015	166,600	5,800	172,400
2020	183,300	4,900	188,200
2025	201,700	4,200	205,900
2030	222,000	3,600	225,600
CAGR 2003-2007	3.1%	-18.3%	0.0%
CAGR 2007-2015	2.0%	-9.6%	1.4%
CAGR 2015-2030	1.9%	-3.1%	1.8%
CAGR 2007-2030	2.0%	-5.4%	1.7%

Sources: FAA Aerospace Forecast 2008-2025; San Diego County Regional Airport Authority; Landrum & Brown analysis

Belly cargo volumes have been steadily declining since 2003. The all-cargo share at SDIA has increased from 81.1 percent in 2003 to 91.6 percent in 2007, which is consistent with national trends. The requirement for 100 percent screening of belly cargo by August 2010 will cause the volume of cargo transported on

passenger aircraft to drop significantly. Belly cargo volumes are therefore forecast to decrease from just over 13,000 tons in 2007 to 3,600 tons by 2030.

6.3.2 High Scenario Forecast

For the high scenario, it was assumed that the full FAA growth rates would apply to SDIA freighter tonnage. As a result, air cargo tonnage at SDIA would grow at an average annual growth rate of 2.6 percent through 2030 (see **Table 6.3-2**).

TABLE 6.3-2
AIR CARGO TONNAGE FORECAST – HIGH SCENARIO
San Diego International Airport

Calendar Year	Freighter	Belly	Total
Actual			
2003	125,348	29,258	154,606
2004	129,231	23,026	152,257
2005	167,539	20,167	187,705
2006	190,351	17,642	207,992
2007	141,653	13,036	154,689
Forecast			
2010	156,400	13,200	169,600
2015	180,400	6,900	187,300
2020	208,100	5,600	213,700
2025	240,100	5,000	245,100
2030	277,100	4,500	281,600
CAGR 2003-2007	3.1%	-18.3%	0.0%
CAGR 2007-2015	3.1%	-7.6%	2.4%
CAGR 2015-2030	2.9%	-2.8%	2.8%
CAGR 2007-2030	3.0%	-4.5%	2.6%

Sources: FAA Aerospace Forecast 2008-2025; San Diego County Regional Airport Authority; Landrum & Brown analysis

6.3.3 *Low Scenario Forecast*

In the low scenario, only one third of the FAA growth rates were applied to SDIA freighter tonnage. The resulting forecast shows an increase of 0.7 percent per annum in cargo tonnage (see **Table 6.3-3**).

TABLE 6.3-3
AIR CARGO TONNAGE FORECAST – LOW SCENARIO
San Diego International Airport

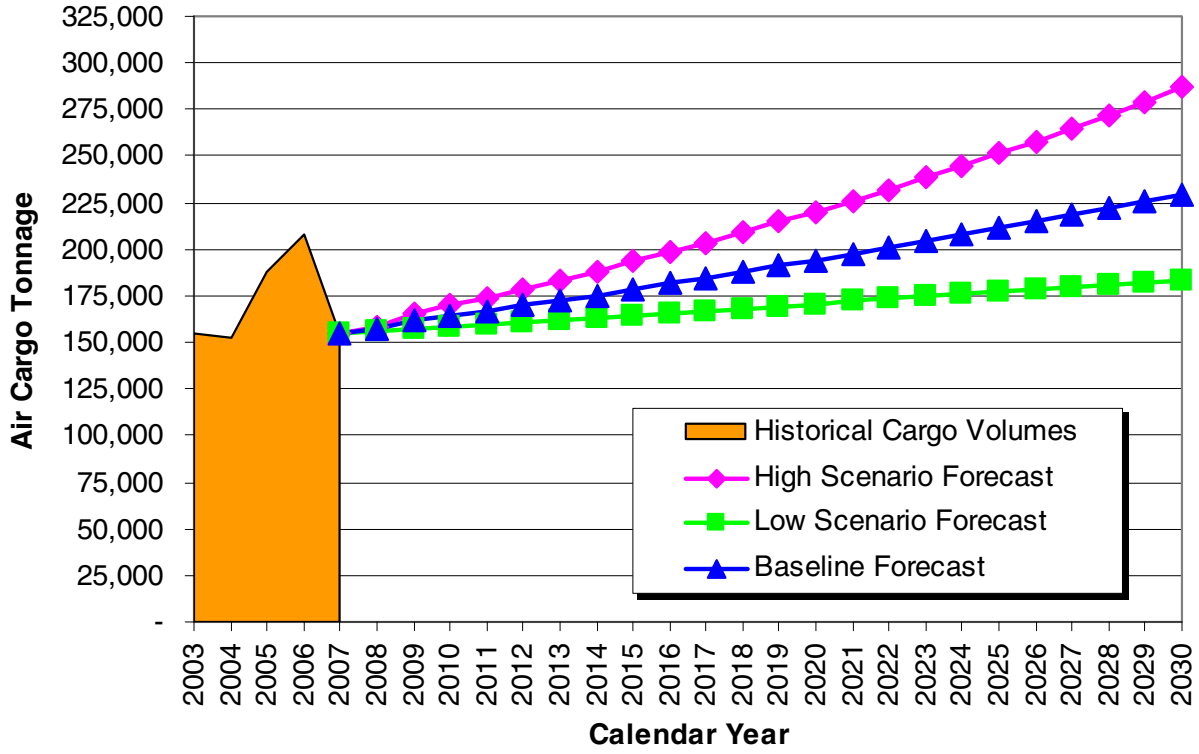
Calendar Year	Freighter	Belly	Total
Actual			
2003	125,348	29,258	154,606
2004	129,231	23,026	152,257
2005	167,539	20,167	187,705
2006	190,351	17,642	207,992
2007	141,653	13,036	154,689
Forecast			
2010	146,500	12,400	158,900
2015	153,700	5,900	159,600
2020	161,200	4,300	165,500
2025	169,200	3,500	172,700
2030	177,600	2,900	180,500
CAGR 2003-2007	3.1%	-18.3%	0.0%
CAGR 2007-2015	1.0%	-9.4%	0.4%
CAGR 2015-2030	1.0%	-4.6%	0.8%
CAGR 2007-2030	1.0%	-6.3%	0.7%

Sources: FAA Aerospace Forecast 2008-2025; San Diego County Regional Airport Authority; Landrum & Brown analysis

6.3.4 *Air Cargo Tonnage Forecast Summary*

The three resulting air cargo volume forecasts are compared on **Figure 6.3-1**. In the baseline forecast, total cargo volumes are forecast to increase from 154,689 tons in 2007 to 225,600 tons in 2030. This represents an average annual growth rate of 1.7 percent. In the two alternative growth scenarios, air cargo tonnage at SDIA is forecast to vary between 180,500 tons and 281,600 tons in 2030.

FIGURE 6.3-1
AIR CARGO TONNAGE FORECASTS SUMMARY
San Diego International Airport



Sources: FAA Aerospace Forecast 2008-2025; San Diego County Regional Airport Authority; Landrum & Brown analysis

7 AIRCRAFT OPERATIONS FORECAST

Aircraft operations, defined as arrivals plus departures, were forecast separately for the four major categories of users: commercial passenger airlines, commercial all-cargo carriers, civil aviation, and military. Where appropriate, operations were also disaggregated into domestic and international segments as well as carrier type. The segmentation is detailed in the following sections.

7.1 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 (percent of seats occupied). The relationship is shown in the equation below.

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

This relationship permits literally infinite combinations of load factors, average aircraft size, and operations to accommodate a given number of passengers. In order to develop reasonable load factor and aircraft gauge assumptions, commercial passenger operations were disaggregated into the same broad categories of activity as in the enplaned passenger forecast. Passenger operations were first segmented into domestic and international operations. Domestic operations consisted of all scheduled and non-scheduled activity by passenger airlines in which the immediate down line city on departure or up line city on arrival was in the continental U.S., Alaska, Hawaii, or a U.S. territory.

Domestic passenger operations were further divided into domestic air carrier operations and domestic commuter operations. The breakout of domestic commuter service is based on the individual carrier's mode of operation (i.e., providing regional feed to its major airline partners, generally within 300 miles) and certification with the FAA. These commuter carriers typically operate turboprop and small (less than 60 seat) jet equipment.

The fundamental approach to deriving the passenger operations forecast is essentially the same at all airports. However, the underlying assumptions at each airport are inherently different due to differences in how airlines choose to serve the demand for air travel to, from, and over each airport. These differences may result, for example, from a strategic focus on unit revenues versus unit costs, or an emphasis on a hub-and-spoke system versus a point-to-point operation.

A number of sources were used to develop the historical passenger operations, load factor, and aircraft gauge data. The *Official Airline Guide*; FAA, Air Traffic Activity System (ATADS); and U.S. Department of Transportation (USDOT), Schedule T-100 data were used to develop total departures and the number of departing seats for each segment. Average seats per departure (ASPD or gauge) for each of the major groups of passenger activity were calculated from total departures and total departing seats. Aircraft load factors were calculated for each group of passenger operations by dividing total enplaned passengers by total departing seats. To calculate total operations, the total number of departures was multiplied by a factor of two.

Operations forecasts were developed for the three enplaned passenger scenarios: baseline, high scenario, and low scenario. The gauge assumptions for each segment are the same for each scenario. However, because the mix of air carrier vs. commuter activity and international vs. domestic activity is different for each scenario, the resulting total ASPD ratios differ for each scenario. The load factor assumptions also differ for each scenario.

7.1.1 Gauge and Load Factor Assumptions

Tables 7.1-1 and **7.1-2** present the ASPD and load factor assumptions for the three scenarios. These assumptions are further discussed in the subsequent sections.

TABLE 7.1-1
AIRCRAFT GAUGE ASSUMPTIONS
San Diego International Airport

Calendar Year	Domestic			International	Total
	Air Carrier	Commuter	Total		
Actual					
1995	141.1	22.5	106.1	127.2	106.3
2000	140.6	31.6	119.1	133.3	119.2
2005	144.9	35.5	121.4	111.7	121.2
2006	144.8	35.8	122.7	114.0	122.5
2007	143.3	38.3	121.6	115.0	121.5
CAGR 1995-07	0.1%	4.5%	1.1%	-0.8%	1.1%
BASELINE SCENARIO (REGIONAL APPROACH)					
Forecast					
2010	144.0	39.0	124.7	128.0	124.7
2015	139.0	31.5	129.1	137.0	129.3
2020	139.0	31.5	130.8	142.5	131.1
2025	139.0	31.5	131.7	144.0	132.0
2030	139.0	31.5	132.5	146.0	132.9
CAGR 2007-30	-0.1%	-0.8%	0.4%	1.0%	0.4%
HIGH SCENARIO					
Forecast					
2010	144.0	39.0	125.4	128.0	125.4
2015	139.0	31.5	129.6	137.0	129.7
2020	139.0	31.5	131.2	142.5	131.5
2025	139.0	31.5	132.0	144.0	132.3
2030	139.0	31.5	132.9	146.0	133.2
CAGR 2007-30	-0.1%	-0.8%	0.4%	1.0%	0.4%
LOW SCENARIO					
Forecast					
2010	144.0	39.0	124.7	128.0	124.7
2015	139.0	31.5	129.1	137.0	129.3
2020	139.0	31.5	130.8	142.5	131.1
2025	139.0	31.5	131.6	144.0	132.0
2030	139.0	31.5	132.4	146.0	132.9
CAGR 2007-30	-0.1%	-0.8%	0.4%	1.0%	0.4%

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

TABLE 7.1-2
AIRCRAFT LOAD FACTORS ASSUMPTIONS
San Diego International Airport

Calendar Year	Domestic			International	Total
	Air Carrier	Commuter	Total		
Actual					
1995	64.9%	47.4%	63.8%	63.2%	63.8%
2000	72.5%	64.9%	72.1%	89.9%	72.3%
2005	77.2%	70.6%	76.8%	56.4%	76.4%
2006	76.0%	72.7%	75.8%	57.4%	75.4%
2007	76.0%	76.0%	76.0%	69.6%	75.9%
CAGR 1995-07	1.3%	4.0%	1.5%	0.8%	1.5%
BASELINE SCENARIO (REGIONAL APPROACH)					
Forecast					
2010	78.3%	77.5%	78.3%	71.0%	78.1%
2015	79.0%	77.5%	79.0%	72.0%	78.8%
2020	79.0%	77.5%	79.0%	73.0%	78.8%
2025	79.0%	77.5%	79.0%	74.0%	78.8%
2030	79.0%	77.5%	79.0%	75.0%	78.9%
CAGR 2007-30	0.2%	0.1%	0.2%	0.3%	0.2%
HIGH SCENARIO					
Forecast					
2010	75.0%	77.5%	75.1%	71.0%	75.1%
2015	75.0%	77.5%	75.1%	72.0%	75.0%
2020	75.0%	77.5%	75.0%	73.0%	75.0%
2025	75.0%	77.5%	75.0%	74.0%	75.0%
2030	75.0%	77.5%	75.0%	75.0%	75.0%
CAGR 2007-30	-0.1%	0.1%	-0.1%	0.3%	-0.1%
LOW SCENARIO					
Forecast					
2010	78.3%	77.5%	78.3%	71.0%	78.1%
2015	79.0%	77.5%	79.0%	72.0%	78.8%
2020	79.5%	77.5%	79.5%	73.0%	79.3%
2025	80.0%	77.5%	80.0%	74.0%	79.7%
2030	80.5%	77.5%	80.5%	75.0%	80.2%
CAGR 2007-30	0.2%	0.1%	0.2%	0.3%	0.2%

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

7.1.1.1 Domestic Air Carrier Gauge and Load Factor Assumptions

From 1995 to 2007, ASPD for domestic air carrier flights fluctuated within a relatively narrow band, between 140 and 145 seats. This reflects the historical deployment of narrowbody jet aircraft at SDIA in the 135- to 145-seat range, such as the Boeing 737-300/700 and MD80. Southwest Airlines, which accounts for the largest of the domestic air carrier operations at SDIA, currently operates only three sizes of B-737 aircraft and has no stated plans to diversify its fleet in the future. Similarly, the second largest air carrier airline at SDIA (American) operates only two aircraft types (MD80s and Boeing 757s). Indeed, the assumed evolution of the domestic air carrier fleet at SDIA is primarily towards similarly sized, next generation replacement aircraft (e.g. Boeing 737-700 replacing Boeing 737-300 or Boeing 737-800 replacing MD80) rather than wholesale fleet changes. The following assumptions were made as a basis for the domestic air carrier commercial passenger operations forecast:

- By 2010, MD-80 and MD-90 aircraft will be replaced by more fuel efficient B737-800 and B737-900 aircraft (American, Delta);
- Southwest will continue to replace its B737-300s and B737-500s with B737-700s;
- By 2015, B757s will be replaced by A320s, A321s, B737-800s, and B737-900s;
- Shift from small regional jets (less than 60-seat aircraft according to the FAA definition) to larger regional jet aircraft (more than 60-seat aircraft) over the forecast period as major domestic commuter airlines upgauge their fleet.

As a result, the domestic air carrier fleet is projected to average 144.0 seats per flight in 2010 up from 143.3 seats in 2007 and then down to 139.0 for the remaining years of the forecast. This decline in average gauge is caused principally by removing B757 aircraft from the fleet. The gauge assumptions for the high and low scenarios are the same as in the baseline scenario.

Domestic air carrier load factors have increased from 64.9 percent in 1995 to 76.0 percent in 2007. In the baseline scenario, domestic air carrier load factors are expected to increase to 78.3 percent by 2010 reflecting high increases in fuel prices and corresponding capacity cuts, to 79.0 percent by 2015, and remain flat thereafter. In the high scenario, as fuel prices are expected to decrease back to $86 per barrel in 2010 and then remain flat over the forecast period, it was assumed that load factors would remain constant at 75 percent through 2030. On the other hand, in the low scenario, fuel prices will continue to increase, generating further capacity cuts beyond those expected in the near-term. As a result, it was assumed that domestic air carrier load factors would increase to 80.5 percent by 2030.

7.1.1.2 Domestic Commuter Gauge and Load Factor Assumptions

Domestic commuter operations at SDIA declined from 57,761 in 1995 to 40,433 operations in 2007 reflecting a drop in Southern California traffic in the late 1990s. In 2007, American and United respectively accounted for 44 percent and 32 percent of the total domestic commuter traffic at SDIA, followed by ExpressJet with 20 percent. Delta and US Airways constituted the remaining four percent of the domestic commuter activity.

Over the past thirteen years, domestic commuter ASPD grew from 22.5 seats per departure in 1995 to 38.3 seats per departure in 2007 with the progressive use of small regional jets. In the mid 1990s, airlines used mainly small turboprop equipment (19-seat aircraft) such as Jetstream 31 and Fairchild Metro/Merlin aircraft. By the late 1990s, the airlines shifted from these small turboprop aircraft to larger 30-seat to 34-seat aircraft. Since 2002, many legacy carriers have introduced small regional jets on medium-haul routes from SDIA. Over this historical period, domestic commuter load factors drastically increased from 47.4 percent in 1995 to 76.0 percent in 2007.

The forecast gauge and load factor assumptions for the domestic commuter segment are the same for all three forecast scenarios. By 2015, all small regional jet equipment will have been upgauged to larger regional jets, thereby qualifying them as air carrier equipment. As a result, domestic commuter aircraft

gauges are expected to decrease to 31.5 seats per departure by 2015 and remain constant thereafter. Over the forecast period, it was assumed that load factors would remain flat around 77.5 percent.

7.1.1.3 International Gauge and Load Factor Assumptions

Since 1995, annual international commercial passenger aircraft operations at SDIA have ranged from 1,851 to 4,253 operations, and have been almost exclusively on air carrier aircraft. International traffic out of SDIA has centered on travel to Mexico and Canada.

Since 1995, international ASPD varied significantly, starting around 127.2 seats per departure in 1995 and decreasing to 115.0 seats per departure in 2007, with peaks around 143.6 seats per departure in 2001. This reflects the large use of MD80 aircraft in the late 1990s and British Airways flights to Europe in the years 2001 to 2003, followed by a greater use of A319s and B737s through 2007. International load factors ranged from 63.2 percent in 1995 to 69.6 percent in 2007.

The forecast gauge and load factor assumptions for the international segment are the same for all three forecast scenarios. The enplaned passenger forecast assumes travel to Europe will develop in 2008 and Asia-Pacific destinations will be introduced by 2015. As a result, SDIA will see its international fleet upgauged to large wide body aircraft such as B763s, A350s, and B787s. Therefore, the international ASPD ratio is expected to increase to 146.0 seats per departure by 2030. International load factors are expected to grow to 75 percent by 2030.

7.1.2 Commercial Passenger Operations Forecast

Table 7.1-3 presents the commercial passenger aircraft operations forecast resulting from the gauge and load factor assumptions presented in the previous section.

TABLE 7.1-3
COMMERCIAL PASSENGER AIRCRAFT OPERATIONS FORECAST
San Diego International Airport

Calendar Year	Domestic Operations			International Operations	Total Operations
	Air Carrier	Commuter	Total		
Actual					
1995	137,598	57,761	195,359	1,974	197,333
2000	145,220	35,819	181,039	2,305	183,344
2005	144,264	39,414	183,678	4,160	187,838
2006	148,114	37,665	185,779	3,847	189,626
2007	155,194	40,433	195,627	3,317	198,943
CAGR 1995-07	1.0%	-2.9%	0.0%	4.4%	0.1%
BASELINE SCENARIO (REGIONAL APPROACH)					
Forecast					
2010	152,800	34,400	187,200	3,400	190,600
2015	177,000	17,900	194,900	4,600	199,500
2020	197,700	16,300	214,000	5,700	219,700
2025	220,300	16,100	236,400	6,700	243,100
2030	245,700	15,700	261,400	7,800	269,200
CAGR 2007-30	2.0%	-4.0%	1.3%	3.8%	1.3%
HIGH SCENARIO					
Forecast					
2010	171,100	37,000	208,100	3,400	211,500
2015	203,200	19,500	222,700	4,600	227,300
2020	228,000	17,800	245,800	5,700	251,500
2025	255,100	17,700	272,800	6,700	279,500
2030	285,500	17,300	302,800	7,800	310,600
CAGR 2007-30	2.7%	-3.6%	1.9%	3.8%	2.0%
LOW SCENARIO					
Forecast					
2010	144,900	32,700	177,600	3,400	181,000
2015	158,900	16,100	175,000	4,600	179,600
2020	171,800	14,300	186,100	5,700	191,800
2025	184,900	13,700	198,600	6,700	205,300
2030	198,900	12,900	211,800	7,800	219,600
CAGR 2007-30	1.1%	-4.8%	0.3%	3.8%	0.4%

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

The result of the foregoing assumptions regarding load factor and ASPD is that domestic air carrier operations are forecast to grow from 155,194 operations in 2007 to 245,700 operations by 2030 in the baseline forecast, representing an average annual growth of 2.0 percent. In the high scenario, domestic air carrier

operations are expected to increase to 285,500 operations by 2030 (2.7 percent average annual growth) versus 198,900 operations in the low scenario (representing growth of 1.1 percent annually).

Domestic commuter operations are expected to decrease from 40,433 operations in 2007 to 15,700 operations by 2030 in the baseline forecast (average annual rate of -4.0 percent). In the high scenario forecast, domestic commuter operations will decrease 3.6 percent annually over the forecast period to 17,300 operations by 2030 versus a 4.8 percent annual decrease in the low scenario forecast to 12,900 operations by 2030.

International operations are expected to grow 3.8 percent per year in all forecast scenarios to reach 7,800 operations by 2030.

7.1.3 Commercial Passenger Fleet Mix

Once the aggregate level operations forecasts were developed for domestic air carrier, domestic commuter, and international activity, a top-down approach was employed to allocate these operations to aircraft groups and specific aircraft types. The fleet mix was developed to match the aggregate level ASPD targets for each of the three components of commercial passenger demand presented in the previous subsections. The fleet mix also allowed for the calibration of those assumptions and, where appropriate, modifications were made prior to finalizing the assumptions presented in the preceding subsections.

The allocation of domestic commercial passenger operations by aircraft type is shown in **Table 7.1-4**. The primary assumptions underpinning the fleet mix forecast for the three scenarios are:

> Narrowbody jet activity is expected to continue to account for the predominant share of passenger operations at SDIA. The continued expansion of Southwest Airlines operations is assumed to account for much of the increase in narrowbody jet activity. As a result, B737-700 aircraft are expected to make up 45.2 percent of narrowbody aircraft by 2030.
>
> By 2010, there will be a shift in the fleet of the legacy airlines (American and Delta mainly), retiring all MD80s

and MD90s and replacing these aircraft with more fuel-efficient aircraft such as B737-800s and B737-900s.

By 2015, all B737-300s, B737-400s and B737-500s will have been replaced by B737-700s (Southwest) and A319s (United and US Airways).

By 2015, B757s will also be retired and replaced by A320s and A321s (United and US Airways).

Large regional jet aircraft will continue to account for an increasing share of passenger operations. It is assumed that the operating advantages of these aircraft over smaller regional jets will make these aircraft increasingly attractive to commuter airlines and their mainline partners. The population of large regional jets is expected to increase its share of passenger operations, reaching 6.0 percent in 2030 vs. 1.2 percent in 2007. Smaller regional jets are assumed to be replaced by large regional jets by 2015.

Turboprop aircraft are expected to remain a small part of the SDIA domestic commercial aircraft fleet through 2030, serving the Southern California region exclusively.

The international commercial passenger operation fleet mix, presented in **Table 7.1-5,** is based on the following assumptions:

Significant increases will occur in wide body traffic through 2030 mainly due to the introduction of traffic to Europe in 2008 (by Zoom with B767-300s) and to the Asian-Pacific region by 2015 (A350 and B787 aircraft). The share of wide body aircraft is expected to increase from 4.1 percent in 2008 to 13.4 percent in 2030.

B737-400 aircraft will be replaced by B737-800 aircraft by 2015. International airlines will progressively upgauge their fleet to B737-800s and B737-900s aircraft through the forecast period.

TABLE 7.1-4
DOMESTIC PASSENGER FLEET MIX – BASELINE FORECAST
San Diego International Airport

Aircraft Type	2007	2010	2015	2020	2025	2030
			AIRCRAFT OPERATIONS			
Wide Body Jet	**3,015**	**1,834**	**1,929**	**2,293**	**2,533**	**2,826**
Narrow Body Jet						
757	13,206	9,041	3,742	-	-	-
M80/M90	13,629	-	-	-	-	-
Other	122,957	140,397	158,939	182,299	203,447	227,273
Total	**149,792**	**149,438**	**162,681**	**182,299**	**203,447**	**227,273**
Large Regional Jet	**2,387**	**1,528**	**12,390**	**13,108**	**14,320**	**15,602**
Small Regional Jet	**17,963**	**16,168**	**-**	**-**	**-**	**-**
Turboprop	**22,469**	**18,232**	**17,900**	**16,300**	**16,100**	**15,700**
Total Domestic	**195,627**	**187,200**	**194,900**	**214,000**	**236,400**	**261,400**
			PERCENT OF TOTAL AIRCRAFT OPERATIONS			
Wide Body Jet	**1.5%**	**1.0%**	**1.0%**	**1.1%**	**1.1%**	**1.1%**
Narrow Body 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%**

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

TABLE 7.1-5
INTERNATIONAL PASSENGER FLEET MIX
San Diego International Airport

Aircraft Type	2007	2010	2015	2020	2025	2030
			AIRCRAFT OPERATIONS			
Wide Body Jet						
A350/B787	-	-	208	416	468	521
763	-	174	312	416	468	521
Total	**-**	**174**	**520**	**832**	**936**	**1,042**
Narrow Body Jet	**2,546**	**2,988**	**3,827**	**4,594**	**5,463**	**6,434**
Large Regional Jet	**770**	**238**	**253**	**274**	**302**	**324**
Total International	**3,317**	**3,400**	**4,600**	**5,700**	**6,700**	**7,800**
			PERCENT OF TOTAL AIRCRAFT OPERATIONS			
Wide Body 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%**
Narrow Body 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%**

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

7.2 Air 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. Historical all-cargo operations by aircraft type were analyzed to better understand the fleet mix for the all-cargo carriers at SDIA. Additionally, aircraft orders for the largest all-cargo carriers were analyzed to evaluate how all-cargo carriers' fleet mix might evolve in the future. Ultimately, these analyses allowed for the projection of all-cargo operations by aircraft type.

All-cargo operations forecasts were developed for the three air cargo tonnage forecast scenarios: baseline, high scenario, and low scenario. The assumptions regarding the amount of cargo tonnage handled per flight are the same for each scenario. The

resulting operations forecasts differ due to the differences in the cargo tonnage forecasts for each scenario.

7.2.1 Forecast Assumptions

As shown in **Table 7.2-1**, the all-cargo fleet at SDIA consisted of 67.7 percent wide body aircraft, 6.6 percent narrowbody aircraft, and 25.6 percent turboprops (exclusively FedEx feeder service to IPL) 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 carrier at SDIA, currently operates mainly A300s, A310s, and DC10s, in addition to Cessna 208s. 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. Airborne and UPS mainly operate Boeing 767s at SDIA. The freighter fleet is not expected to change substantially throughout the planning horizon. The share of wide body aircraft is forecast to increase to 72.2 percent by 2030. Narrowbody aircraft are predicted to decrease slightly to 6.0 percent share by 2030. Turboprops are expected to decline somewhat in share, to 21.8 percent in 2030. Based on these fleet changes, capacity will increase from 41 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.

7.2.2 Air Cargo Fleet Mix

Table 7.2-1 presents the baseline fleet mix for air cargo traffic at SDIA based on the previous assumptions.

TABLE 7.2-1
ALL-CARGO FLEET MIX FORECAST – BASELINE SCENARIO
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%**
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%
All-cargo Operations	**6,682**	**6,530**	**6,710**	**7,070**	**7,710**	**8,390**

Sources: USDOT, Schedule T-100; San Diego County Regional Airport Authority; Aircraft Orders; Landrum & Brown analysis

The air cargo operations forecast based on the fleet mix and load factor assumptions is presented in **Table 7.2-2**. In the baseline scenario, air cargo operations are forecast to grow at an average rate of 1.0 percent annually to reach 8,390 operations by 2030. The high scenario results in average annual growth of 2.0 percent from 2007 to 2030 with operations reaching 10,470 in 2030. The low scenario assumes a decline in all-cargo operations through 2015 with operations increasing less than one percent annually thereafter to 6,710 operations in 2030.

TABLE 7.2-2
ALL-CARGO OPERATIONS FORECASTS SUMMARY
San Diego International Airport

Calendar Year	Baseline Operations	High Scenario Operations	Low Scenario Operations
Actual			
2003	4,916	4,916	4,916
2004	4,960	4,960	4,960
2005	7,206	7,206	7,206
2006	6,592	6,592	6,592
2007	6,682	6,682	6,682
Forecast			
2010	6,530	6,740	6,320
2015	6,710	7,270	6,200
2020	7,070	8,030	6,220
2025	7,710	9,170	6,470
2030	8,390	10,470	6,710
CAGR 2003-2007	8.0%	8.0%	8.0%
CAGR 2007-2015	0.1%	1.1%	-0.9%
CAGR 2015-2030	1.5%	2.5%	0.5%
CAGR 2007-2030	1.0%	2.0%	0.0%

Sources: San Diego County Regional Airport Authority; Landrum & Brown analysis

7.3 Non-Commercial Operations

The non-commercial operations category includes civil operations and military operations.

7.3.1 Civil Operations

For purposes of this analysis, the term "Civil" includes two types of activity: non-commercial air taxi and general aviation (GA). Air taxi activity typically includes "for hire" aircraft chartered for specific trips. Air taxi operations typically utilize larger GA aircraft, such as large turboprop aircraft and an array of corporate jets. GA activity includes diverse uses that can range from such activities as recreational flying, flight training activities, business travel, news reporting, traffic observation, police patrol, emergency medical flights, and crop dusting. More precisely, GA is usually subdivided into two major subcategories: the Itinerant/Instrument Flight Rules (IFR) GA and the Local/Visual Flight Rules (VFR) GA based on FAA

ATADS classifications. Local/VFR operations are defined by the FAA as "operations remaining in the local traffic pattern, simulated instrument approaches at the airport, and operations to and from the Airport and a practice area within a 20-mile radius of the tower."

7.3.1.1 National Trends in Civil Operations

The general aviation industry has experienced major changes over the last 30 years:[30]

> Activity levels were at their highest in the late 1970s through 1981. Due to the 1982 economic downturn, followed by higher fuel prices, increased product liability stemming from litigation concerns, and the resulting higher cost of new aircraft, general aviation activity levels and new aircraft production reached all-time lows in the early 1990s.
>
> The passage of the 1994 General Aviation Revitalization Act (GARA) 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 recovered economy led to growth in the GA industry in the later half of the 1990s.
>
> The rebound in the general aviation industry that began with GARA slowed considerably in 2001 due largely to a U.S. economic recession and to some extent to the terrorist attacks of September 11, 2001. GA traffic continued to decline through 2005 as spikes in fuel costs occurred and the economy grew at a relatively even pace. Although GA traffic as a whole declined in the early part of the 21st century, operations by GA jets and fractional aircraft outpaced the industry from 2004 to 2005.[31] GA operations declined in 2006 and remained stable in 2007. Despite this fact, the number of general aviation aircraft shipped in calendar year 2006 increased 10.1 percent over 2005 and 4.2 percent in 2007. Jet aircraft shipments were up 15.5 percent in 2006 and 34.9 percent in 2007; piston aircraft increased by 9.2 percent in 2006 but decreased by

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

[31] Fractional ownership: purchase of a share of a general aviation aircraft

4.9 percent in 2007. Turboprops grew 6.7 percent from 2005 to 2006 and 13.3 percent from 2006 to 2007.

According to the *FAA Aerospace Forecasts, Fiscal Years 2008-2025*, the following trends in the general aviation industry are expected through 2025:

The number of active GA 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.

GA operations are forecast to increase by 1.3 percent annually.

Business use of GA aircraft has experienced historically high growth rates and will continue to grow more rapidly than recreational use.

7.3.1.1.1 Emerging Aircraft Ownership Trends

The concept of purchasing hours of jet time began to emerge in the 1990s with the fractional ownership of business jets gaining popularity. Fractional ownership, as it suggests, involves purchasing a share in a general aviation aircraft. The user also typically pays an hourly usage fee and a monthly management fee. The fractional owner will typically purchase the share from one of several operators that can also offer a variety of jet types that the potential purchaser can consider. Companies such as NetJets, FlexJet, Citation Shares, and others provide these types of services. The fractional ownership concept began with jets but has also expanded to all types of aircraft including single-engine piston aircraft. Fractional ownership has significantly contributed to the revitalization of the general aviation manufacturing industry in the 21st century. For example, NetJets alone has purchased hundreds of corporate jet aircraft of varying sizes ranging up to the Boeing BBJ (typically a derivative of the Boeing 737 aircraft). Projected increases in fractional ownership activity levels are a large part of the FAA's projected growth in GA operations through 2025.

7.3.1.1.2 Diversification of General Aviation Fleet

A new category of personal jets, Very Light Jets (VLJs), has been introduced to the GA market. VLJs are marketed primarily to owners of twin-engine piston and turboprop aircraft. They are smaller than traditional entry-level jets and offer high performance at significantly lower ownership and operating costs. The cost for a VLJ ranges from $1.5 million to $3 million, which is highly competitive with a number of twin-engine piston aircraft types and the more popular turboprop GA aircraft.

Some aviation analysts believe the VLJs could lead to more travelers choosing general aviation over commercial air travel, particularly if delays at major airports lead to significant increases in missed flight connections, increased travel times, lost productivity, and cancelled flights. The economics of a point-to-point VLJ charter becomes more attractive, if passengers are able to travel to an airport closer to their ultimate destination than the nearest airport with commercial air service. Even with the relative affordability of the VLJs, some aviation analysts are skeptical that these new aircraft can significantly increase general aviation operations, particularly with escalating fuel costs. The *FAA Aerospace Forecasts, Fiscal Years 2008-2025* predicts a delivery rate of 400 to 500 VLJs per year to reach around 8,145 active aircraft by 2025.

Companies such as DayJet and Pogo Jet are offering new forms of personal air taxi services on VLJs as an alternative to traveling with the commercial airlines. DayJet offers what it calls "Per-Seat, On-Demand" services; DayJet customers book their flight destination online and specify arrival and departure times. Pogo plans to offer point-to-point "air limo" services. Pogo plans to fly customers within a geographic region rather than long-haul cross country flights. DayJet began service in the southeastern United States in late 2007, and Pogo Jet plans to launch their service in 2008.

While VLJs are at the small end of the aircraft spectrum, new versions of large corporate jets have entered the market, expanding the range of options available to users. The performance characteristics of these large GA aircraft, like commercial aircraft, have necessitated the consideration of these aircraft requirements in planning of airport facilities.

7.3.1.1.3 Fuel Prices

The recent increases in fuel prices are believed to be largely permanent. Changes in fuel prices impact the economic relationships between modes of transportation and price differentials between different segments of the aviation market. Although fuel prices have continued to rise and are a major problem for the commercial airlines, corporate general aviation users are typically less sensitive to changes in fuel prices. Given the cost to own and operate a corporate aircraft or to charter a business jet, the incremental cost of fuel is typically a secondary consideration. Conversely, high fuel prices have in many cases reduced the recreational flying segment of GA.

7.3.1.2 Historical Trends in Civil Operations

Civil activity in the San Diego Area is mainly handled by the eleven other airports owned and operated by San Diego County or the cities of San Diego and Oceanside. The number of civil operations at SDIA increased from 19,027 operations in 1995 to 23,645 operations in 2007 (see **Table 7.3-1**). International civil activity accounts for only 2.7 percent of the total GA traffic at SDIA with destinations mainly in Canada and Mexico. While this segment of the activity has experienced an upward trend, the share of SDIA among San Diego County civil operations experienced an overall decline from 2.5 percent in 1995 to 2.1 percent in 2007.

TABLE 7.3-1
HISTORICAL CIVIL AIRCRAFT ACTIVITY
San Diego International Airport

Calendar Year	Total County Civil Activity	SDIA Market Share	SDIA Civil Operations
1995	750,615	2.5%	19,027
1996	764,429	2.2%	16,779
1997	790,712	2.0%	16,034
1998	828,114	1.9%	16,114
1999	883,587	1.9%	16,847
2000	842,644	2.0%	16,759
2001	856,263	2.2%	18,942
2002	945,371	2.7%	25,789
2003	868,624	2.8%	24,497
2004	1,019,698	2.4%	24,150
2005	1,102,054	2.2%	24,595
2006	1,074,261	2.3%	24,209
2007	1,122,352	2.1%	23,645
CAGR 1995-2000	2.3%	n.a.	-2.5%
CAGR 2000-2005	5.5%	n.a.	8.0%
CAGR 2005-2007	0.9%	n.a.	-2.0%
CAGR 1995-2007	3.4%	n.a.	1.8%

Sources: FAA 2007 Terminal Area Forecast; Landrum & Brown analysis

Jet and turboprop aircraft made up almost 75 percent of the GA operations at SDIA in 2007. Single-engine piston aircraft made up 16.9 percent of the 2007 fleet while multi-engine piston aircraft made up 3.6 percent of the 2007 fleet (see **Table 7.3-2**).

At SDIA, fractional operators fall almost completely into the jet category with the exception of Avantair which operates turboprop aircraft (Piaggio Avanti P180). Slightly more than half of jet activity at SDIA is believed to be non-commercial GA activity and not air taxi.

TABLE 7.3-2
CIVIL FLEET MIX
San Diego International Airport

	Operations		Percent of Total	
Aircraft Group	**2007**	**2008E**	**2007**	**2008E**
Jet	14,864	14,105	62.9%	65.6%
Turboprop	2,787	2,009	11.8%	9.3%
Multi Piston	863	557	3.6%	2.6%
Single Piston	4,004	3,958	16.9%	18.4%
Helicopter	597	55	2.5%	0.3%
Government	332	14	1.4%	0.1%
Unknown	199	792	0.8%	3.7%
Civil Total	**23,645**	**21,490**	**100.0%**	**100.0%**

Sources: ANOMS; PASSUR Portal System Data; Landrum & Brown analysis.

7.3.1.3 Civil Aviation Operations Forecast

For purposes of developing the civil aviation operations forecast, a fleet mix was developed using data from the Airport Noise and Operations Monitoring System (ANOMS) and Passive Secondary Surveillance Radar (PASSUR) Portal Data System databases. The five month sample for 2008 was then annualized to create a full year estimate 2008.[32]

The estimated civil aircraft activity for 2008 was used as the basis to create the baseline forecast and separate high and low scenarios. The baseline forecast was created through an econometric model using a regression analysis of the total San Diego County civil activity against historical personal income for San Diego County from SANDAG. SDIA forecast civil activity was calculated based on a market share analysis.

SDIA's historical share of civil aviation traffic in San Diego County has averaged 2.3 percent between 1995 and 2007. However, based on the 2008 estimate, this share is expected to

[32] ANOMS is designed to provide the airport with accurate runway use counts specific to aircraft type, aircraft flight path information, and 24-hour noise monitoring data at selected sites around the airport This system is used to assess airspace use and noise impacts in order to develop Noise Abatement Procedures. PASSUR records all flight activity within 150 miles of the radar and includes information such as exact flight position, runway used, speed, altitude, and type of aircraft.

fall to 1.9 percent. Furthermore, as commercial passenger operations increase and airside congestion worsens, it is expected that this share will decline further over time, to 1.6 percent by 2030. The resulting forecast shows civil activity growing at an average annual rate of 1.3 percent from 2007 to 2030. The base case scenario forecasts a 35 percent total increase in SDIA civil activity from 2007 to 2030 (see **Table 7.3-3**).

TABLE 7.3-3
CIVIL AIRCRAFT ACTIVITY FORECAST
San Diego International Airport

Calendar Year	Baseline	High Scenario	Low Scenario
Actual			
1995	19,027	19,027	19,027
2000	16,759	16,759	16,759
2005	24,595	24,595	24,595
2006	24,209	24,209	24,209
2007	23,645	23,645	23,645
2008E	21,490	21,490	21,490
Forecast			
2010	22,500	22,700	21,900
2015	25,400	26,500	23,100
2020	27,600	30,900	24,300
2025	29,300	36,100	25,600
2030	32,000	42,100	27,000
CAGR 1995-2007	1.8%	1.8%	1.8%
CAGR 2007-2015	0.9%	1.4%	-0.3%
CAGR 2015-2030	1.6%	3.1%	1.0%
CAGR 2007-2030	1.3%	2.5%	0.6%

Sources: FAA Aerospace Forecast 2008-2025; SANDAG 2030 Regional Growth Forecast; Landrum & Brown analysis

A high scenario was created based on the growth rates for air taxi and general aviation hours flown from the *FAA Aerospace Forecast, Fiscal Years 2008-2025*. Based on this approach, it is forecast that civil activity will grow at an average annual rate of 2.5 percent from 23,645 operations in 2007 to 42,100 operations in 2030. For the low scenario, one-third of the FAA's growth rates

were used, resulting in an average annual growth of 0.6 percent from 2007 to 2030.

Table 7.3-4 presents the civil aircraft operations fleet mix through 2030. Jet aircraft are expected to continue to account for the majority of the traffic increasing from 62.9 percent of the total civil activity in 2007 to 79.8 percent in 2030.

TABLE 7.3-4
CIVIL AIRCRAFT ACTIVITY FORECAST
San Diego International Airport

Aircraft Group	2007	2008E	2010	2015	2020	2025	2030	CAGR 07-30
Civil Operations								
Jet	14,864	14,105	15,957	18,759	20,966	22,744	25,529	2.4%
Turboprop	2,787	2,009	1,887	1,887	1,785	1,614	1,440	-2.8%
Multi Piston	863	557	540	533	524	513	496	-2.4%
Single Piston	4,004	3,958	4,061	4,166	4,270	4,374	4,480	0.5%
Helicopter	597	55	55	55	55	55	55	-9.8%
Other	531	806	-	-	-	-	-	-100.0%
Total	**23,645**	**21,490**	**22,500**	**25,400**	**27,600**	**29,300**	**32,000**	**1.3%**
Percent of Total Civil Operations								
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%**	

Sources: FAA Aerospace Forecast 2008-2025; SANDAG 2030 Regional Growth Forecast; Landrum & Brown analysis

7.3.2 Military Operations

Operations over the 13-year period ending in 2007, military operations have varied between 193 and 6,511 annual operations with an average of 1,738. Military operations have fallen dramatically since their high in 1996. Since 2005, military operations have settled to less than 250 operations per year. Military operations are expected to remain flat at 200 annual operations over the forecast period. Year-to-year variations may

occur due to changes in military strategy or other events requiring military services from SDIA.

7.4 Aircraft Operations Summary

Table 7.4-1 provides a summary of the three operations forecasts described in the previous sections for each of the primary components of aircraft operations at SDIA. In the baseline scenario, aircraft operations are forecast to grow from 229,486 in 2007 to 309,800 in 2030, representing average annual growth of 1.3 percent. In the high scenario aircraft operations are forecast to grow 2.0 percent annually versus 0.4 percent in the low scenario.

Aircraft operations are forecast to increase faster through 2030 than the airport experienced in the period 1995 to 2007. The historical low growth in aircraft operations is the result of two primary factors. First, feeder turboprop service to LAX has declined dramatically since 1995. Second, the average fleet size has increased such that SDIA is now served primarily by narrowbody aircraft. Both of these factors have constrained the growth in operations, allowing SDIA to serve more passengers on fewer aircraft. However, this forecast does not predict a significant change in the aircraft fleet over the forecast period. As a result, passenger aircraft operations will increase at a higher rate than historically experienced.

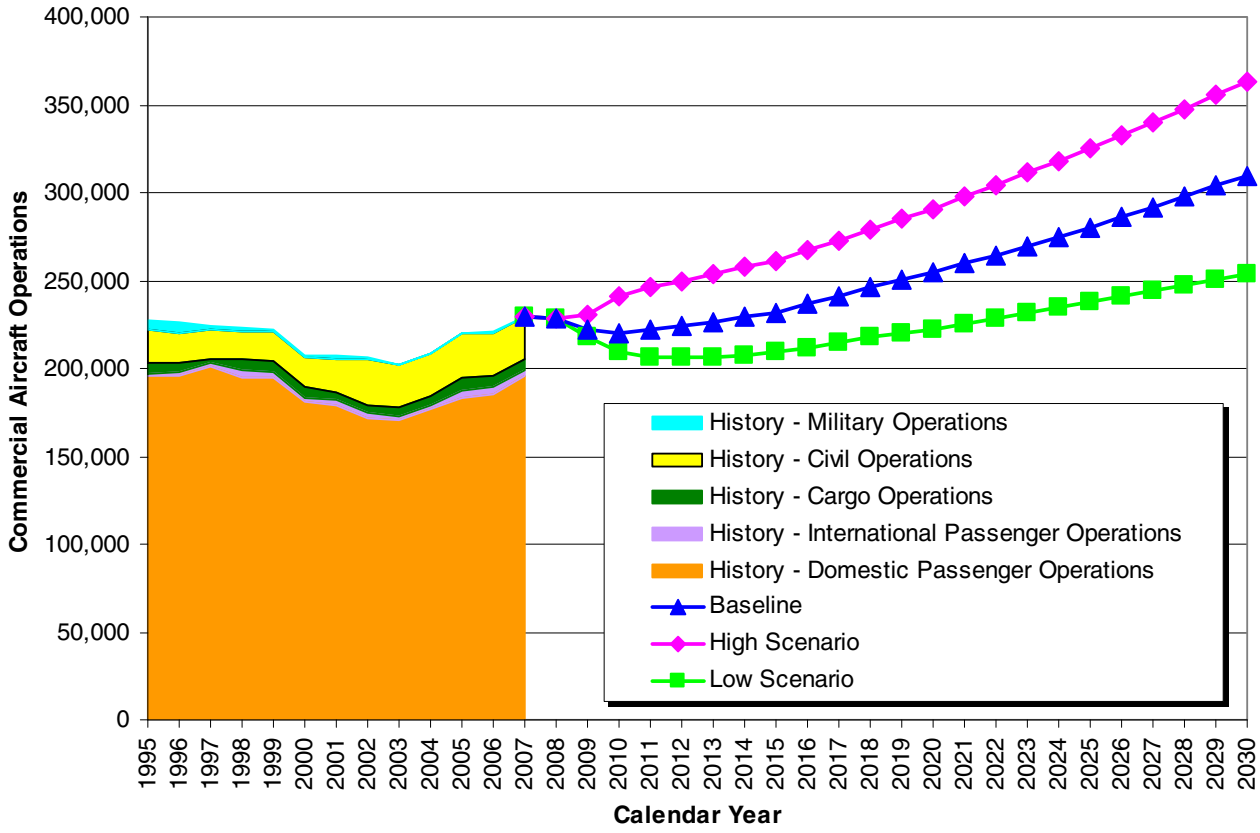
TABLE 7.4-1
TOTAL AIRCRAFT OPERATIONS FORECAST – BASELINE SCENARIO
San Diego International Airport

Calendar Year	Commercial Passenger				Air Cargo	Civil	Military	Total
	Domestic							
	Air Carrier	Commuter	International	Total				
Actual								
1995	137,598	57,761	1,974	197,333	5,593	19,027	5,041	226,994
2000	145,220	35,819	2,305	183,344	6,016	16,759	770	206,889
2005	144,264	39,414	4,160	187,838	7,206	24,595	227	219,866
2006	148,114	37,665	3,847	189,626	6,592	24,209	193	220,620
2007	155,194	40,433	3,317	198,943	6,682	23,645	216	229,486
CAGR 1995-2007	1.0%	-2.9%	4.4%	0.1%	1.5%	1.8%	-23.1%	0.1%
BASELINE SCENARIO (REGIONAL APPROACH)								
Forecast								
2010	152,800	34,400	3,400	190,600	6,500	22,500	200	219,800
2015	177,000	17,900	4,600	199,500	6,700	25,400	200	231,800
2020	197,700	16,300	5,700	219,700	7,100	27,600	200	254,600
2025	220,300	16,100	6,700	243,100	7,700	29,300	200	280,300
2030	245,700	15,700	7,800	269,200	8,400	32,000	200	309,800
CAGR 2007-2030	2.0%	-4.0%	3.8%	1.3%	1.0%	1.3%	-0.3%	1.3%
HIGH SCENARIO								
Forecast								
2010	171,100	37,000	3,400	211,500	6,700	22,700	200	241,100
2015	203,200	19,500	4,600	227,300	7,300	26,500	200	261,300
2020	228,000	17,800	5,700	251,500	8,000	30,900	200	290,600
2025	255,100	17,700	6,700	279,500	9,200	36,100	200	325,000
2030	285,500	17,300	7,800	310,600	10,500	42,100	200	363,400
CAGR 2007-2030	2.7%	-3.6%	3.8%	2.0%	2.0%	2.5%	-0.3%	2.0%
LOW SCENARIO								
Forecast								
2010	144,900	32,700	3,400	181,000	6,300	21,900	200	209,400
2015	158,900	16,100	4,600	179,600	6,200	23,100	200	209,100
2020	171,800	14,300	5,700	191,800	6,200	24,300	200	222,500
2025	184,900	13,700	6,700	205,300	6,500	25,600	200	237,600
2030	198,900	12,900	7,800	219,600	6,700	27,000	200	253,500
CAGR 2007-2030	1.1%	-4.8%	3.8%	0.4%	0.0%	0.6%	-0.3%	0.4%

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

Exhibit 7.4-1 presents a comparison of the aircraft operations forecasts.

FIGURE 7.4-1
TOTAL AIRCRAFT OPERATIONS FORECASTS COMPARISON
San Diego International Airport



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

8 FORECAST COMPARISON

This section provides a comparison of the baseline forecast to the 2004 forecast for SDIA and to the FAA Terminal Area Forecast (TAF).

8.1 Comparison to 2004 Forecast

The most recent full forecast commissioned by the San Diego County Regional Airport Authority - *San Diego International Airport Aviation Activity Forecasts*, June 2004 (hereafter referred to as the 2004 SH&E forecast) - was prepared shortly after the terrorist attacks of September 11, 2001. Two forecasts were prepared as part of the 2004 SH&E forecast – high and low scenarios. Both of the scenarios predicted that aviation activity would not completely recover from the effects of 9/11, although to varying degrees.

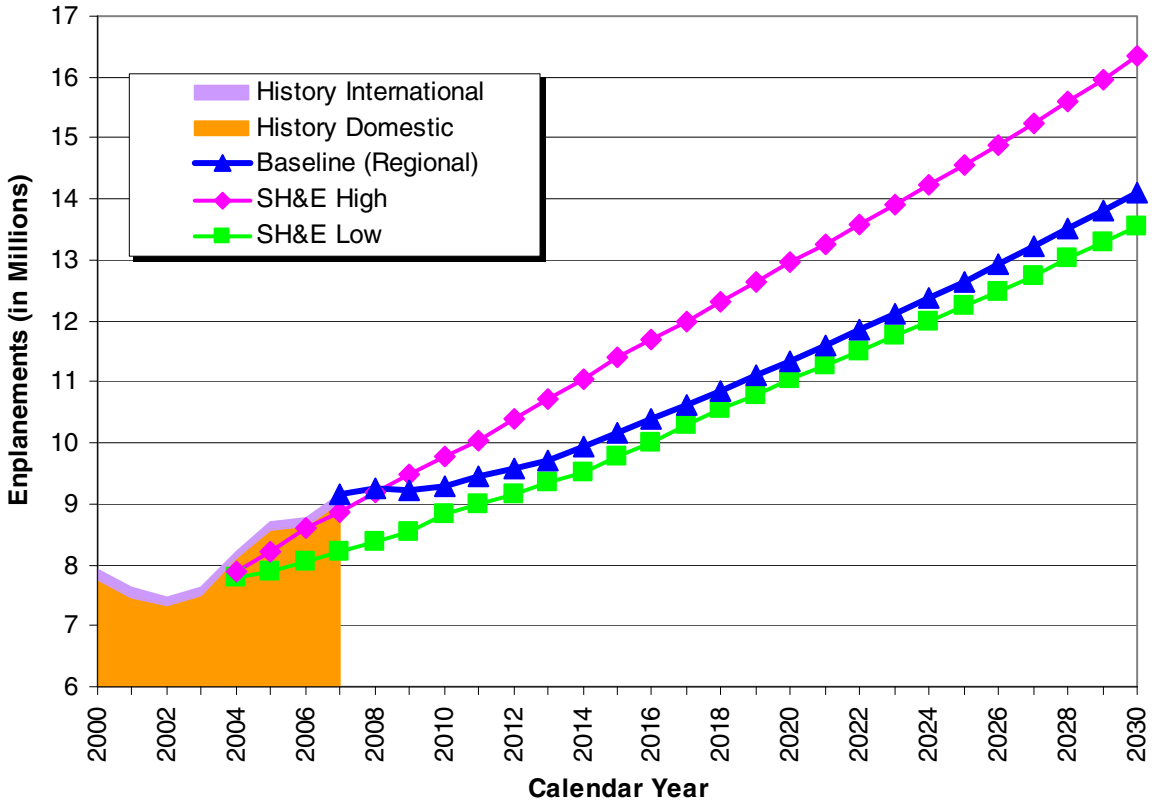
In fact, traffic did recover across the U.S., and even more quickly at SDIA. As a result, the 2004 SH&E forecasts were somewhat lower than actual traffic for 2004 through 2007. However, in the current era of increasing fares due to record high oil prices, there is the possibility that fewer people will be willing to fly. The current baseline forecast of enplanements and aircraft operations falls between the 2004 SH&E low and high scenarios.

8.1.1 Passenger Enplanements Forecast

Figure 8.1-1 provides a comparison of the baseline enplanements forecast to the 2004 SH&E forecast. The 2004 SH&E enplanements forecast model was based on a regression using dependent variables of personal income for the San Diego area, average fares at SDIA, and a dummy variable to offset the impact of 9/11. The enplanements forecast also included a dummy variable in future years to depress future traffic. The 2004 forecast predicted an average annual growth in enplanements of 2.2 percent in the low scenario and 2.7 percent in the high scenario. The baseline enplanements forecast presented in this document assumes a growth rate of 1.9 percent per annum through 2030.

As mentioned previously, the 2004 SH&E forecast predicted less aviation demand for the period 2003-2007 than actually experienced. This discrepancy was mostly due to the underestimation of domestic enplanements. Actual 2007 domestic enplanements were 4.1 lower than the 2004 SH&E high scenario and 11.0 percent lower than the low scenario. Conversely, international enplanements were over-estimated by as much as 51.5 percent in the high scenario. This failed to offset the difference in total enplanements as their contribution is relatively minor. As shown in **Figure 8.1-1** below, the baseline enplanements forecast is slightly higher than the 2004 SH&E low scenario. Enplanements are expected to increase to 13.6 million by 2030 in the 2004 SH&E low scenario versus 14.1 enplanements in the baseline scenario.

FIGURE 8.1-1
COMPARISON WITH SH&E 2004 FORECAST - ENPLANEMENTS
San Diego International Airport

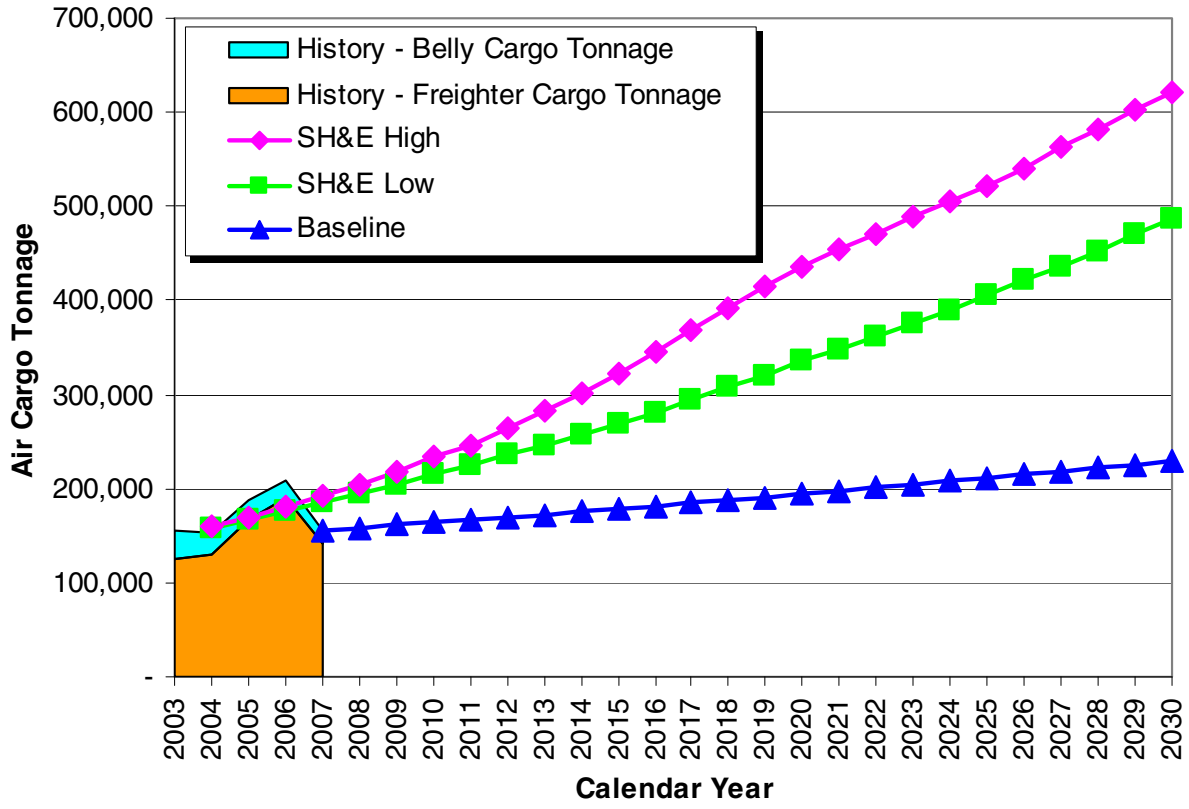


Sources: SH&E 2004 Aviation Forecast; Landrum & Brown analysis

8.1.2 Cargo Tonnage Forecast

The 2004 SH&E cargo tonnage forecast for both the high and low scenarios projected lower than actual cargo volumes in 2005 and 2006. However, actual cargo volumes in 2007 were lower than the forecasts (see **Figure 8.1-2**). The 2004 SH&E cargo tonnage high scenario was projected based on a regression model using the historical performance of local and national economies as a dependent variable. The 2004 SH&E low scenario was based on industry forecasts. The 2004 SH&E forecasts 487,106 tons of cargo in the low scenario and 622,141 tons of cargo in the high scenario for 2030. The baseline forecast for cargo tonnage presented in this document projects almost 230,000 tons in 2030, averaging growth of 1.7 percent per year from 2007 to 2030.

FIGURE 8.1-2
COMPARISON WITH SH&E 2004 FORECAST – AIR CARGO TONNAGE
San Diego International Airport

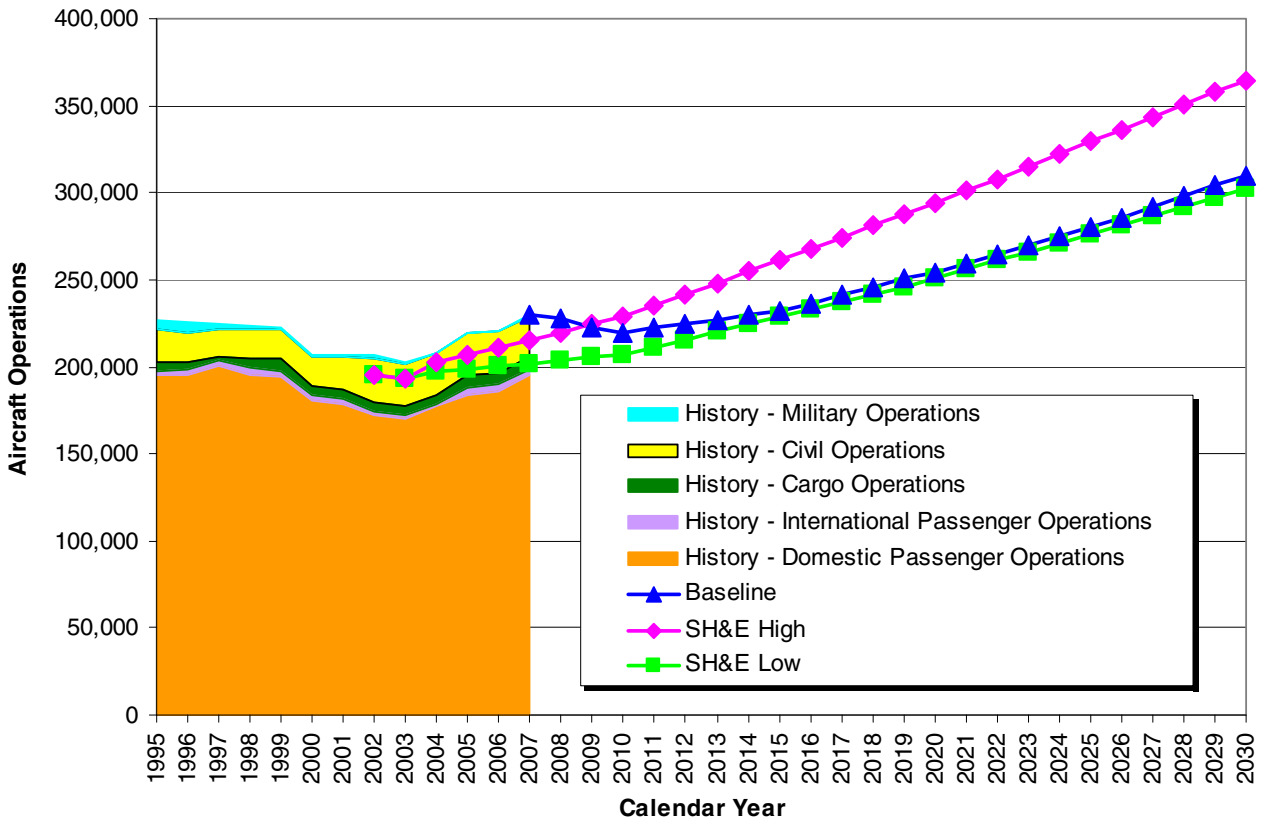


Sources: SH&E 2004 Aviation Forecast; Landrum & Brown analysis

8.1.3 *Aircraft Operations Forecast*

In the 2004 SH&E operations forecast, aircraft operations are predicted to grow 1.8 percent annually in the low scenario and 2.3 percent annually in the high scenario between 2007 and 2030. In the baseline aircraft operations forecast presented in this document, aircraft operations are expected to grow 1.3 percent per year over the forecast period (see **Figure 8.1-3**). As shown, SH&E predicted lower operations levels in the short-term than actually occurred. The baseline aircraft operations forecast presented in this document projects operations at a level similar to those projected in the SH&E low scenario.

FIGURE 8.1-3
COMPARISON WITH SH&E 2004 FORECAST – AIRCRAFT OPERATIONS
San Diego International Airport



Sources: SH&E 2004 Aviation Forecast; Landrum & Brown analysis

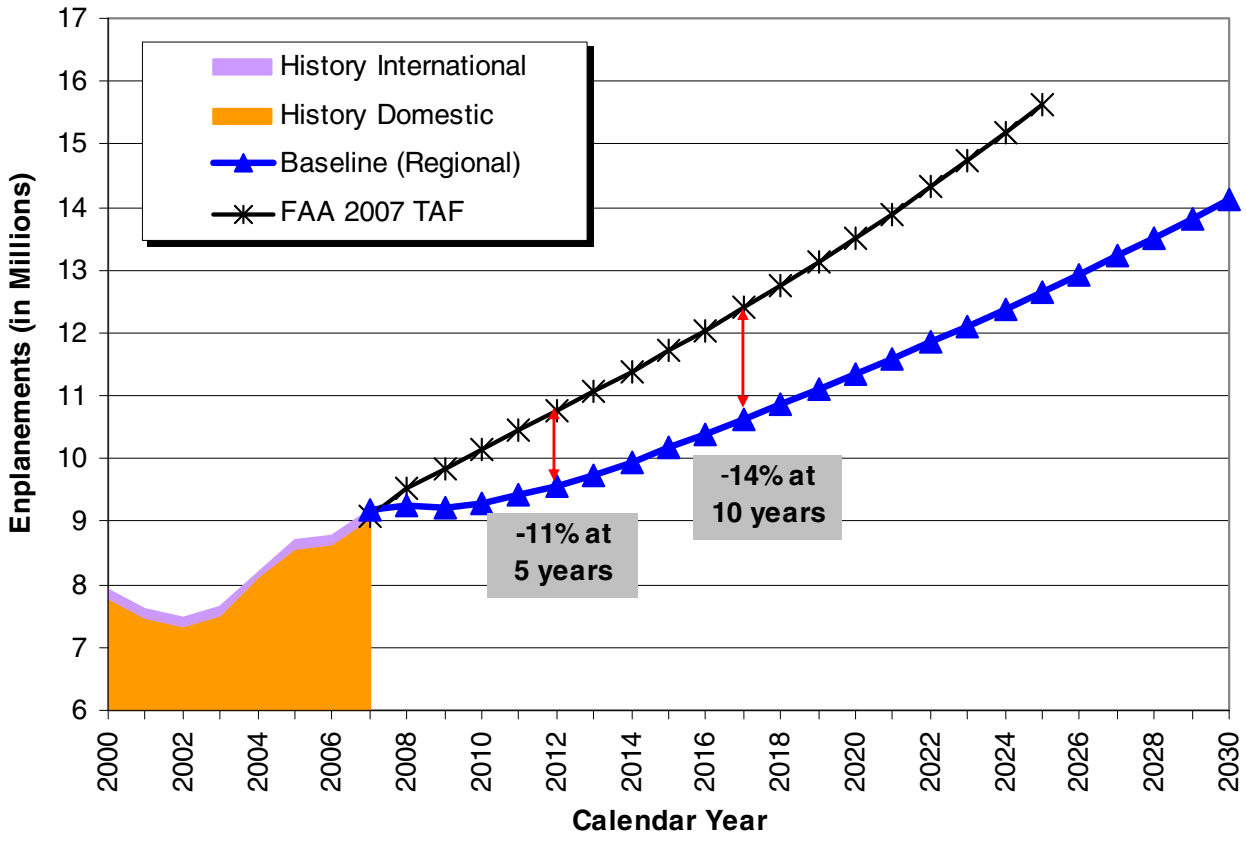
8.2 Comparison to FAA Terminal Area Forecast

The Terminal Area Forecast (TAF) is developed annually by the FAA and projects annual enplanements and aircraft operations for all airports in the U.S. for a 20-year forecast period. The TAF is prepared to assist the FAA in planning equipment and staffing requirements for air traffic control facilities. A comparison of the forecast to the FAA TAF is typically required for approval of the airport planning forecast by the FAA.

8.2.1 Passenger Enplanements Forecast

Figure 8.2-1 provides a comparison between the baseline enplanements forecast and the FAA 2007 TAF for SDIA. The FAA 2007 TAF assumes an average annual growth rate of 3.1 percent from 2007 to 2025 versus 1.8 percent in the baseline forecast. This significant difference in growth assumptions results in an 11 percent difference in enplanements by 2012 and a 14 percent difference in enplanements by 2017.

FIGURE 8.2-1
COMPARISON WITH FAA 2007 TAF - ENPLANEMENTS
San Diego International Airport

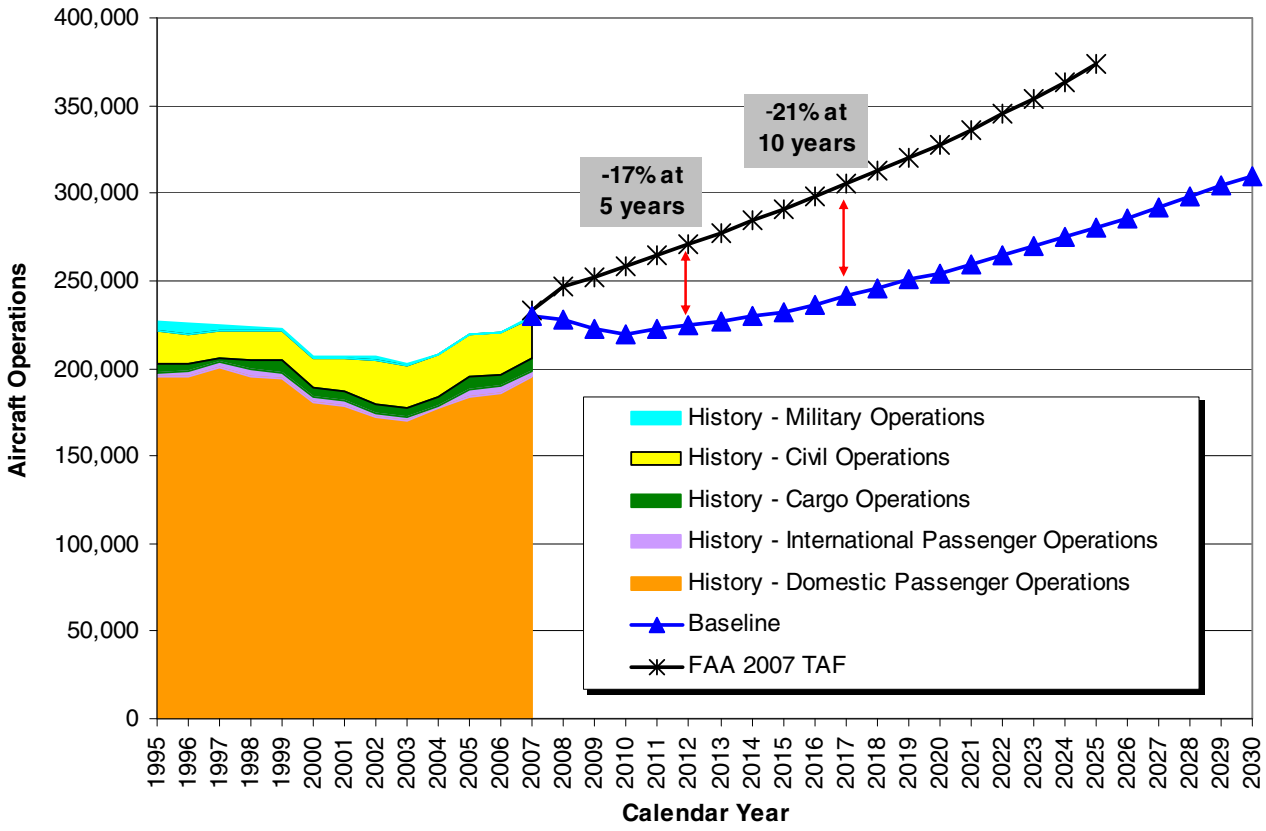


Sources: FAA 2007 Terminal Area Forecast; Landrum & Brown analysis

8.2.2 *Aircraft Operations Forecast*

The FAA 2007 TAF projects total aircraft operations at SDIA to grow 2.7 percent through 2025, reaching 373,288 operations by 2025 (see **Figure 8.2-2**). The baseline aircraft operations forecast assumes an average annual growth rate of 1.1 percent through 2025 and 1.3 percent through 2030. Total aircraft operation levels in the baseline forecast are 17 percent lower than the TAF in 2012 and 21 percent lower in 2017.

FIGURE 8.2-2
COMPARISON WITH FAA 2007 TAF – AIRCRAFT OPERATIONS
San Diego International Airport



Sources: FAA 2007 Terminal Area Forecast; Landrum & Brown analysis

Table 8.2-1 provides a comparison of the aviation forecasts with the FAA 2007 TAF for enplanements, commercial and total aircraft operations for the next 5, 10, and 15 years.

TABLE 8.2-1
AVIATION FORECASTS VERSUS FAA 2007 TAF
San Diego International Airport

	Year	Airport Forecast	2007 TAF	AF/TAF (% Difference)
Passenger Enplanements				
Base yr.	2007	9,172,966	9,083,777	1.0%
Base yr. + 5yrs.	2012	9,565,822	10,754,187	-11.1%
Base yr. + 10yrs.	2017	10,624,832	12,393,577	-14.3%
Base yr. + 15yrs.	2022	11,855,342	14,313,926	-17.2%
Commercial Operations [1/]				
Base yr.	2007	205,625	211,246	-2.7%
Base yr. + 5yrs.	2012	200,628	248,436	-19.2%
Base yr. + 10yrs.	2017	214,558	280,845	-23.6%
Base yr. + 15yrs.	2022	236,320	319,232	-26.0%
Total Operations [2/]				
Base yr.	2007	229,486	232,613	-1.3%
Base yr. + 5yrs.	2012	224,466	271,122	-17.2%
Base yr. + 10yrs.	2017	241,268	305,109	-20.9%
Base yr. + 15yrs.	2022	264,669	345,212	-23.3%

[1/] Includes air carrier and commuter for airport forecasts; includes air carrier, commuter, and air taxi for TAF.
[2/] Excludes overflights
Sources: FAA 2007 Terminal Area Forecast (TAF); Landrum & Brown analysis

Tables 8.2-2 and **8.2-3** respectively present the forecast results for the 5, 10, and 15-year periods as well as a summary of the gauge and load factors assumptions used to develop the forecast.

TABLE 8.2-2
FORECAST LEVELS SUMMARY
San Diego International Airport

	2007 Base Yr. Level	2008 Base Yr.+1yr.	2012 Base Yr.+5yrs.	2017 Base Yr.+10yrs.	2022 Base Yr.+15yrs.	CAGR Base Yr. to +1	CAGR Base Yr. to +5	CAGR Base Yr. to +10	CAGR Base Yr. to +15
Passenger Enplanements									
Air carrier	8,585,306	8,715,995	9,160,735	10,408,453	11,654,287	1.5%	1.3%	1.9%	2.1%
Commuter	587,660	548,154	405,088	216,379	201,055	-6.7%	-7.2%	-9.5%	-6.9%
Total	9,172,966	9,264,148	9,565,822	10,624,832	11,855,342	1.0%	0.8%	1.5%	1.7%
Operations [1/]									
Itinerant									
Air carrier	165,193	169,962	171,432	196,832	219,848	2.9%	0.7%	1.8%	1.9%
Commuter	40,433	36,429	29,196	17,726	16,472	-9.9%	-6.3%	-7.9%	-5.8%
Total Commercial Operations	205,625	206,391	200,628	214,558	236,320	0.4%	-0.5%	0.4%	0.9%
Air Taxi / General aviation	23,645	21,490	23,622	26,494	28,133	-9.1%	0.0%	1.1%	1.2%
Military	216	216	216	216	216	0.0%	0.0%	0.0%	0.0%
Local									
General aviation	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.
Military	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.
Total Operations	229,486	228,097	224,466	241,268	264,669	-0.6%	-0.4%	0.5%	1.0%
Instrument Operations									
Peak Hour Operations	55	53	52	56	61	-3.8%	-1.2%	0.1%	0.7%
Cargo/mail (enplaned + deplaned tonnes)	154,689	157,200	169,800	184,600	200,700	1.6%	1.9%	1.8%	1.8%
Based Aircraft									
Single Engine (Nonjet)	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.
Multi Engine (Nonjet)	3	3	3	3	3	0.0%	0.0%	0.0%	0.0%
Jet Engine	4	4	4	4	4	0.0%	0.0%	0.0%	0.0%
Helicopter	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.
Other	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.
Total	7	7	7	7	7	0.0%	0.0%	0.0%	0.0%

[1/] Excludes overflights

Source: Landrum & Brown analysis

TABLE 8.2-3
OPERATIONAL FACTORS SUMMARY
San Diego International Airport

	2007 Base Yr. Level	2008 Base Yr.+1yr.	2012 Base Yr.+5yrs.	2017 Base Yr.+10yrs.	2022 Base Yr.+15yrs.
Average aircraft size (seats)					
Air carrier	143.3	142.8	142.0	139.0	139.0
Commuter	38.3	38.9	35.8	31.5	31.5
Average enplaning load factor					
Air carrier	76.0%	74.9%	78.6%	79.0%	79.0%
Commuter	76.0%	77.4%	77.5%	77.5%	77.5%
GA operations per based aircraft	3,378	3,070	3,375	3,785	4,019

Source: Landrum & Brown analysis

9 Peak Period Demand Forecast

The traffic demand patterns imposed upon an airport are subject to seasonal, monthly, daily, and hourly variations. These variations result in peak periods, when the greatest amount of demand is placed upon facilities required to accommodate passenger and aircraft movements. Peaking characteristics are critical in the assessment of existing facilities and airfield components to determine their ability to accommodate forecast increases in passenger and operational activity throughout the study period. The objective of developing forecasts is to provide a design level that sizes facilities so they are neither underutilized nor overcrowded too often.

The annual enplanements and aircraft operations forecasts for SDIA were converted into peak month, average week day (PMAWD), and peak hour equivalents using historical aviation statistics. August was the peak month for aircraft operations in 2007 so monthly, daily, and hourly factors for enplanements and operations were derived from August 2007 data. Peak month factors were developed for the following categories of aircraft operations:

Commercial passenger operations
- Domestic air carrier
- Domestic commuter
- International

Air cargo operations
Civil operations
Military operations

PMAWD commercial passenger enplanements are projected to increase from almost 27,000 enplanements in 2007 to 40,557 passengers by 2030. Peak hour enplanements are projected to increase from 2,664 for the 2007 baseline design day, to 4,014 enplanements by 2030. The peak hour enplanement forecasts reflect a load factor of 85 percent.

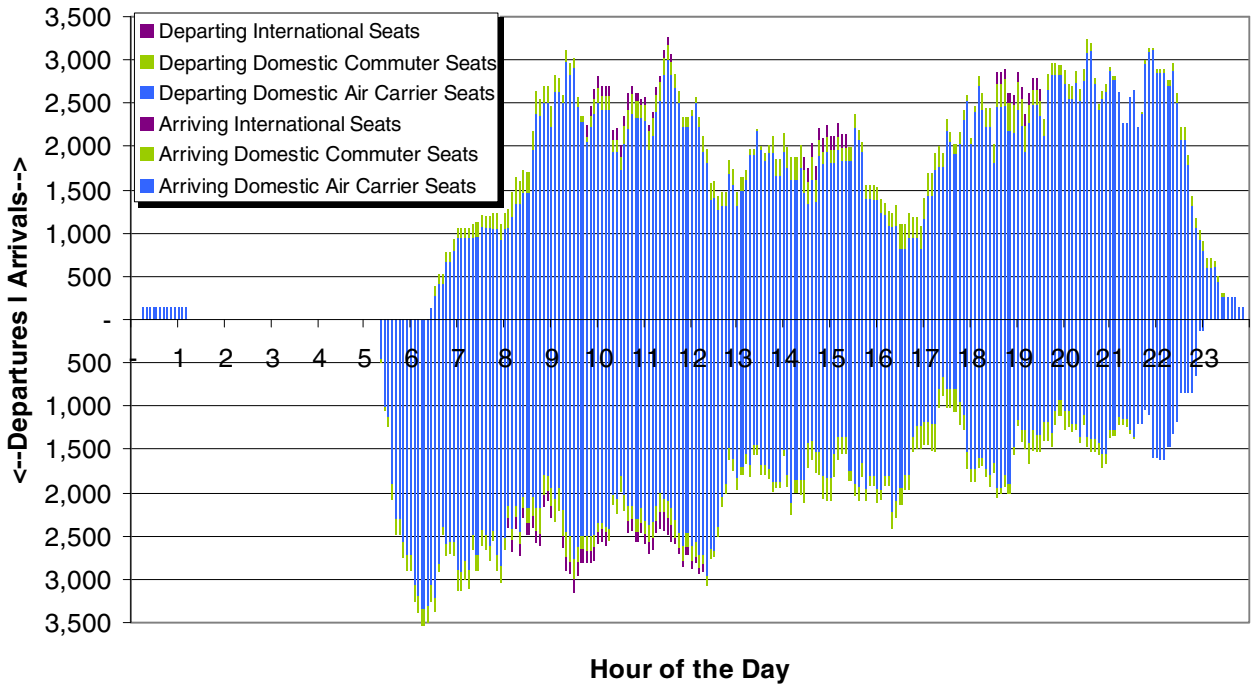
PMAWD operations are forecast to increase from 700 in 2007 to 915 in 2030. Peak hour operations are projected to increase from 55 in 2007 to 72 in 2030.

9.1 Passenger Enplanements

August 2007 accounted for 9.0 percent of annual 2007 enplanements. The air carrier and commuter peak month factors represented 9.0 percent and 9.9 percent of annual enplanements, respectively, in August 2007. The international enplanements factor was 8.1 percent in 2007. Based on the airline schedules from the Official Airline Guide (OAG), the domestic air carrier and domestic commuter factors are expected to decrease to 8.9 percent and 8.8 percent respectively. It was assumed that the monthly seasonality patterns at SDIA for domestic air carrier would not change materially over the forecast period. For domestic commuter, as it was assumed that only Southern California traffic would remain after 2015, the monthly factor is expected to continue to decline to 8.3 percent in 2015 and remain flat thereafter. International enplanements monthly factor is expected to increase to 9.0 percent in 2008 and back down to 8.4 percent in 2009 remaining at this level through the forecast period.

The peak month enplanement forecasts were converted into average week day (PMAWD) and peak hour equivalents using OAG departing seat data as a proxy for enplanements. The 2007 baseline design day scheduled seats profile is presented in **Figure 9.1-1** as a "heart beat" chart in five-minute increments on a rolling 60-minute basis. The 2007 total enplanement peak hour occurred between 9:30 am and 10:25 am. It is worth noting that the peak hour for air carrier and commuter passenger activity does not necessarily occur in the same hour.

FIGURE 9.1-1
ROLLING 60-MINUTE SCHEDULED SEATS PROFILE (Aug 17, 2007)
San Diego International Airport



Sources: Official Airline Guide, as of June 2008; Landrum & Brown analysis

A PMAWD schedule in 2007 (Friday, August 17, 2007) was also used for purpose of forecasting the peak hour activity. **Table 9.1-1** presents the results of the peak enplanement activity forecasts for the 2010, 2015, 2020, 2025, and 2030 planning horizons. PMAWD enplanements are projected to increase from 26,917 enplanements in 2007 to 40,557 by 2030; representing average annual growth of 1.8 percent. Peak hour enplanements which were estimated to be 2,664 for the 2007 baseline design day are projected to increase to 4,014 enplanements by 2030. The peak hour enplanement forecasts reflect a load factor of 85 percent.

TABLE 9.1-1
DERIVATIVE FORECASTS – PASSENGER ENPLANEMENTS
San Diego International Airport

Calendar Year	Domestic Air Carrier Enplanements	Domestic Commuter Enplanements	International Enplanements	Commercial Passenger Enplanements
		ANNUAL		
Base				
2007	8,452,620	587,660	132,686	9,172,966
Forecast				
2010	8,612,300	520,600	153,500	9,286,400
2015	9,719,500	218,600	225,600	10,163,700
2020	10,854,600	199,000	297,600	11,351,200
2025	12,097,500	196,700	356,200	12,650,400
2030	13,487,900	191,500	427,400	14,106,800
		PEAK MONTH		
Base				
2007	757,186	58,436	10,736	826,358
Forecast				
2010	763,153	45,811	12,836	821,801
2015	861,256	19,334	18,866	899,455
2020	961,857	17,594	24,882	1,004,333
2025	1,071,984	17,394	29,785	1,119,163
2030	1,195,182	16,935	35,740	1,247,857
		PEAK MONTH AVERAGE WEEK DAY		
Base				
2007	24,667	1,931	319	26,917
Forecast				
2010	24,861	1,514	381	26,756
2015	28,057	639	560	29,256
2020	31,334	581	739	32,655
2025	34,922	575	885	36,381
2030	38,935	560	1,062	40,557
		PEAK HOUR		
Base				
2007	2,519	237	134	2,664
Forecast				
2010	2,539	186	161	2,648
2015	2,866	79	236	2,896
2020	3,200	71	311	3,232
2025	3,567	71	373	3,601
2030	3,977	69	447	4,014

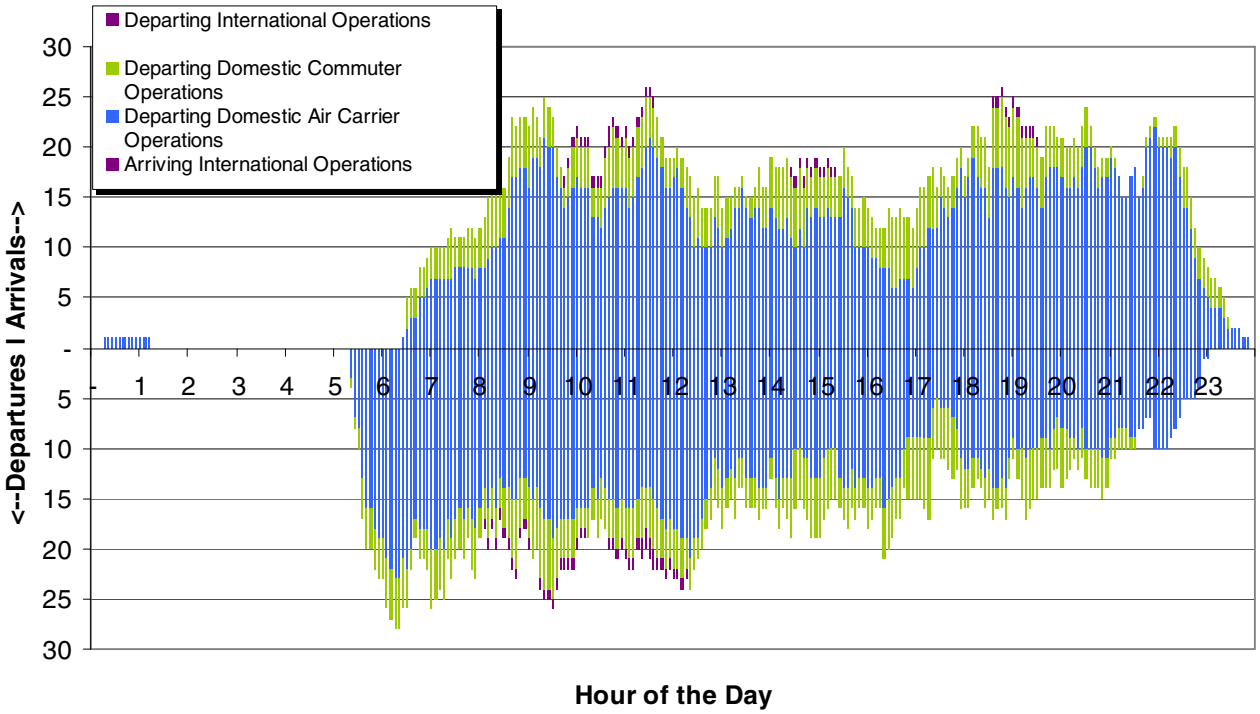
Source: Landrum & Brown analysis.

9.2 Aircraft Operations

Peak month operations factors were developed using FAA, ATADS (Air Traffic Activity Data System); FAA, ETMSC (Enhanced Traffic Management System Counts); U.S. DOT, Schedule T-100 data; passenger airline schedules published in the OAG; and ANOMS (Airport Noise and Operations Monitoring System) data. As with the peak enplanements forecasts, the passenger operations data was developed for domestic air carrier, domestic commuter, and international operations. Additionally, peak period forecasts were developed for air cargo, civil, and military operations.

Figure 9.2-1 illustrates the 2007 baseline design day operations profile presented as a "heart beat" chart showing aircraft operations in five-minute increments on a rolling 60-minute basis. The 2007 total operation peak hour occurred between 9:20 am and 10:15 am. It is worth noting that the peak hour for individual categories of aircraft operations does not necessarily occur in the same hour and, typically, cannot be aggregated across categories.

FIGURE 9.2-1
ROLLING 60-MINUTE SCHEDULED OPERATIONS PROFILE (Aug 17, 2007)
San Diego International Airport



Sources: *Official Airline Guide*, as of June 2008; Landrum & Brown analysis

Derivative operations forecasts by category are presented in **Table 9.2-1**. PMAWD operations are forecast to increase from 700 in the 2007 baseline to 915 in 2030; representing average annual growth of 1.1 percent. Peak hour operations are projected to increase from 55 in 2007 to 72 in 2030.

TABLE 9.2-1
DERIVATIVE FORECASTS – AIRCRAFT OPERATIONS
San Diego International Airport

Calendar Year	Commercial Passenger: Domestic: Air Carrier Operations	Commercial Passenger: Domestic: Commuter Operations	Commercial Passenger: International Operations	Commercial Passenger: Total Operations	Air Cargo Operations	Civil Operations	Military Operations	Total Operations
				ANNUAL				
Base								
2007	155,194	40,433	3,317	198,943	6,682	23,645	216	229,486
Forecast								
2010	152,770	34,450	3,380	190,600	6,530	22,500	216	219,846
2015	177,020	17,910	4,570	199,500	6,710	25,423	216	231,849
2020	197,700	16,300	5,720	219,720	7,070	27,569	216	254,575
2025	220,340	16,120	6,690	243,150	7,710	29,297	216	280,373
2030	245,660	15,690	7,810	269,160	8,390	32,042	216	309,808
				PEAK MONTH				
Base								
2007	13,973	3,881	269	18,123	609	2,349	19	21,099
Forecast								
2010	13,437	3,008	284	16,729	595	2,235	19	19,578
2015	15,571	1,567	384	17,522	611	2,525	19	20,677
2020	17,390	1,426	481	19,296	644	2,738	19	22,697
2025	19,381	1,410	562	21,352	703	2,910	19	24,983
2030	21,608	1,372	656	23,636	764	3,183	19	27,602
				PEAK MONTH AVERAGE WEEK DAY				
Base								
2007	455	127	8	590	29	80	2	702
Forecast								
2010	437	99	8	544	29	76	2	651
2015	507	51	11	570	29	86	2	687
2020	566	47	14	627	31	93	2	753
2025	631	46	17	694	34	99	2	829
2030	703	45	19	768	37	109	2	915
				PEAK HOUR				
Base								
2007	39	13	3	49	7	11	1	55
Forecast								
2010	37	10	3	46	7	11	1	51
2015	43	5	4	48	7	12	1	54
2020	48	5	5	53	7	13	1	59
2025	54	5	6	58	8	14	1	65
2030	60	5	7	64	8	15	1	72

Source: Landrum & Brown analysis.

APPENDIX A

A.1 Population

There are 18 incorporated cities within San Diego County which account for almost 85 percent of the county's population (see **Table A.1-1**). The remaining 15 percent reside in unincorporated areas in the eastern part of the county. In absolute terms, the City of San Diego, Chula Vista, and Oceanside have experienced the largest population increases. Despite adding over 450,000 new residents since 1980, the City of San Diego has experienced a slower rate of population growth (1.6 percent per annum) than the county average (1.9 percent per annum). Slower growth in central urban areas is certainly not unique to San Diego and is a demographic trend experienced in most other U.S. counties. SANDAG projects this trend of urban sprawl will continue through 2030, with the existing unincorporated areas experiencing the strongest rate of growth through 2030.

TABLE A.1-1
HISTORICAL AND FORECAST POPULATION FOR SAN DIEGO COUNTY CITIES

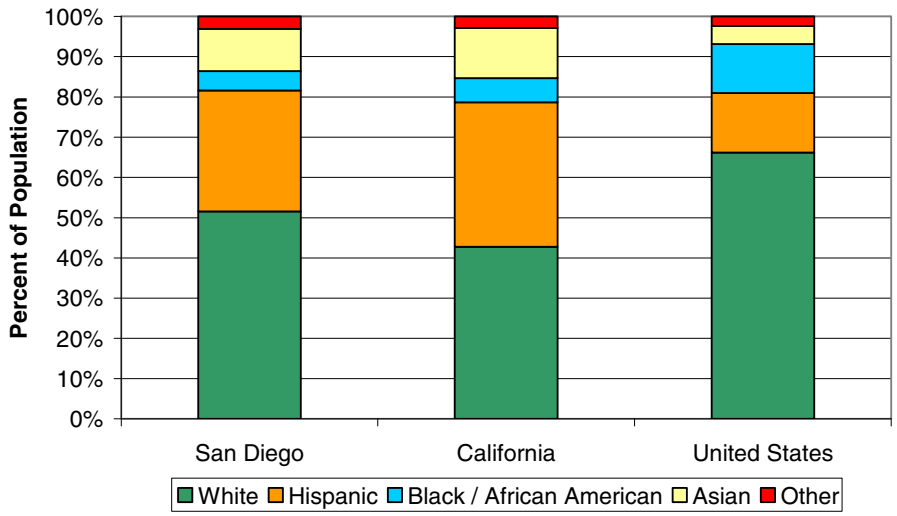
	Population					Compound Annual Growth Rate			
Cities	1980	1990	2000	2007[1/]	2030	1980-1990	1990-2000	2000-2007	2007-2030
Carlsbad	35,450	62,800	77,650	101,337	127,046	5.9%	2.1%	3.9%	1.0%
Chula Vista	83,600	134,200	172,260	227,723	316,445	4.8%	2.5%	4.1%	1.4%
Coronado	19,450	28,500	24,240	22,957	31,038	3.9%	-1.6%	-0.8%	1.3%
Del Mar	5,025	4,830	4,430	4,548	5,497	-0.4%	-0.9%	0.4%	0.8%
El Cajon	73,400	88,300	95,380	97,255	112,008	1.9%	0.8%	0.3%	0.6%
Encinitas	-	54,900	58,240	63,259	73,170	n.a.	0.6%	1.2%	0.6%
Escondido	63,700	107,400	133,960	141,788	169,929	5.4%	2.2%	0.8%	0.8%
Imperial Beach	22,250	26,300	27,040	27,709	36,125	1.7%	0.3%	0.3%	1.2%
La Mesa	50,000	52,700	55,160	56,250	64,522	0.5%	0.5%	0.3%	0.6%
Lemon Grove	20,600	23,800	25,080	25,451	31,175	1.5%	0.5%	0.2%	0.9%
National City	50,100	54,100	54,590	61,115	74,241	0.8%	0.1%	1.6%	0.8%
Oceanside	75,600	126,100	161,620	176,644	207,237	5.2%	2.5%	1.3%	0.7%
Poway	-	43,000	48,160	50,830	57,474	n.a.	1.1%	0.8%	0.5%
San Diego	865,000	1,102,900	1,207,000	1,316,837	1,656,257	2.5%	0.9%	1.3%	1.0%
San Marcos	17,250	37,900	54,580	79,812	95,553	8.2%	3.7%	5.6%	0.8%
Santee	-	52,600	52,950	55,158	72,115	n.a.	0.1%	0.6%	1.2%
Solana Beach	-	12,950	13,080	13,418	15,761	n.a.	0.1%	0.4%	0.7%
Vista	35,500	70,700	90,220	94,962	115,768	7.1%	2.5%	0.7%	0.9%
Incorporated	1,416,800	2,084,000	2,355,640	2,617,053	3,261,361	3.9%	1.2%	1.5%	1.0%
Unincorporated	433,500	396,100	445,700	481,216	723,392	-0.9%	1.2%	1.1%	1.8%
County Total	1,850,300	2,480,100	2,801,340	3,098,269	3,984,753	3.0%	1.2%	1.4%	1.1%

[1/] Data for 2007 to 2030 is from SANDAG 2030 Regional Growth Forecast
Sources: California Department of Finance; SANDAG; Landrum & Brown analysis

A.1.1 Racial Diversity

San Diego County is a racially and ethnically diverse community. Most notably the Hispanic and Asian populations comprise a higher percentage of the local population than the national average. The racial profile of the county is generally inline with that of the California as a whole (see **Figure A.1-1**).

FIGURE A.1-1
2006 DISTRIBUTION OF POPULATION BY RACE



Sources: U.S. Census Bureau, 2006 American Community Survey; Landrum & Brown analysis

The Hispanic and Asian populations have accounted for much of the growth in population in San Diego County in recent years (see **Table A.1-2**).[33] This trend is expected to continue in the future. According to SANDAG projections, growth in the Hispanic population is expected to account for 63 percent of the net increase in population in the county between 2004 and 2030 (1.0 million residents), while the Asian population is expected to account for 20 percent of the net population increase. As San Diego County continues to become an increasingly diverse community it is likely that the community of interest for international travel will also increase.

[33] Building a Foundation to Achieve Global Competitiveness –Evaluating The Competition And Assessing Our Strategic Position, SANDAG, March 2008

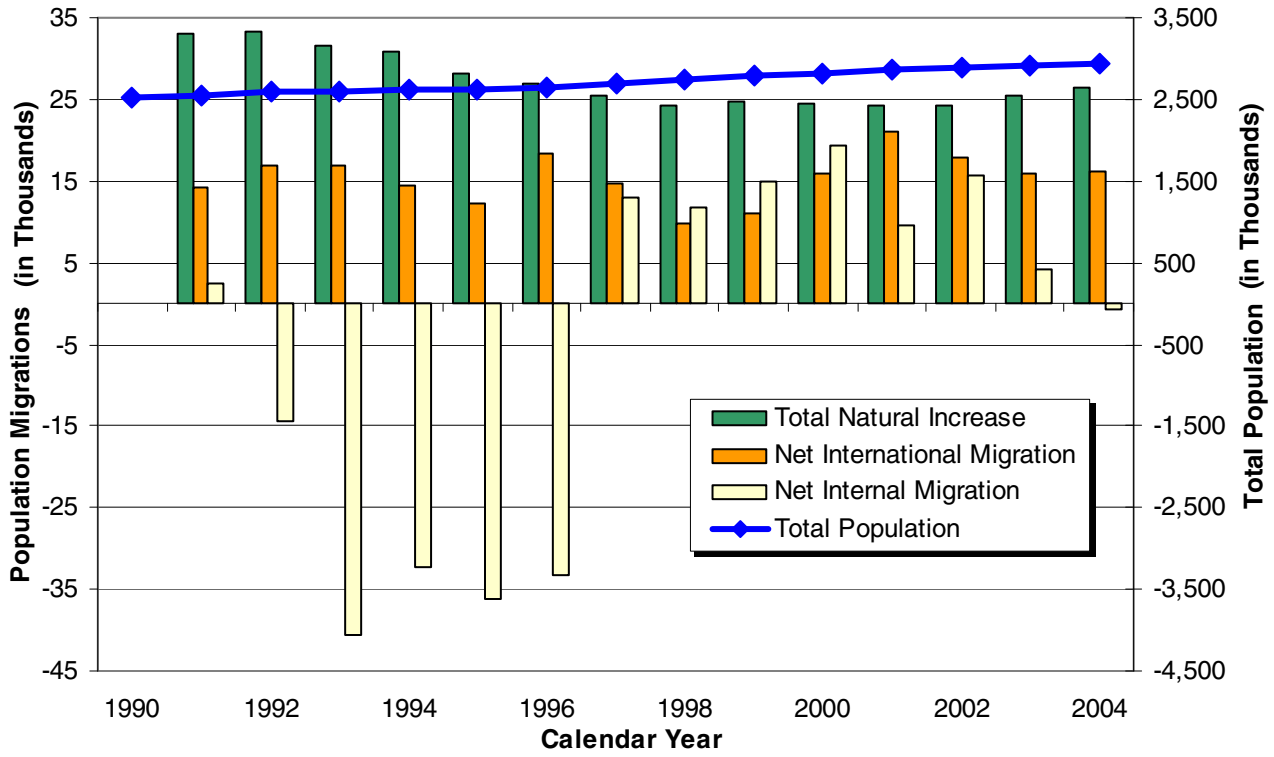
TABLE A.1-2
FORECAST OF POPULATION BY RACE
San Diego County

Calendar Year	Hispanic	White	Black/African American	Asian	Other	Total Population
2004	885,452	1,520,737	154,971	322,818	114,405	2,998,383
2015	1,173,309	1,511,550	169,703	430,834	155,041	3,440,437
2030	1,520,502	1,521,316	193,039	525,012	230,919	3,990,788
CAGR 2004-2015	2.6%	-0.1%	0.8%	2.7%	2.8%	1.3%
CAGR 2015-2030	1.7%	0.0%	0.9%	1.3%	2.7%	1.0%
CAGR 2004-2030	2.1%	0.0%	0.8%	1.9%	2.7%	1.1%

Sources: SANDAG; Landrum & Brown analysis

Population changes can also be measured in terms of natural changes (i.e. the difference between births and deaths) and net migration. Positive inward migration typically provides an indication of the attractiveness of a place to live and work. Natural increases have been the largest contributor to population growth in San Diego County since 1990 (see **Figure A.1-2**). International migration has also been a consistent contributor to population growth, with a total of 215,000 people migrating to the county between 1990 and 2004. Domestic migration has been more cyclical. Between 1992 and 1996 a significant number of residents moved to other parts of the U.S. due to a local recession. This trend reversed between 1997 and 2003 as there was an influx of new residents into the county before reverting to a minor loss again in 2004. In cumulative terms, domestic migration has been negative over this 14-year period, however, positive growth in international migration has more than offset, resulting in positive net migration of almost 150,000 people since 1990.

FIGURE A.1-2
SAN DIEGO NET MIGRATION
San Diego County



Sources: Building a Foundation to Achieve Global Competitiveness – Volume II, SANDAG March 2008; Landrum & Brown analysis

A.1.2 Median Age

The distribution of population by age is very similar in San Diego County and California and is generally in line with national age distributions (see **Table A.1-3**). Both California and San Diego have a slightly younger population as seen by their higher concentration of population under the age of 35 and slightly lower concentration of those over 55. The resulting median age between San Diego and California are very close at 34 years of age, only 2 years lower than the national median age.

TABLE A.1-3
2006 ESTIMATED POPULATION DISTRIBUTION BY AGE

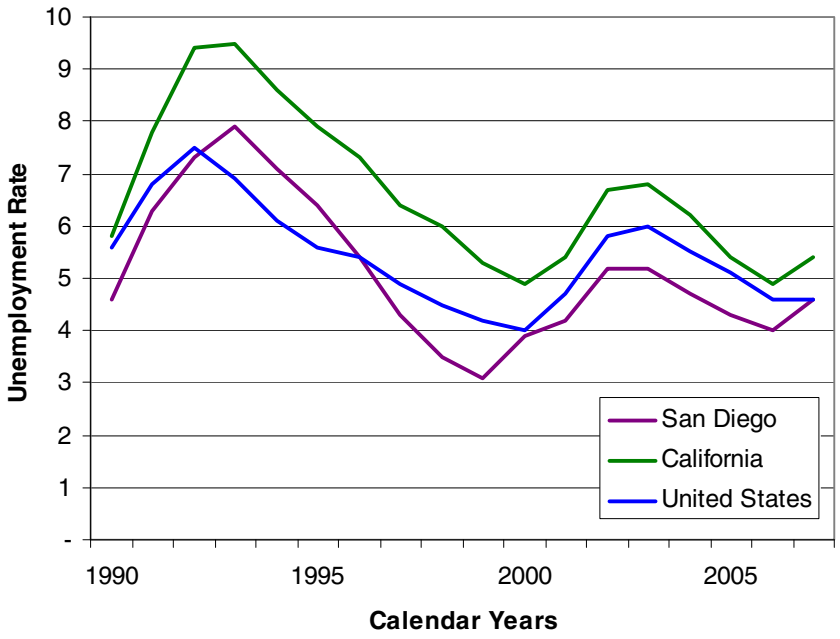
	Percent of Population		
Age	San Diego	California	United States
Less than 25	36.8%	36.5%	34.6%
25 to 34	14.7%	14.4%	13.3%
35 to 44	14.8%	15.2%	14.7%
45 to 54	13.6%	13.8%	14.5%
55 to 64	8.9%	9.4%	10.6%
65 and older	11.1%	10.8%	12.4%
Median Age	34	34	36

Sources: U.S. Census Bureau, American Community Survey 2006; Landrum & Brown analysis

A.2 Employment

Since 1990, unemployment has consistently been lower for San Diego County than California. In the past decade, the unemployment rate has even fallen below the national rate, only rising to meet the national level of 4.6 percent in 2007 (see **Figure A.2-1**)

FIGURE A.2-1
ANNUAL UNEMPLOYMENT RATE



Sources: Bureau of Labor Statistics; Landrum & Brown Analysis

Employment in San Diego County is well spread across all NAICS (North American Industry Classification System) industries (see **Table A.2-1**). However, what is particular about San Diego County's economy is the trade sectors, or clusters of businesses that span across several NAICS categories. Trade sectors contain businesses that share a common field, such as biomedicine, and do business mainly among other businesses within their sector. Most of these sectors rely on advanced and cutting edge research and development which results in higher paying careers and potentially a higher propensity to travel.

One such sector that has long been associated with the county is its military and defense industry. Home to the Space and Naval Warfare Systems Center (SPAWAR), Marine base Camp Pendleton, the Marine Corps Recruiting Depot, the Naval Air Station, North Island, and Naval Submarine Base, San Diego, to name a few, it is no wonder why San Diego is known for its role in the defense industry. Aside from the constant influx of military personnel, there is also a large supply of contracted organizations that maintain, service, and provide for these bases

as well. Furthermore, many of the surrounding sectors feed into the defense contracts awarded in San Diego County. Large corporations like Northrop Grumman build ships, airplanes, electrical systems and satellites all due to the large concentration of government and defense work awarded in this region.

Also referred to as life sciences, biotechnology is another sector with a strong presence in San Diego County. Many of the start up biomedical companies originated locally as spin-offs from the University of California, San Diego. Furthermore, local universities provide hiring bases for many of the regional headquarters of some major companies in this industry, such as Pfizer, Johnson & Johnson, Genentech, and more. Companies like these rely on the universities and the many private institutions of San Diego County. Dr. Jonas Salk, who created the polio vaccine in 1955, founded one such organization called The Salk Institute, one of many reputable institutes located in San Diego County. Scientists, doctors and aspiring students are all drawn to the region due to these local research facilities and job opportunities.

Communication technology is also a large contributor to San Diego County's diverse economic base with well known companies such as QUALCOMM, Motorola, LG and Nokia. These companies a just a few of the numerous corporations in San Diego County that produce commercial and government products. Wireless communication systems, GPS, and satellite communication systems are just a few of the identifiable things manufactured in San Diego County.

Computer technology companies also have a significant presence in San Diego County. For manufactured computer hardware and software systems, local technology based industries can source locally the materials and know how required to run their businesses. Electronics manufacturers like Sony, LG, and Hewlett Packard and software service providers such as Inuit and Oracle all have regional headquarters in San Diego. Likewise, San Diego County holds one of the few public super computer centers in the nation for hire and capable of running complex calculations that average computers cannot.
Trade sectors like these produce products for export across the nation and sometimes internationally. Such trade is good for the

local economy because it brings in revenue from outside of the county. Likewise, nationwide and international trade relates to similar levels of travel as well as increased amounts of tonnage being shipped.

TABLE A.2-1
2007 EMPLOYMENT BY SECTOR
San Diego County

Employment Sector	Number of Jobs	% of Total
Government	216,432	14.4%
Professional & Business Services	215,808	14.4%
Leisure & Hospitality	153,966	10.2%
Retail Trade	150,357	10.0%
Education & Health Services	127,111	8.5%
Manufacturing	104,523	7.0%
Self-Employed & Domestic Workers	96,890	6.4%
Construction	90,889	6.0%
Uniformed military	85,070	5.7%
Finance & Real Estate	83,905	5.6%
Other Services	50,873	3.4%
Wholesale Trade	44,351	3.0%
Information	39,884	2.7%
Transportation & Warehousing	31,231	2.1%
Agriculture & Mining	11,652	0.8%
Total	**1,502,942**	**100.0%**

Sources: SANDAG; Landrum & Brown analysis

A.3 Tourism

Table A.3-1
KEY INDICATORS OF TOURISM INDUSTRY[1/]
San Diego County

	Calendar Year								
	2000	2001	2002	2003	2004	2005	2006	2007	2008E
	Attendance/ Arrivals								
Attraction Attendance	21,062,418	19,226,215	11,979,297	11,755,109	11,786,992	12,858,628	13,435,612	13,659,103	14,200,000
Arts/Museum Attendance	2,037,286	1,660,966	1,833,999	1,815,938	1,953,461	1,979,789	1,978,890	2,387,090	2,100,000
	Hotel/Motel Only Performance								
Supply - Room Inventory	n.a.	49,316	50,525	51,776	52,989	54,049	54,048	54,193	55,191
Demand-Room Nights Sold	13,071,792	12,590,196	12,610,000	13,157,000	13,796,000	14,267,000	14,428,000	14,378,486	14,400,000
Average Occupancy	73.8%	69.8%	68.4%	69.5%	70.9%	72.3%	73.3%	72.9%	71.5%
Average Daily Rate	$109	$111	$111	$111	$114	$122	$131	$139	$143

[1/] Numbers may not calculate exactly due to rounding
Sources: San Diego Convention & Visitors Bureau; Landrum & Brown analysis

A.4 Cruise Industry

The cruise industry is the fastest growing sector of the worldwide travel industry. Recent average growth has been 6.4 percent annually as the industry has grown from just 4.4 million passengers worldwide in 1990 to almost 12.6 million passengers in 2007. Cruise Lines International Association (CLIA) projects 12.8 million passengers will embark on cruises in 2008. The North America cruise market has grown at the same pace at a rate of 6.4 percent per year since 1990. North American cruise passengers accounted for over 81 percent of all cruise passengers in 2007.

TNS, a market research firm, conducts an American Traveler survey on an annual basis. The sections that follow provide a summary of the cruise industry based on this survey.

A.4.1 Cruise Industry Profile

Forty-three percent of respondents named the Caribbean as the top destination spot. The west coast of Mexico was named by eight percent of respondents as their top destination. Cruise passenger data collected by the U.S. Maritime Administration shows the west coast of Mexico to be the fastest growing market segment in the cruise industry, increasing from 10.8 percent of

all multi-day cruise traffic in 2006 to 11.8 percent in 2007. The Florida cruise market is the largest in the world and accounted for 54 percent of all U.S. cruise traffic in 2007. The California market is just behind with over 10 percent of U.S. traffic. Capacity continues to increase as more 'mega' ships are built with berth capacity topping 3,000 per ship. In total, seven new ships are expected to enter the fleet in 2008 with an additional 20 ships scheduled by 2011.

A.4.2 Cruise Passenger Profile

The average cruise passenger is 46 years old, has a median household income of $93,000, is college educated (69 percent) and is married (86 percent), according to the Spring 2008 TNS American Traveler survey. The average cruise length is seven days, and 75 percent of cruisers travel in pairs or greater. With occupancy ratings based on two per berth, larger average group sizes helped exceed normal capacity again in the fourth quarter of 2007. The greatest driving force in cruise selections is destination (Caribbean) followed by price (average of $1,800/person). The average cruiser has taken three to four cruises, and the TNS survey concluded that 77 percent of past cruisers and 55 percent of those who have not yet taken a cruise plan to do so in the next three years.

A.4.3 Economic Impact of Cruise Industry

In 2006, the cruise industry had a total economic impact of $35.7 billion, and provided nearly 350,000 jobs worldwide. Over 20 percent of the direct core spending related to the cruise industry comes from air transportation. Nearly 60 percent of cruise passengers travel to ports of embarkation by air. Thus, growth in the cruise industry can be linked as contributing to a portion of the growth at local airports.

Preceded only by Florida, California is the second most important state for the cruise industry, with 10 percent of global embarkations from Los Angeles, Long Beach, San Diego, and San Francisco ports. California businesses received almost $2.0 billion in direct spending in 2007, generating 45,000 jobs.

A.4.4 Port of San Diego

The San Diego cruise piers are located just two miles from the San Diego International Airport. The Port of San Diego is the 13th busiest North American cruise port based on 340,814 passenger embarkations in 2007 (see **Table A.4-1**). Scheduled trips from San Diego as well as en route port calls amounted to 238 total port calls in 2007, with an estimated 252 port calls expected in 2008. Scheduled embarkations are expected to account for 202 of the port calls in 2008, an increase of 18 percent over 2007. The 238 port calls in 2007 brought over 700,000 passengers to the community and local businesses. The Port Authority projects over 800,000 passengers will contribute to the local economy in 2008.

TABLE A.4-1
TOP 20 CRUISE PORTS [1/]

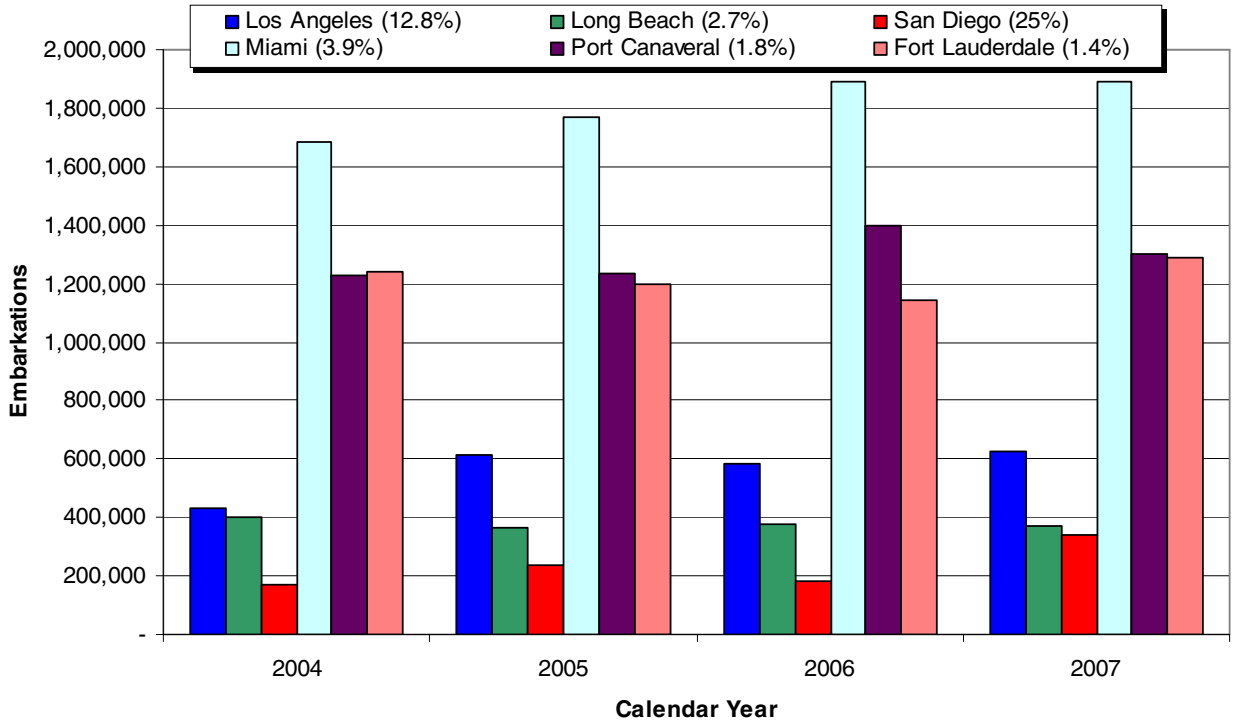
Rank	Depature Port	Calendar Year 2004	2005	2006	2007
1	Miami	1,682,777	1,771,250	1,890,071	1,889,771
2	Port Canaveral	1,230,130	1,233,616	1,396,260	1,298,418
3	Fort Lauderdale	1,237,227	1,199,413	1,144,505	1,288,508
4	Los Angeles	434,352	614,780	582,870	623,639
5	New York	548,016	369,870	535,967	574,565
6	San Juan	676,600	581,116	554,966	533,883
7	Galveston	433,355	530,704	616,461	529,446
8	Vancouver, CA	436,156	434,455	401,871	462,313
9	Seattle	290,880	336,538	382,297	385,855
10	Honolulu	170,183	235,647	316,412	382,143
11	Long Beach	401,341	362,834	379,789	369,683
12	Tampa	399,159	407,665	461,015	367,691
13	**San Diego**	**172,639**	**234,284**	**179,555**	**340,814**
14	New Orleans	395,821	308,394	75,401	257,651
15	Mobile	28,821	87,628	98,664	130,386
16	Jacksonville	113,728	137,083	128,085	130,156
17	Whittier	88,293	95,504	108,590	112,735
18	Seward	75,034	67,957	68,860	76,456
19	Cape Liberty		146,714	123,399	65,487
20	Baltimore	104,633	66,782	60,100	61,588
	Top 20 ports	8,919,145	9,222,234	9,505,138	9,881,188
	Others(40 active ports)	499,172	524,954	465,784	407,395
	Total	**9,418,317**	**9,747,188**	**9,970,922**	**10,288,583**

[1/] based on multi-day embarkations
Sources: USDOT, Maritime Administration; Landrum & Brown analysis

There are four cruise ship berths in San Diego, two at the B-Street pier and two at the Broadway pier, with three in use. Current demand only requires the use of two piers on a regular basis with the third being used on heavy traffic days. Development and improvement projects are underway and major construction of a new cruise terminal along the Broadway pier is scheduled to begin in the spring of 2009. Nine cruise lines are meeting demand at the Port of San Diego. Carnival and Holland America lead the way with a combined 85 percent of the scheduled cruise offerings. Royal Caribbean has announced that they will add seasonal four to five-day Mexican Riviera cruises starting in mid 2009.

The Los Angeles and Long Beach cruise markets have experienced much slower average growth compared to San Diego in recent years (see **Figure A.4-1**).

FIGURE A.4-1
CRUISE PASSENGER EMBARKATIONS AND GROWTH RATES [1/]
TOP CALIFORNIA AND FLORIDA CRUISE PORTS

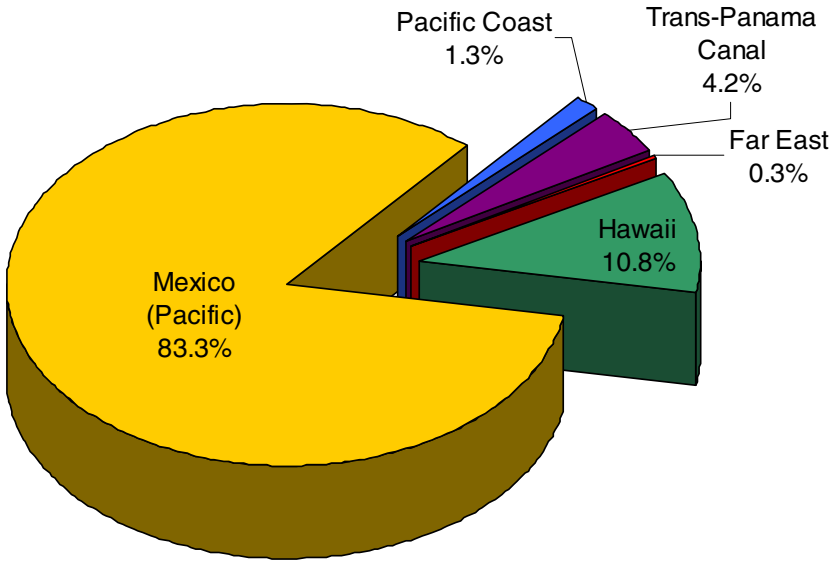


Sources: USDOT, Maritime Administration; Landrum & Brown analysis
[1/] Growth rates shown for each city represent the average annual compound growth rate for the 2004-2007 time periods.

A.4.5 San Diego Cruise Passengers

In 2007, 340,814 passengers embarked on multi-day cruises from San Diego, with the most common cruises being the four to six-day trips along the pacific coast of Mexico. The median cruise length is seven days, which corresponds well to the worldwide market average. The shorter cruises provided by Carnival are a significant driving force behind recent growth in San Diego, which is predominantly a Mexican Riviera market (see **Figure A.4-2**).

FIGURE A.4-2
2007 SAN DIEGO CRUISE MARKET SHARES



Sources: USDOT, Maritime Administration; Landrum & Brown analysis

Six major cruise lines currently operate out of San Diego (Carnival, Holland America, Celebrity, Royal Caribbean, Princess, and Norwegian). In addition, three smaller luxury lines (Silversea, Regent, and Crystal) provide limited service. The smaller luxury cruises account for less than one percent of all passenger traffic out of San Diego. The majority of the passengers traveled on Carnival and Holland America cruises accounting for 77 percent of those departing from San Diego in 2007.

A.4.6 San Diego Economic Impact

According to the Port of San Diego, each cruise ship call on the port generates an estimated $2 million for the port and local businesses. The potential economic impact in 2008 (based on an estimated 252 port calls) is over $500 million in direct spending in the San Diego port community. The economic impact is up considerably since 2002 when the Port of San Diego commissioned an economic impact analysis that estimated that the cruise industry in San Diego generated around $235 million in local spending.

A.4.7 Potential Legislative Changes

There are discussions to repeal or make amendments to the Passenger Vessels Service Act (PVSA) of 1886 and/or the Jones Act. This section discusses the impacts of any changes to these acts.

A.4.7.1 Jones Act

The Jones Act applies to cargo maritime transport and also contains workers rights and labor laws that apply to all sea vessel employees of the U.S. The Jones Act is the common name of the Merchant Marine Act of 1920 and is often mistaken for the PVSA. None of the changes to the Jones Act which have been discussed or proposed recently would impact the San Diego cruise industry.

A.4.7.2 Passenger Vessels Service Act (PVSA) of 1886

The PVSA refers exclusively to passenger maritime transportation and has authority over passenger ship regulations such as cruise ship travel. The PVSA was first instituted to protect northeastern ferry boats from Canadian competition, and has since been expanded to protect all U.S. passenger travel ships from foreign competition. Currently only one American-owned major cruise ship exists (Norwegian Cruise Lines of America operating in the islands of Hawaii); all other major cruise lines are foreign-owned. The PVSA mandates that all passenger transportation between U.S. ports be performed by ships that are owned by an American company, sail under an American flag and be staffed with a majority of U.S. citizens. There are currently some widely used exceptions that make it

possible for the fleet of cruise ships operating in the U.S. to conduct their business within the law.

The U.S. Customs and Border Protection Agency (CBP) is considering an amendment to the PVSA that would change the regulations now governing the cruise ship industry in the U.S. The proposed changes would require that a foreign cruise ship make a foreign port of call lasting for at least 48 hours and that at least 50 percent of the trip length be spent in foreign waters. This would completely change the way cruise ships operate in the U.S. and is not in line with the cruise industry's appeal to passengers to see as many beautiful and exciting places as possible. Most cruise port calls last from four to eight hours – much less than the proposed 48 hours.

Although the proposed amendment does not appear to have much support, there is a presidential election in the U.S. in 2008 and both candidates have a different opinion of the PVSA. Barack Obama is very much in favor of keeping the PVSA and supports its cause, whereas John McCain does not. In the late 1990s Senator McCain issued a bill (S.1510) that would repeal the PVSA and open the coastal ports up for increased passenger traffic. The bill did not pass.

A stricter interpretation of the PVSA, if enacted, would have very dramatic effects on the cruise industry. A repeal of the PVSA is not anticipated nor is it expected to create any major growth opportunities.

APPENDIX B – DOMESTIC REGIONAL AIR SERVICE

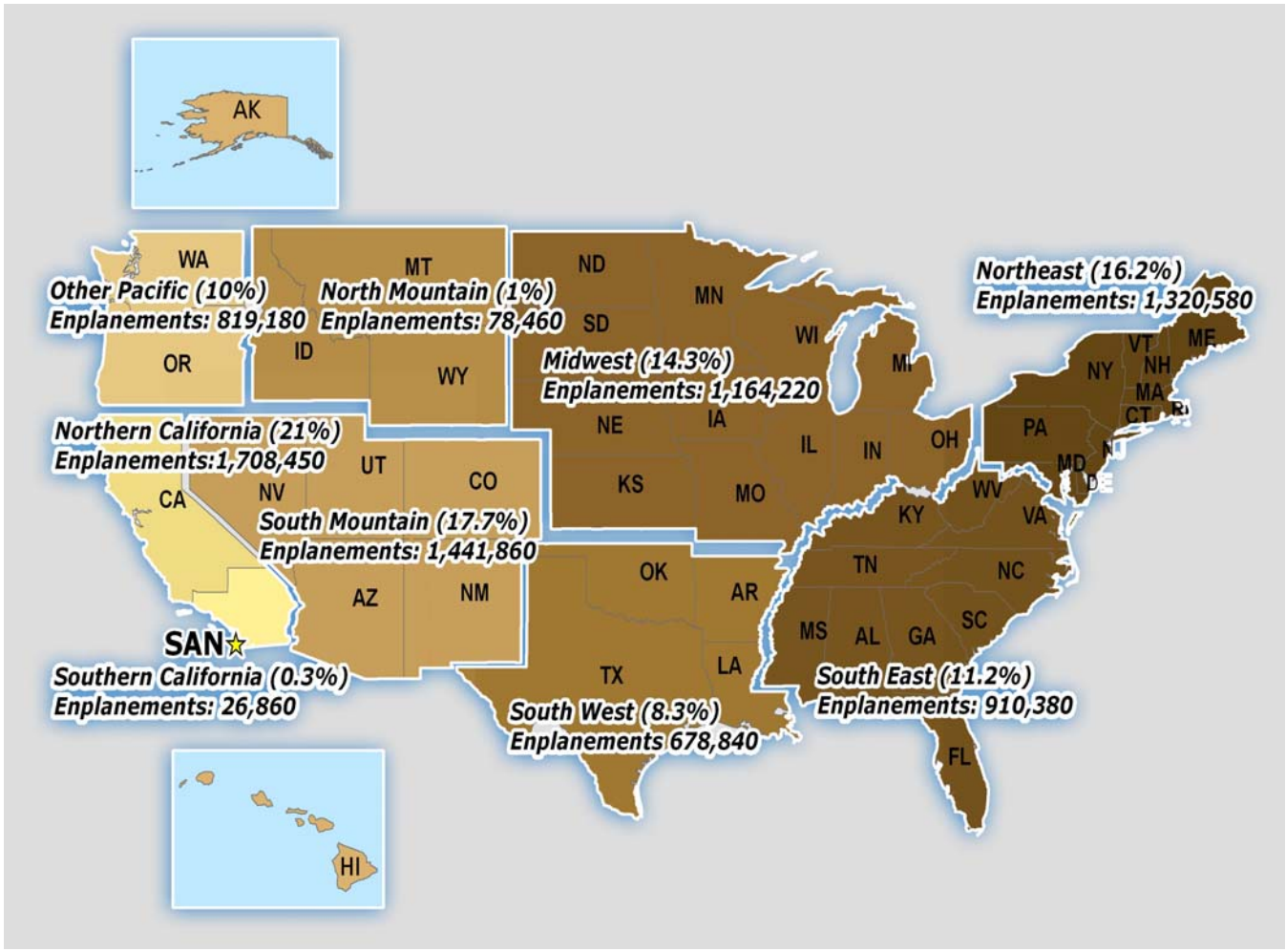
This appendix presents detailed discussion about regional air service at SDIA to complement Chapter 3.

B.1 Background

This section presents the air service for nine regional segments of SDIA domestic O&D passenger enplanements. The segments are shown in **Figure B.1-1** and include Northern California, Southern California, North Mountain, South Mountain, Northeast, Midwest, South East, Pacific, and South West.

All regions except Southern California experienced positive growth between 1990 and 2007. Between 2000 and 2007, the two largest regional segments have shown relatively lower growth compared to other regions: Northern California grew 0.1 percent and South Mountain grew 0.9 percent (see **Table B.1-1**).

FIGURE B.1-1
2007 REGIONAL DOMESTIC O&D SEGMENTATION
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

TABLE B.1-1
REGIONAL DOMESTIC O&D BY SEGMENT
San Diego International Airport

	Domestic O&D Passenger Enplanements							
						% Share	CAGR	
Region	1990	1995	2000	2005	2007	(2007)	90-00	00-07
Northern California	1,146,180	1,564,130	1,698,770	1,507,120	1,708,450	21.0%	4.0%	0.1%
South Mountain	1,192,070	1,350,080	1,354,870	1,399,080	1,441,860	17.7%	1.3%	0.9%
Northeast	685,460	747,830	1,037,920	1,304,330	1,320,580	16.2%	4.2%	3.5%
Midwest	659,830	758,050	946,240	1,129,330	1,164,220	14.3%	3.7%	3.0%
South East	394,910	474,690	716,420	873,960	910,380	11.2%	6.1%	3.5%
Pacific	348,850	513,250	602,000	784,390	819,180	10.1%	5.6%	4.5%
South West	377,860	400,840	533,850	591,090	678,840	8.3%	3.5%	3.5%
North Mountain	37,300	44,470	55,920	71,420	78,460	1.0%	4.1%	5.0%
Southern California	192,170	168,980	92,400	64,260	26,860	0.3%	-7.1%	-16.2%
Total	**5,034,630**	**6,022,320**	**7,038,390**	**7,724,980**	**8,148,830**	**100.0%**	**3.4%**	**2.1%**

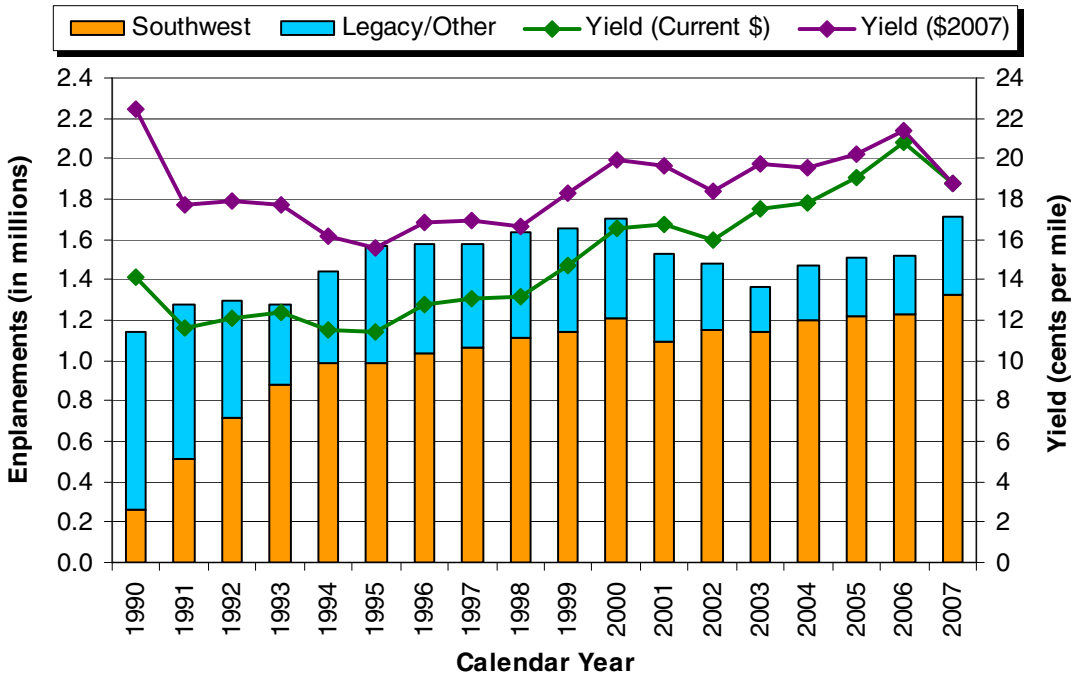
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

B.2 Northern California

Northern California, the largest market region at SDIA in terms of O&D enplanements, accounted for 21 percent of domestic O&D traffic at SDIA in 2007. Southwest Airlines accounted for almost 80 percent of this traffic in 2007. Since 1990, Southwest has been growing 10 percent per year, while other carriers have been losing their market share at 4.8 percent per year (see **Figure B.2-1)**. With the strong presence of Southwest, average one-way fares have been declining at 1 percent per year and average annual growth rate for this region has been increasing at 2.4 percent between 1990 and 2007.

Virtually all Northern California passengers travel nonstop to their final destination. San Francisco was the biggest market in the region with 72 percent of total O&D traffic to Northern California in 2007 and is expected to expand (see **Figure B.2-1)**. Southwest is planning to expand service to the Bay Area in 2008 and Virgin America just began nonstop service to San Francisco in February 2008. On the other hand, Alaska discontinued service to the Bay Area in September 2007, and ExpressJet has announced that it will cancel all service to BFL on August 23, 2008 and discontinue service to FAT, MRY and SBA in September 2008 when it ceases branded operations.

FIGURE B.2-1
NORTHERN CALIFORNIA O&D PASSENGERS
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

TABLE B.2-1
2007 NORTHERN CALIFORNIA O&D TRAFFIC & AIR SERVICE SUMMARY
San Diego International Airport

		Outbound O&D Pasengers					Air Service				
Market	GCD (miles)	2007	% of Tot.	% of Mkt. LCC	% of Pax. Flying Nonstop	Yield (cents per mile)	Avg. Dly. Flts.	Dly. Sts	Gauge	# of Carriers	08 Capacity Δ
San Francisco	447	1,221,600	71.5%	74.2%	99.2%	18.92	53	6,333	120	4	7.1%
Sacramento	480	420,690	24.6%	98.7%	98.6%	16.55	13	1,811	136	1	-4.9%
Fresno	314	21,970	1.3%	0.6%	68.0%	37.46	1	64	50	1	72.2%
Monterrey	376	18,220	1.1%	0.0%	76.9%	30.37	1	64	50	1	30.8%
Bakersfield	214	5,380	0.3%	0.0%	91.8%	50.01	1	48	50	1	-33.1%
Santa Barbara	192	3,030	0.2%	0.0%	33.7%	85.27	0	13	50	1	421.6%
Other		17,560	1.0%	0.1%	0.0%	24.85	-	-	-	-	n.c.
Total		1,708,450	100.0%	77.4%	97.2%	18.75	70	8,332	119	5	5.6%

Sources: USDOT, *Air Passenger Origin-Destination Survey*; *Official Airline Guide* as of June 2008; Landrum & Brown analysis

B.3 Southern California

SDIA enplanements to Southern California (LAX) have dropped substantially over the past seventeen years from 192,170 enplanements in 1990 to 26,860 enplanements in 2007. The nature of this traffic is to feed into LAX domestic and international flights. Traffic to this region naturally decreased due to changes in passengers' behavior (travelers tend to use their car to go to LAX rather than flying there) as well as the expansion of SDIA traffic to domestic and international destinations.

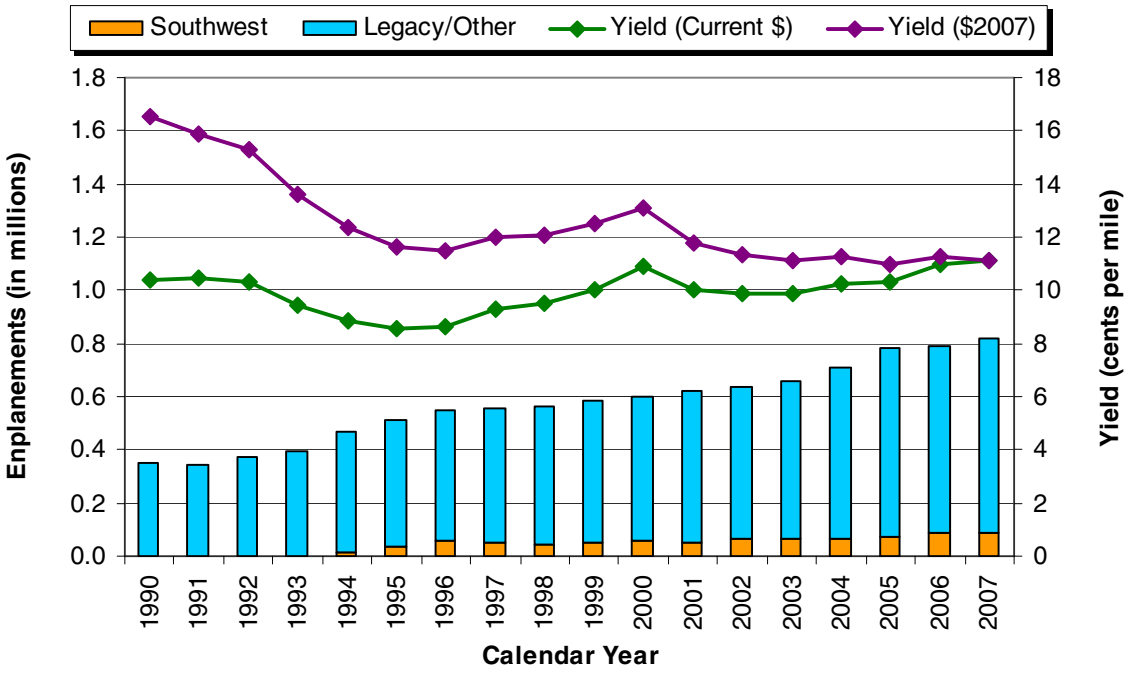
In 1990, US Airways, American, Alaska, and Delta made up 61 percent of the Southern California activity. In 2007, United and American accounted for 93 percent of the total Southern California traffic. The seventeen-year historical period reflected a significant decrease in number of carriers resulting in an increase in average one-way fares. Passengers had to pay an average fare of $160.72 in 2007 vs. $86.63 in 2005 and $66.16 in 1990 (in current dollars).

B.4 Pacific Region

The Pacific region accounted for 10 percent of domestic O&D traffic at SDIA in 2007. SDIA-Pacific passengers predominantly travel on legacy carriers (88.4 percent of the traffic). Traffic between SDIA and the Pacific region market has been growing at 5 percent per year since 1990, while the average one-way fare paid has been declining at 2.3 percent per annum (see **Figure B.4-1**). The presence of LCCs in this market is very minimal.

Table B.4-1 presents O&D traffic and air service summary for Pacific region in 2007. jetBlue added new service to Seattle in May 2008. In 2008, Alaska Airlines increased its Portland capacity by 2.5 percent. United is the only legacy carrier with service to Hawaii. Aloha Airlines ceased operations in March 2008 pulling out all nonstop service to Lihue and Kona. Hawaiian Airlines will be dropping service to Kahului on September 2, 2008. ExpressJet, as well, will be canceling service to Spokane in September 2008.

FIGURE B.4-1
PACIFIC REGION O&D PASSENGERS
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

TABLE B.4-1
2007 PACIFIC REGION O&D TRAFFIC & AIR SERVICE SUMMARY
San Diego International Airport

		Outbound O&D Pasengers					Air Service				
Market	GCD (miles)	2007	% of Tot.	% of Mkt. LCC	% of Pax. Flying Nonstop	Yield (cents per mile)	Avg. Dly. Flts.	Dly. Sts	Gauge	# of Carriers	08 Capacity Δ
Seattle	1051	296,450	36.2%	13.4%	83.5%	14.20	7	1,070	145	1	11.5%
Portland	933	173,260	21.2%	23.4%	81.0%	14.16	4	514	131	1	2.5%
Honolulu	2609	107,790	13.2%	1.3%	59.2%	8.35	1	280	258	2	-0.4%
Maui	2536	71,350	8.7%	1.1%	89.0%	7.96	2	340	187	2	-40.1%
Spokane	1029	48,410	5.9%	21.6%	44.8%	12.19	2	89	56	2	8.2%
Lihue	2671	25,940	3.2%	1.2%	0.0%	8.66	-	-	-	-	100.0%
Kona	2552	19,960	2.4%	1.2%	0.0%	8.59	-	-	-	-	100.0%
Anchorage	2451	15,500	1.9%	4.3%	0.0%	9.23	-	-	-	-	n.c.
Eugene	850	12,060	1.5%	0.4%	0.0%	15.15	-	-	-	-	n.c.
Medford	734	8,680	1.1%	0.2%	0.0%	17.93	-	-	-	-	n.c.
Other		39,780	4.9%	1.5%	0.0%	13.17	-	-	-	-	100.0%
Total		819,180	100.0%	11.6%	65.6%	11.15	16	2,293	145	5	3.2%

Sources: USDOT, *Air Passenger Origin-Destination Survey*; *Official Airline Guide* as of June 2008; Landrum & Brown analysis

B.5 North Mountain Region

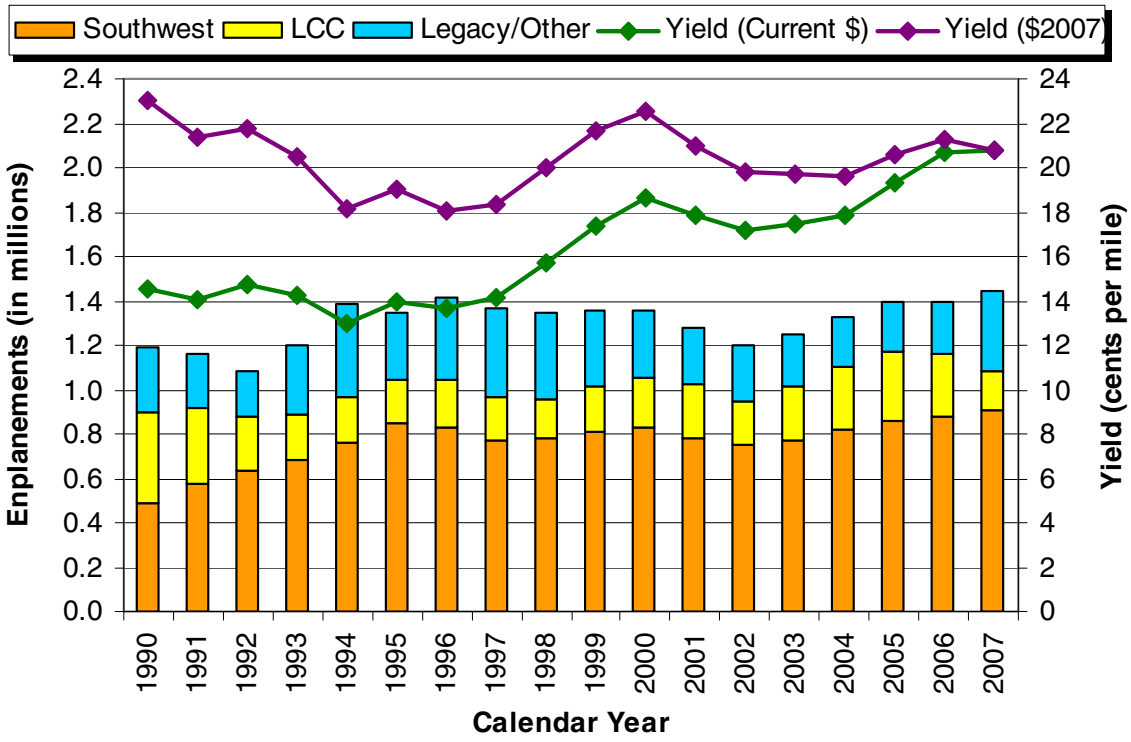
The North Mountain region accounted for only a small share of the total domestic O&D enplanements at SDIA with 0.7 percent in 1990, and 1.0 percent in 2007 with traffic to mainly the states of Idaho and Montana. LCC's share of North Mountain traffic remained stable at about 14 percent of the domestic O&D enplanements to this region with a shift from America West to Southwest as the major LCC service provider. Legacy carriers have been holding the major share of the North Mountain activity at SDIA since 1990 with Delta being the primary airline for this region. Unfortunately, ExpressJet is canceling service to Boise as of September 2008.

B.6 South Mountain Region

The South Mountain region accounted for almost 18 percent of domestic O&D traffic at SDIA in 2007. It is predominantly a LCC market with 63 percent of traffic provided by Southwest and 12 percent from other LCCs (see **Figure B.6-1**). The traffic growth of 1.1 percent per year was driven significantly by Southwest expanding service from 1990 to 2007 and an accompanying 0.6 percent decline in average one-way fare paid. However, this is the market with the highest yield of the San Diego market regions averaging 21 cents per mile compared to airport average yield of 11 cents per mile in 2007.

The South Mountain market has non-stop service to 90 percent of its destinations due to the close proximity to SDIA (see **Table B.6-1**). Capacity to Las Vegas and Phoenix has been reduced due to capacity cuts from Southwest and US Airways in 2007 and 2008. Southwest is planning to further reduce its capacity by 1.1 percent to LAS and 2.2 percent to PHX. US Airways is planning to reduce its capacity by 3.5 percent to LAS and 7.2 percent to PHX. On the other hand, Southwest is planning to add capacity to Denver and Tucson. Salt Lake City capacity has been increased, mainly due to Delta and JetBlue. Unfortunately, ExpressJet will be canceling service to Colorado Springs in September 2008.

FIGURE B.6-1
SOUTH MOUNTAIN REGION O&D PASSENGERS
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

TABLE B.6-1
2007 SOUTH MOUNTAIN REGION O&D TRAFFIC & AIR SERVICE SUMMARY
San Diego International Airport

		Outbound O&D Pasengers					Air Service				
Market	GCD (miles)	2007	% of Tot.	% of Mkt. LCC	% of Pax. Flying Nonstop	Yield (cents per mile)	Avg. Dly. Flts.	Dly. Sts	Gauge	# of Carriers	08 Capacity Δ
Las Vegas	302	391,410	27.1%	89.5%	99.3%	29.54	17	2,339	136	3	-5.9%
Phoenix	258	383,410	26.6%	80.4%	99.3%	25.08	23	3,256	140	3	-8.6%
Denver	838	240,430	16.7%	58.7%	85.1%	15.58	12	1,504	129	3	28.0%
Salt Lake City	626	138,690	9.6%	36.1%	79.3%	20.00	6	684	115	2	44.7%
Tucson	366	92,860	6.4%	95.9%	95.3%	21.06	3	428	137	1	24.3%
Reno	489	81,370	5.6%	91.5%	69.2%	18.36	2	216	137	1	26.7%
Albuquerque	627	72,270	5.0%	87.8%	79.9%	18.92	3	399	137	1	-1.4%
Colorado Springs	814	23,670	1.6%	4.0%	54.0%	17.40	1	65	50	1	28.2%
Other		17,750	1.2%	7.7%	0.0%	21.03	-	-	-	-	n.c.
Total		1,441,860	100.0%	74.8%	90.1%	20.76	67	8,890	133	8	5.4%

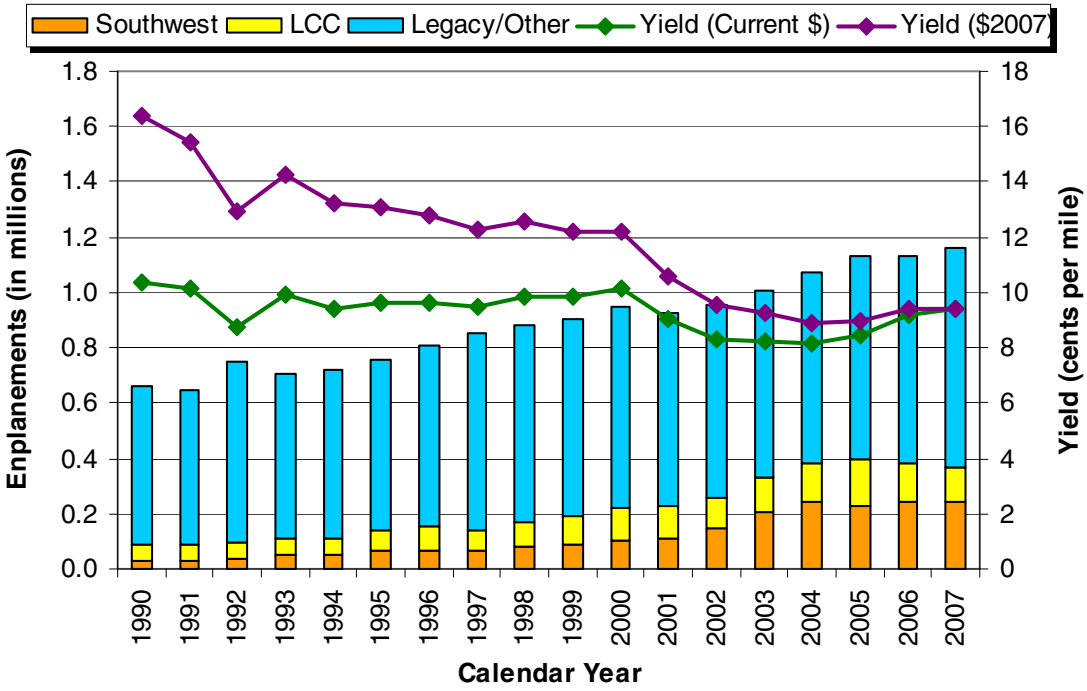
Sources: USDOT, *Air Passenger Origin-Destination Survey*; *Official Airline Guide* as of June 2008; Landrum & Brown analysis

B.7 Midwest Region

The Midwest region accounted for 14 percent of domestic O&D traffic from SDIA in 2007. The Midwest region is predominately a legacy carrier market with a growing LCC traffic from 13 percent of total traffic in 1990 to almost 32 percent in 2007 (see **Figure B.7-1**). Southwest accounts for almost 21 percent of the total. Traffic between SDIA and the Midwest region market averaged growth of 3.4 percent per year between 1990 and 2007, while average fare paid has been declining at 3.2 percent per year.

In 2008, the Midwest region has the largest reduction in capacity with a 9 percent drop from 2007 (see **Table B.7-1**). The biggest market in this region is Chicago with 28% of the total traffic. Chicago's market is also experiencing capacity reduction due to United Airlines (-22.1%) and American Airlines (-16.6%) at Chicago O'Hare. However, Southwest has increased its capacity to Chicago Midway by 3.6 percent from 2007 to 2008. Northwest is reducing its capacity to its major hubs in Detroit and Minneapolis/St. Paul by 3.8 percent and 5.4 percent, respectively, compared to 2007; Continental Airlines also announced plans to drop service to Cleveland in 2008. Only 52 percent of all passengers travel nonstop to final destination. In addition, ExpressJet has announced that it will cancel service to Omaha in September 2008 and Midwest may reduce traffic to Kansas City as it restructures with a smaller fleet.

FIGURE B.7-1
MIDWEST REGION O&D PASSENGERS
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

TABLEB.7-1
2007 MIDWEST REGION O&D TRAFFIC & AIR SERVICE SUMMARY
San Diego International Airport

		Outbound O&D Pasengers					Air Service				
Market	GCD (miles)	2007	% of Tot.	% of Mkt. LCC	% of Pax. Flying Nonstop	Yield (cents per mile)	Avg. Dly. Flts.	Dly. Sts	Gauge	# of Carriers	08 Capacity Δ
Chicago	1723	330,210	28.4%	37.6%	88.7%	9.05	14	2,076	146	3	-12.3%
Minneapois/St. Paul	1532	153,540	13.2%	31.5%	88.9%	9.89	5	776	162	2	-5.5%
Detroit	1956	103,490	8.9%	24.4%	47.0%	9.10	2	280	159	1	-3.8%
Kansas City	1333	96,110	8.3%	57.3%	75.5%	10.05	4	433	120	2	-9.8%
St. Louis	1557	73,900	6.3%	35.3%	48.6%	10.55	1	140	140	1	0.3%
Indianapolis	1782	55,820	4.8%	35.2%	0.0%	8.51	-	-	-	-	n.c.
Columbus	1964	54,970	4.7%	52.9%	0.0%	6.90	-	-	-	-	n.c.
Omaho	1313	45,870	3.9%	35.3%	31.2%	10.96	1	62	50	1	-27.6%
Cleveland	2027	39,650	3.4%	20.6%	26.5%	8.55	0	60	159	1	-29.2%
Milwaukee	1739	38,370	3.3%	17.7%	0.0%	8.20	-	-	-	-	100.0%
Other		172,290	14.8%	5.7%	0.0%	10.64	-	-	-	-	n.c.
Total		1,164,220	100.0%	31.7%	52.5%	9.42	27	3,827	142	9	-9.0%

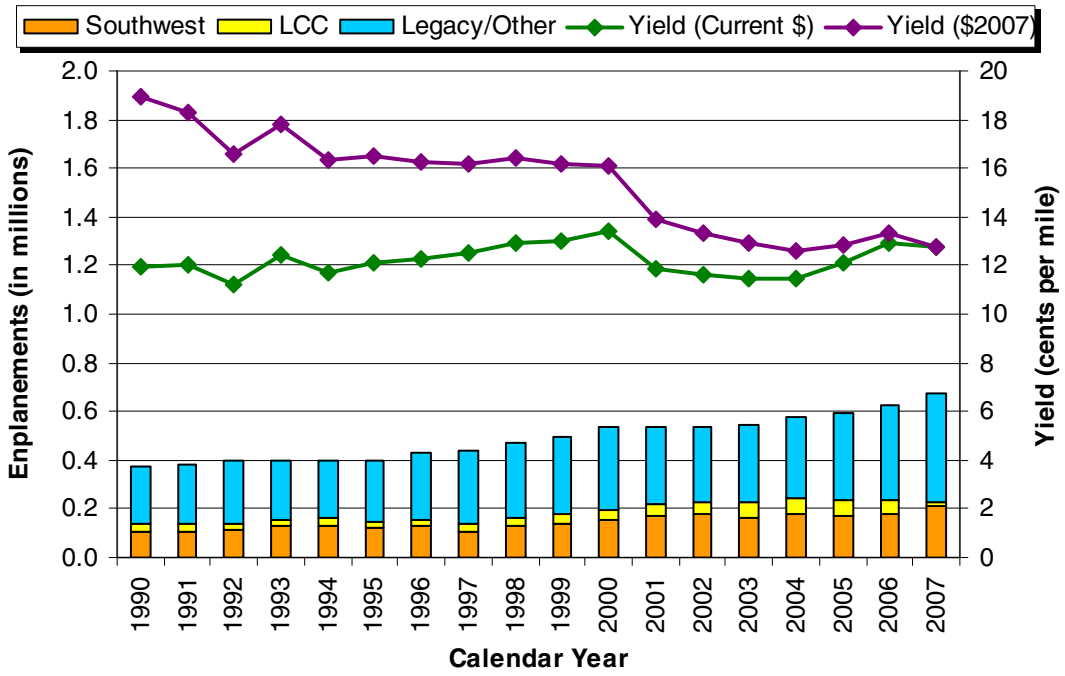
Sources: USDOT, *Air Passenger Origin-Destination Survey*; *Official Airline Guide* as of June 2008; Landrum & Brown analysis

B.8 South West Region

The South West region accounted for 8.3 percent of domestic O&D traffic at SDIA in 2007. Traffic between SDIA and the South West region markets averaged growth of 3.5 percent per year between 1990 and 2007, while the average fare paid has been declining at 2.3 percent per year due to strong influence from Southwest Airlines and recently ExpressJet (see **Figure B.8-1**). SDIA-South West passengers travel nearly equally between American, Continental, and Southwest. In 2007, Southwest Airlines had 31 percent of the total traffic to this region. The presence of other LCCs in this market is very minimal.

Only 52.5 percent of all passengers travel nonstop to final destinations in this region (see **Table B.8-1**). American Airlines, which has a major hub at DFW, is the only carrier that still providing nonstop service to Dallas from SDIA, after Delta dropped the service in 2005. Houston nonstop service expansion is due to Southwest at Houston Hobby airport. Continental, on the other hand, is reducing capacity by 2.3 percent at Houston Bush airport. Nonstop services to Austin, San Antonio and El Paso are being served by Southwest. There is no nonstop service to New Orleans, even though, it has 5.3 percent share of total O&D traffic from SDIA. ExpressJet just started nonstop service to Oklahoma City and Tulsa in May 2007, but it is planning to drop both services in late August 2008.

FIGURE B.8-1
SOUTH WEST REGION O&D PASSENGERS
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

TABLE B.8-1
2007 SOUTH WEST REGION O&D TRAFFIC & AIR SERVICE SUMMARY
San Diego International Airport

		Outbound O&D Pasengers					Air Service				
Market	GCD (miles)	2007	% of Tot.	% of Mkt. LCC	% of Pax. Flying Nonstop	Yield (cents per mile)	Avg. Dly. Flts.	Dly. Sts	Gauge	# of Carriers	08 Capacity Δ
Dallas	1171	197,860	29.1%	18.6%	68.3%	13.4	10	1,452	147	1	-3.7%
Houston	1303	141,150	20.8%	23.3%	81.4%	12.5	7	1,135	156	2	3.0%
Austin	1164	69,330	10.2%	67.9%	62.0%	12.3	2	270	137	1	-0.7%
San Antonio	1129	57,960	8.5%	59.7%	42.4%	11.3	1	137	137	1	78.7%
New Orleans	1599	35,730	5.3%	25.0%	0.0%	10.5	-	-	-	-	n.c.
Oklahoma City	1137	33,130	4.9%	30.1%	36.3%	12.9	1	63	50	1	-31.5%
El Paso	636	31,680	4.7%	81.1%	55.1%	19.6	1	137	136	1	-0.1%
Tulsa	1237	30,110	4.4%	30.8%	32.4%	12.2	1	55	50	1	-41.7%
Little Rock	1440	15,900	2.3%	46.7%	0.0%	10.4	-	-	-	-	n.c.
Corpus Christi	1224	6,150	0.9%	16.6%	0.0%	14.0	-	-	-	-	n.c.
Other		59,840	8.8%	26.6%	0.0%	13.6	-	-	-	-	n.c.
Total		678,840	100.0%	33.8%	52.5%	12.7	23	3,249	138	4	1.4%

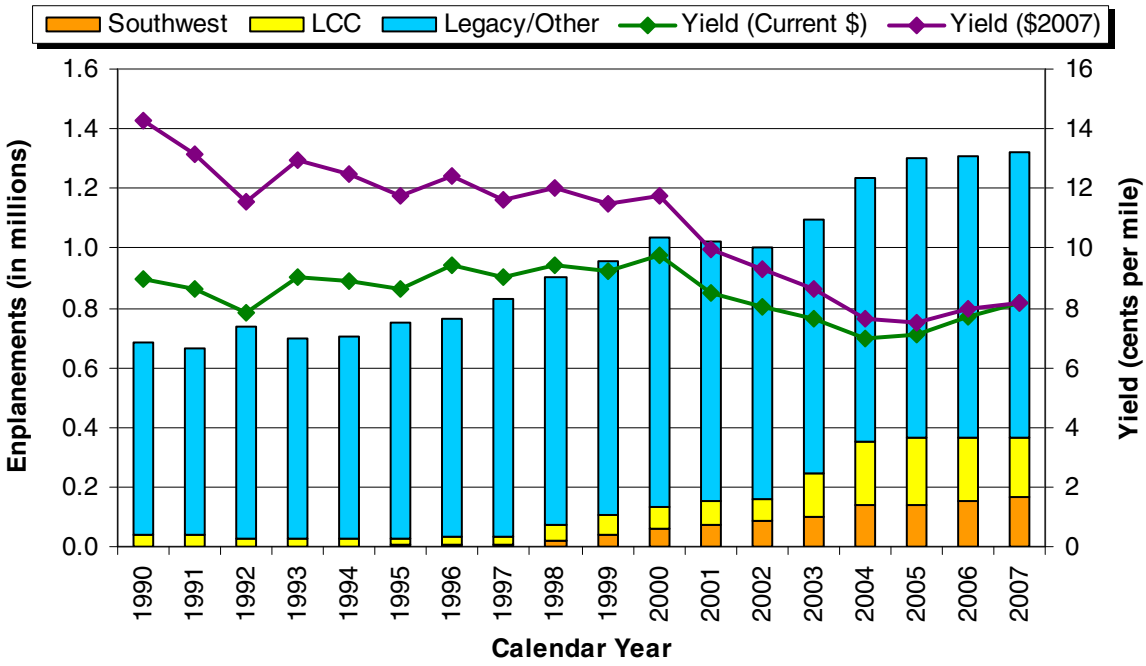
Sources: USDOT, *Air Passenger Origin-Destination Survey*; *Official Airline Guide* as of June 2008; Landrum & Brown analysis

B.9 Northeast

The Northeast region accounted for 16 percent of domestic O&D traffic at SDIA in 2007. SDIA-Northeast passengers predominantly travel on legacy airlines (almost 90 percent of the traffic, see **Figure B.9-1**). However, LCCs have grown rapidly at 14.3 percent per year from 1990 to 2007. In addition, Southwest and JetBlue began nonstop trans-continental service in 2003; resulting in lower fares and stimulated traffic. Annual average fare paid has been declining at 3.2 percent per year from 1990 to 2007 (see **Figure B.9-1**).

Only 51 percent of all passengers travel nonstop from SDIA to final destinations in this region (see **Table B.9-1**). This is due to significant presence of legacy carriers that provide service through their major hubs in as New York, Washington D.C. and Boston. Capacity reduction in New York is due to American Airlines service cuts to JFK by 42% in 2008. In additions, American Airlines also plans to drop service to Boston by September 2008. However, nonstop service to Boston will still be served by JetBlue; which began since June 2007. US Airways, which has a major hub at Philadelphia (PHL), increased its capacity to PHL by 26 percent from 2007 to 2008. The capacity reduction to Pittsburgh was due to US Airways dropping service to Pittsburgh in 2007.

FIGURE B.9-1
NORTHEAST REIGON O&D PASSENGERS
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

TABLE B.9-1
2007 NORTHEAST REGION O&D TRAFFIC & AIR SERVICE SUMMARY
San Diego International Airport

		Outbound O&D Pasengers					Air Service				
Market	GCD (miles)	2007	% of Tot.	% of Mkt. LCC	% of Pax. Flying Nonstop	Yield (cents per mile)	Avg. Dly. Flts.	Dly. Sts	Gauge	# of Carriers	08 Capacity Δ
New York	2,438	428,890	32.5%	27.1%	78.4%	8.19	9	1,429	166	4	-11.7%
Washington	2,288	329,810	25.0%	34.8%	57.3%	9.05	6	898	150	3	-2.6%
Boston	2,580	151,900	11.5%	18.5%	54.0%	7.98	2	266	176	2	4.4%
Philadelphia	2,363	131,930	10.0%	21.2%	50.7%	8.14	2	306	138	2	26.1%
Pittsburgh	2,113	44,060	3.3%	30.0%	0.0%	7.34	0	4	124	1	-100.0%
Bradley	2,502	43,930	3.3%	21.3%	0.0%	7.03	-	-	-	-	n.c.
Providence	2,567	36,090	2.7%	44.3%	0.0%	7.03	-	-	-	-	n.c.
Buffalo	2,196	26,800	2.0%	41.9%	0.0%	6.41	-	-	-	-	n.c.
Manchester	2,566	23,900	1.8%	46.9%	0.0%	6.53	-	-	-	-	n.c.
Albany	2,445	20,260	1.5%	39.0%	0.0%	6.70	-	-	-	-	n.c.
Other		83,010	6.3%	2.1%	0.0%	7.80	-	-	-	-	n.c.
Total		1,320,580	100.0%	27.5%	51.0%	8.14	18	2,903	158	8	-3.5%

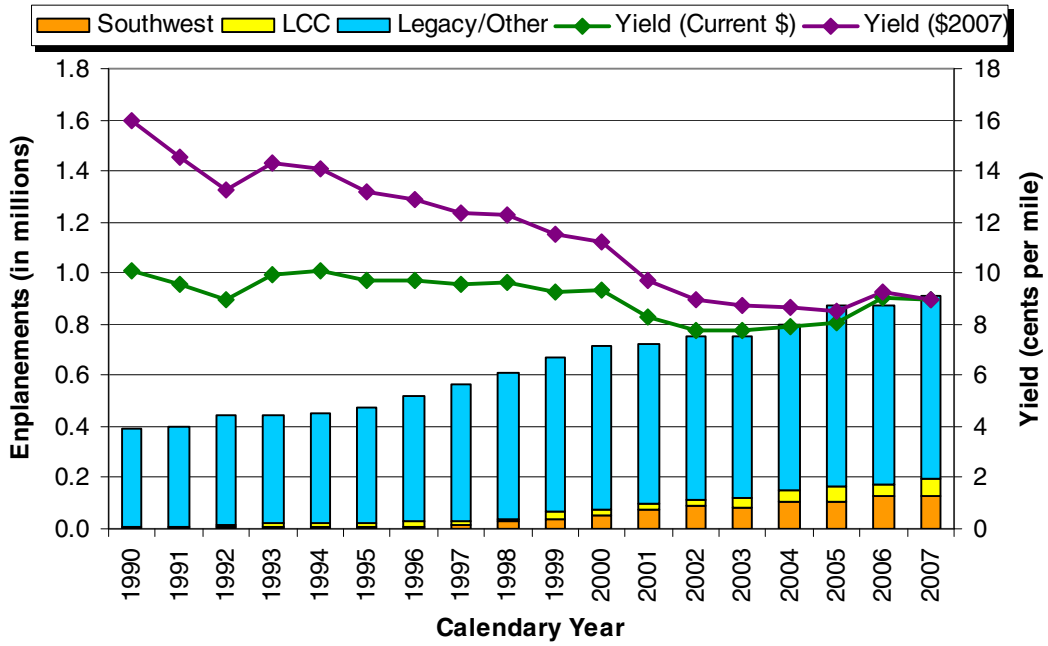
Sources: USDOT, *Air Passenger Origin-Destination Survey*; *Official Airline Guide* as of June 2008; Landrum & Brown analysis

B.10 South East Region

The South East region accounted for 11.2 percent of domestic O&D traffic at SDIA in 2007. SDIA-South East passengers predominantly travel on legacy carriers (almost 80 percent of the traffic, see **Figure B.10-1**). Traffic between SDIA and South East region market averaged growth of 5 percent per year between 1990 and 2007. Over the same period, LCCs have averaged growth rates of almost 20 percent per year. Overall, average fare paid has been declining at 3.3 percent per year.

This market has the lowest percent of passengers flying nonstop (21.7 percent) in 2007 (see **Table B.10-1**). In 2008, South East region has the highest service expansion of 10.5 percent. Capacity growth in the Atlanta market is largely due to service added by AirTran. Unlike other markets served by US Airways, US Airways is increasing capacity to Charlotte (one of its hub airports) by 7.1 percent compared to 2007.

FIGURE B.10-1
SOUTH EAST REGION O&D PASSENGERS
San Diego International Airport



Sources: USDOT, *Air Passenger Origin-Destination Survey*; Landrum & Brown analysis

TABLE B.10-1
2007 SOUTH EAST REGION O&D TRAFFIC & AIR SERVICE SUMMARY
San Diego International Airport

		Outbound O&D Pasengers					Air Service				
Market	GCD (miles)	2007	% of Tot.	% of Mkt. LCC	% of Pax. Flying Nonstop	Yield (cents per mile)	Avg. Dly. Flts.	Dly. Sts	Gauge	# of Carriers	08 Capacity Δ
Atlanta	1892	127,550	14.0%	25%	77.5%	10.64	7	1,250	183	2	14.2%
Orlando	2149	87,880	9.7%	35%	24.3%	7.57	0	14	137	1	-63.9%
Norfolk	2330	56,910	6.3%	20%	0.0%	8.38	-	-	-	-	n.c.
Nashville	1751	56,530	6.2%	76%	67.3%	8.42	2	273	137	1	0.3%
Tampa	2078	55,170	6.1%	26%	0.0%	7.39	-	-	-	-	n.c.
Fort Lauderdale	2268	52,890	5.8%	21%	0.0%	6.59	-	-	-	-	n.c.
Raleigh-Durham	2193	52,660	5.8%	25%	0.0%	7.59	-	-	-	-	n.c.
Charlotte	2077	50,920	5.6%	3%	46.0%	8.91	2	291	164	1	7.1%
Jacksonville	2089	34,170	3.8%	22%	0.0%	7.41	-	-	-	-	n.c.
Miami	2267	24,210	2.7%	3%	0.0%	9.21	-	-	-	-	n.c.
Cincinnati	1872	23,050	2.5%	0%	40.2%	14.02	2	285	153	1	-1.8%
Other		288,440	31.7%	9.7%	0.0%	9.89	-	-	-	-	100.0%
Total		910,380	100.0%	21.3%	21.7%	8.98	11	1,827	171	4	10.5%

Sources: USDOT, *Air Passenger Origin-Destination Survey*; *Official Airline Guide* as of June 2008; Landrum & Brown analysis

APPENDIX C – SDIA ECONOMETRIC MODEL RESULTS

This appendix presents econometric model statistics and results for the following forecasts:

1) Aggregate domestic O&D enplanements forecasts
2) Regional domestic O&D enplanements forecasts
3) Aggregate bound for international destinations enplanements forecasts
4) Regional bound for international destinations enplanements forecasts

C.1 Aggregate Domestic O&D Forecasts

Econometric models were developed to forecast domestic O&D enplanements based on historical SDIA yield, San Diego County historical personal income, and a dummy variable as independent variables. The econometric model statistics developed for aggregate forecasts are presented in **Table C.1-1**.

TABLE C.1-1
DOMESTIC O&D ENPLANEMENTS - AGGREGATE ECONOMETRIC MODEL STATISTICS
San Diego International Airport

Time Period: 1990-2007

Independent Variables: Yield, Personal Income (PI), Dummy [1/]

Regression Equation:

$$\text{Dom O\&D Enpax} = e^{7.926} \times \text{Yield}^{-0.295} \times \text{PI}^{0.739} \times e^{-0.074} \times \text{Dummy}$$

Regression Statistics: Adj. $R^2 = 0.9282$, $F = 74.21$

T-stat (constant) = 4.30	p-value (constant) = 0.0007
T-stat (Yield) = -2.19	p-value (yield) = 0.0462
T-stat (PI) = 5.48	p-value (PI) = 0.0001
T-stat (Dummy) = -2.71	p-value (Dummy) = 0.0168

[1/] Dummy at 1.0 in 2001, in 2002 and in 2003
Sources: USDOT, *Air Passenger Origin-Destination Survey*; SANDAG 2030 Regional Growth Forecast; Landrum & Brown analysis

C.1.1 Baseline Forecast

Using the aggregate econometric model as well as the baseline yield forecast and the Personal Income forecast provided by SANDAG, domestic O&D enplanements are expected to grow from 8.1 million in 2007 to 11.3 million in 2030. This represents an average annual growth of 1.4 percent (see **Table C.1-2**).

TABLE C.1-2
DOMESTIC O&D ENPLANEMENTS – BASELINE AGGREGATE LEVEL
San Diego International Airport

	INDEPENDENT VARIABLES			DEPENDENT VARIABLE
		SANDAG Personal Income [2/]		
Calendar Year	Yield [1/]	San Diego County	Dummy	Domestic O&D Enplanements
Actual				
1990	15.80	$81,664	0	5,034,630
1991	14.49	$81,392	0	5,093,890
1992	13.18	$82,635	0	5,295,870
1993	13.88	$82,332	0	5,331,250
1994	12.96	$82,668	0	5,734,630
1995	12.60	$83,966	0	6,022,320
1996	12.65	$87,350	0	6,246,080
1997	12.32	$91,762	0	6,443,280
1998	12.55	$99,358	0	6,616,930
1999	12.44	$103,766	0	6,829,130
2000	12.58	$107,623	0	7,038,390
2001	11.05	$107,481	1.00	6,743,810
2002	10.27	$108,353	1.00	6,666,370
2003	9.94	$106,572	1.00	6,814,710
2004	9.55	$112,105	0	7,342,370
2005	9.55	$115,958	0	7,724,980
2006	10.07	$118,964	0	7,739,110
2007	9.90	$121,802	0	8,148,830
Forecast				
2008	11.25	$125,357	0	8,231,000
2009	12.02	$129,142	0	8,250,000
2010	12.29	$132,129	0	8,336,000
2011	12.41	$135,537	0	8,471,000
2012	12.79	$139,656	0	8,584,000
2013	12.91	$143,799	0	8,746,000
2014	12.93	$147,882	0	8,925,000
2015	12.95	$151,927	0	9,101,000
2016	12.97	$156,262	0	9,288,000
2017	12.99	$159,645	0	9,432,000
2018	13.01	$162,656	0	9,558,000
2019	13.04	$165,527	0	9,677,000
2020	13.06	$168,590	0	9,804,000
2021	13.09	$171,434	0	9,920,000
2022	13.11	$173,859	0	10,018,000
2023	13.14	$176,458	0	10,122,000
2024	13.17	$179,880	0	10,260,000
2025	13.20	$183,813	0	10,418,000
2026	13.23	$187,603	0	10,569,000
2027	13.27	$191,372	0	10,717,000
2028	13.30	$196,135	0	10,906,000
2029	13.34	$201,075	0	11,099,000
2030	13.38	$205,972	0	11,288,000
CAGR 1990-2007	-2.7%	2.4%	n.a.	2.9%
CAGR 2007-2015	3.4%	2.8%	n.a.	1.4%
CAGR 2015-2030	0.2%	2.0%	n.a.	1.4%
CAGR 2007-2030	1.3%	2.3%	n.a.	1.4%

[1/] Yield in cents of 2004 $
[2/] Personal Income in millions of 2004 $
Sources: USDOT, *Air Passenger Origin-Destination Survey*; SANDAG 2030 Regional Growth Forecast; Landrum & Brown analysis

C.1.2 High Scenario Forecast

A high scenario forecast for domestic O&D enplanements was developed using optimistic yield forecast coupled with an optimistic scenario of San Diego County Personal Income forecast which assumes an average growth of 3.0 percent per annum for the entire forecast period.

As a result, domestic O&D enplanements are forecast to grow by 2.2 percent per annum over the forecast period, reaching 13.3 million enplanements by 2030 (see **Table C.1-3**).

TABLE C.1-3
DOMESTIC O&D ENPLANEMENTS – HIGH SCENARIO AGGREGATE LEVEL
San Diego International Airport

	INDEPENDENT VARIABLES			DEPENDENT VARIABLE
		SANDAG Personal Income [2/]		
Calendar Year	Yield [1/]	San Diego County	Dummy	Domestic O&D Enplanements
Actual				
1990	15.80	$81,664	0	5,034,630
1991	14.49	$81,392	0	5,093,890
1992	13.18	$82,635	0	5,295,870
1993	13.88	$82,332	0	5,331,250
1994	12.96	$82,668	0	5,734,630
1995	12.60	$83,966	0	6,022,320
1996	12.65	$87,350	0	6,246,080
1997	12.32	$91,762	0	6,443,280
1998	12.55	$99,358	0	6,616,930
1999	12.44	$103,766	0	6,829,130
2000	12.58	$107,623	0	7,038,390
2001	11.05	$107,481	1.00	6,743,810
2002	10.27	$108,353	1.00	6,666,370
2003	9.94	$106,572	1.00	6,814,710
2004	9.55	$112,105	0	7,342,370
2005	9.55	$115,958	0	7,724,980
2006	10.07	$118,964	0	7,739,110
2007	9.90	$121,802	0	8,148,830
Forecast				
2008	11.25	$125,456	0	8,231,000
2009	11.69	$129,220	0	8,318,000
2010	10.32	$133,096	0	8,821,000
2011	10.32	$137,089	0	9,015,000
2012	10.70	$141,202	0	9,117,000
2013	10.71	$145,438	0	9,314,000
2014	10.73	$149,801	0	9,514,000
2015	10.75	$154,295	0	9,719,000
2016	10.77	$158,924	0	9,929,000
2017	10.79	$163,692	0	10,142,000
2018	10.81	$168,602	0	10,360,000
2019	10.84	$173,660	0	10,582,000
2020	10.86	$178,870	0	10,808,000
2021	10.89	$184,236	0	11,039,000
2022	10.91	$189,764	0	11,275,000
2023	10.94	$195,456	0	11,516,000
2024	10.97	$201,320	0	11,761,000
2025	11.00	$207,360	0	12,011,000
2026	11.03	$213,580	0	12,265,000
2027	11.07	$219,988	0	12,525,000
2028	11.10	$226,588	0	12,790,000
2029	11.14	$233,385	0	13,060,000
2030	11.18	$240,387	0	13,335,000
CAGR 1990-2007	-2.7%	2.4%	n.a.	2.9%
CAGR 2007-2015	1.0%	3.0%	n.a.	2.2%
CAGR 2015-2030	0.3%	3.0%	n.a.	2.1%
CAGR 2007-2030	0.5%	3.0%	n.a.	2.2%

[1/] Yield in cents of 2004 $

[2/] Personal Income in millions of 2004 $

Sources: USDOT, *Air Passenger Origin-Destination Survey*; SANDAG 2030 Regional Growth Forecast; Landrum & Brown analysis

C.1.3 Low Scenario Forecast

A low scenario forecast for domestic O&D enplanements was developed using pessimistic yield forecast coupled with a pessimistic scenario of San Diego County Personal Income forecast which assumes:

1) Constant personal income during the 2009-2010 time period;
1) A three-year period with half the SANDAG annual growth rate (2011 to 2013);
1) SANDAG forecast growth rate thereafter.

As a result, domestic O&D enplanements are forecast to grow only 0.7 percent per annum over the forecast period, reaching 9.7 million enplanements by 2030 after a short-term drop in enplanements through 2010 due to skyrocketing fuel prices.

TABLE C.1-4
DOMESTIC O&D ENPLANEMENTS – LOW SCENARIO AGGREGATE LEVEL
San Diego International Airport

	INDEPENDENT VARIABLES			DEPENDENT VARIABLE
Calendar Year	Yield [1/]	SANDAG Personal Income [2/] San Diego County	Dummy	Domestic O&D Enplanements
Actual				
1990	15.80	$81,664	0	5,034,630
1991	14.49	$81,392	0	5,093,890
1992	13.18	$82,635	0	5,295,870
1993	13.88	$82,332	0	5,331,250
1994	12.96	$82,668	0	5,734,630
1995	12.60	$83,966	0	6,022,320
1996	12.65	$87,350	0	6,246,080
1997	12.32	$91,762	0	6,443,280
1998	12.55	$99,358	0	6,616,930
1999	12.44	$103,766	0	6,829,130
2000	12.58	$107,623	0	7,038,390
2001	11.05	$107,481	1.00	6,743,810
2002	10.27	$108,353	1.00	6,666,370
2003	9.94	$106,572	1.00	6,814,710
2004	9.55	$112,105	0	7,342,370
2005	9.55	$115,958	0	7,724,980
2006	10.07	$118,964	0	7,739,110
2007	9.90	$121,802	0	8,148,830
Forecast				
2008	11.25	$125,357	0	8,231,000
2009	12.58	$125,357	0	7,963,000
2010	13.92	$125,357	0	7,729,000
2011	15.19	$126,805	0	7,597,000
2012	15.59	$128,270	0	7,603,000
2013	15.84	$129,752	0	7,633,000
2014	15.88	$132,736	0	7,756,000
2015	15.93	$135,789	0	7,880,000
2016	15.97	$138,912	0	8,007,000
2017	16.13	$142,107	0	8,119,000
2018	16.30	$145,376	0	8,231,000
2019	16.46	$148,719	0	8,347,000
2020	16.62	$152,140	0	8,464,000
2021	16.79	$155,639	0	8,581,000
2022	16.98	$159,219	0	8,699,000
2023	17.17	$162,881	0	8,817,000
2024	17.37	$166,627	0	8,936,000
2025	17.58	$170,460	0	9,054,000
2026	17.82	$174,380	0	9,172,000
2027	18.05	$178,391	0	9,292,000
2028	18.28	$182,494	0	9,414,000
2029	18.52	$186,691	0	9,537,000
2030	18.76	$190,985	0	9,662,000
CAGR 1990-2007	-2.7%	2.4%	n.a.	2.9%
CAGR 2007-2015	6.1%	1.4%	n.a.	-0.4%
CAGR 2015-2030	1.1%	2.3%	n.a.	1.4%
CAGR 2007-2030	2.8%	2.0%	n.a.	0.7%

[1/] Yield in cents of 2004 $

[2/] Personal Income in millions of 2004 $

Sources: USDOT, *Air Passenger Origin-Destination Survey*; SANDAG 2030 Regional Growth Forecast; Landrum & Brown analysis

C.2 Regional Domestic O&D Forecasts

This section presents the forecast for nine regional segments of SDIA domestic O&D passenger enplanements. The segments include Northern California, Southern California, Pacific, North Mountain, South Mountain, Midwest, South West, Northeast, and South East.

A separate econometric regression model was developed for each region, reflecting the traffic growth, yield, and personal income characteristics of each region. The model did not provide reasonable results for Southern California and South East region, so a trend analysis was used to forecast future domestic O&D traffic for these two regions. The regression statistics and results are presented in the following sections.

C.2.1 Northern California Region

The econometric model statistics for Northern California region are presented in **Table C.2-1**.

TABLE C.2-1
NORTHERN CALIFORNIA – ECONOMETRIC MODEL STATISTICS
San Diego International Airport

Time Period: 1990-2007

Independent Variables: Yield, Personal Income (PI), Dummy [1/]

Regression Equation:

$$\text{Dom O\&D Enpax} = e^{8.782} \times \text{Yield}^{-0.778} \times \text{PI}^{0.312} \times e^{-0.110 \times \text{Dummy}}$$

Regression Statistics: Adj. $R^2 = 0.7624$, F = 19.19

T-stat (constant) = 9.34	p-value (constant) = 0.000000
T-stat (Yield) = -5.09	p-value (yield) = 0.0002
T-stat (PI) = 7.26	p-value (PI) = 0.000004
T-stat (Dummy) = -2.61	p-value (Dummy) = 0.0205

[1/] Dummy at 0.5 in 2001, 1.0 in 2002 and in 2003
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; Landrum & Brown analysis

As a result of the strong low-cost presence, Northern California seems to be more sensitive to ticket prices than the economy (see

Table C.2-1). Indeed, with a stronger coefficient on the yield, a variation of 1 percent in this variable will have more impact on the domestic O&D enplanements in Northern California than a variation of 1 percent in personal income. Therefore, despite a slightly lower growth in personal income than during the past seventeen years, the growth in yield will offset most of the growth in domestic O&D enplanements. Domestic O&D enplanements in Northern California are expected to grow only 0.8 percent per annum over the forecast period from 1.7 million in 2007 to 2.0 million in 2030 (see **Table C.2-2**).

TABLE C.2-2
DOMESTIC O&D ENPLANEMENTS – NORTHERN CALIFORNIA
San Diego International Airport

	INDEPENDENT VARIABLES					DEPENDENT VARIABLE
Calendar Year	Yield [1/]	W&P Personal Income [2/] San Diego County	W&P Personal Income [2/] Northern California	Combined Personal Income [2/]	Dummy	Domestic O&D Enplanements
Actual						
1990	20.41	$70,527	$373,220	$26,322,071,706	0	1,146,180
1991	16.13	$71,028	$379,591	$26,961,611,003	0	1,272,950
1992	16.31	$71,533	$386,072	$27,616,859,272	0	1,293,780
1993	16.16	$72,041	$392,663	$28,287,800,184	0	1,275,700
1994	14.73	$72,553	$399,366	$28,975,198,049	0	1,445,830
1995	14.20	$73,069	$406,184	$29,679,446,493	0	1,564,130
1996	15.35	$77,865	$434,248	$33,812,723,662	0	1,575,310
1997	15.41	$82,976	$464,251	$38,521,713,427	0	1,579,870
1998	15.20	$88,423	$496,327	$43,886,766,120	0	1,631,160
1999	16.69	$94,227	$530,620	$49,998,725,348	0	1,658,980
2000	18.12	$100,412	$567,282	$56,961,893,776	0	1,698,770
2001	17.87	$102,976	$557,994	$57,459,963,370	1	1,532,630
2002	16.75	$105,352	$544,809	$57,396,670,044	1	1,485,080
2003	17.99	$107,381	$548,224	$58,868,833,398	1	1,366,930
2004	17.77	$113,062	$570,931	$64,550,550,296	0	1,469,540
2005	18.44	$115,802	$584,533	$67,690,042,871	0	1,507,120
2006	19.49	$111,572	$568,491	$63,427,628,983	0	1,519,460
2007	17.08	$114,553	$582,363	$66,711,477,424	0	1,708,450
Forecast						
2008	19.24	$117,603	$596,588	$70,160,512,103	0	1,726,000
2009	20.77	$120,721	$611,148	$73,778,357,025	0	1,652,000
2010	22.09	$123,924	$626,155	$77,595,609,914	0	1,600,000
2011	22.68	$127,183	$641,526	$81,591,153,819	0	1,592,000
2012	23.05	$130,527	$657,273	$85,791,857,730	0	1,597,000
2013	23.64	$133,959	$673,406	$90,208,798,239	0	1,590,000
2014	23.66	$137,482	$689,937	$94,853,935,682	0	1,614,000
2015	23.68	$141,097	$706,879	$99,738,526,017	0	1,639,000
2016	23.70	$144,768	$724,262	$104,850,011,349	0	1,663,000
2017	23.72	$148,534	$742,073	$110,223,075,648	0	1,688,000
2018	23.74	$152,398	$760,322	$115,871,507,609	0	1,714,000
2019	23.76	$156,363	$779,019	$121,809,770,723	0	1,739,000
2020	23.79	$160,431	$798,176	$128,052,235,141	0	1,765,000
2021	23.81	$164,580	$817,885	$134,607,552,699	0	1,791,000
2022	23.84	$168,836	$838,081	$141,498,202,344	0	1,818,000
2023	23.87	$173,202	$858,775	$148,741,538,098	0	1,845,000
2024	23.90	$177,681	$879,980	$156,355,748,461	0	1,872,000
2025	23.93	$182,275	$901,709	$164,358,991,388	0	1,899,000
2026	23.96	$186,977	$924,103	$172,786,024,191	0	1,927,000
2027	23.99	$191,800	$947,053	$181,644,850,651	0	1,955,000
2028	24.03	$196,747	$970,574	$190,957,478,159	0	1,984,000
2029	24.07	$201,823	$994,678	$200,748,945,560	0	2,012,000
2030	24.10	$207,028	$1,019,381	$211,040,479,850	0	2,042,000
CAGR 1990-2007	-1.0%	2.9%	2.7%	5.6%		2.4%
CAGR 2007-2015	4.2%	2.6%	2.5%	5.2%		-0.5%
CAGR 2015-2030	0.1%	2.6%	2.5%	5.1%		1.5%
CAGR 2007-2030	1.5%	2.6%	2.5%	5.1%		0.8%

1/ Yield in cents of 2004 $
2/ Personal Income in millions of 2004 $
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; Landrum & Brown analysis

C.2.2 Pacific Region

The econometric model statistics for Pacific region are presented in **Table C.2-3**.

TABLE C.2-3
PACIFIC REGION – ECONOMETRIC MODEL STATISTICS
San Diego International Airport

Time Period: 1990-2007

Independent Variables: Yield, Personal Income (PI), Dummy [1/]

Regression Equation:

$$\text{Dom O\&D Enpax} = e^{3.008} \times \text{Yield}^{-0.901} \times \text{PI}^{0.515} \times e^{-0.091 \times \text{Dummy}}$$

Regression Statistics: Adj. $R^2 = 0.9854$, $F = 383.70$

T-stat (constant) = 2.95	p-value (constant) = 0.0106
T-stat (Yield) = -9.32	p-value (yield) = 0.000000
T-stat (PI) = 14.82	p-value (PI) = 0.000000
T-stat (Dummy) = -4.04	p-value (Dummy) = 0.0012

[1/] Dummy at 1.0 in 2001, in 2002 and in 2003
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; Landrum & Brown analysis

The Pacific region has been the fastest growing region over the historical period with 5.1 percent growth annually since 1990. Again, the increasing yield will have a major impact on the domestic O&D enplanements to this region, which is expected to grow 1.9 percent per annum over the forecast period to reach 1,269,000 enplanements by 2030 vs. 819,180 in 2007 (see **Table C.2-4**).

TABLE C.2-4
DOMESTIC O&D ENPLANEMENTS – PACIFIC REGION
San Diego International Airport

	INDEPENDENT VARIABLES					DEPENDENT VARIABLE
Calendar Year	Yield [1/]	W&P Personal Income [2/] San Diego County	W&P Personal Income [2/] Pacific	Combined Personal Income [2/]	Dummy	Domestic O&D Enplanements
Actual						
1990	15.07	$70,527	$250,726	$17,682,986,102	0	348,850
1991	14.48	$71,028	$258,327	$18,348,454,761	0	342,350
1992	13.90	$71,533	$266,179	$19,040,552,473	0	371,780
1993	12.38	$72,041	$274,290	$19,760,102,204	0	393,680
1994	11.24	$72,553	$282,669	$20,508,504,622	0	467,430
1995	10.61	$73,069	$291,327	$21,286,949,839	0	513,250
1996	10.44	$77,865	$304,736	$23,728,295,063	0	548,500
1997	10.92	$82,976	$318,840	$26,456,083,289	0	557,450
1998	11.01	$88,423	$333,676	$29,504,605,363	0	563,610
1999	11.40	$94,227	$349,282	$32,911,829,284	0	581,710
2000	11.94	$100,412	$365,702	$36,720,859,886	0	602,000
2001	10.70	$102,976	$369,078	$38,006,179,526	1	621,620
2002	10.35	$105,352	$373,056	$39,302,145,986	1	636,560
2003	10.15	$107,381	$376,776	$40,458,543,388	1	659,500
2004	10.26	$113,062	$391,634	$44,278,974,751	0	706,350
2005	10.00	$115,802	$396,807	$45,951,011,095	0	784,390
2006	10.27	$111,572	$409,725	$45,713,796,865	0	790,140
2007	10.15	$114,553	$419,191	$48,019,623,395	0	819,180
Forecast						
2008	11.55	$117,603	$428,913	$50,441,472,944	0	827,000
2009	12.29	$120,721	$438,873	$52,981,182,242	0	802,000
2010	12.39	$123,924	$449,144	$55,659,763,438	0	817,000
2011	12.44	$127,183	$459,666	$58,461,719,574	0	835,000
2012	12.82	$130,527	$470,445	$61,405,811,715	0	834,000
2013	12.87	$133,959	$481,489	$64,499,844,965	0	852,000
2014	12.89	$137,482	$492,806	$67,751,973,602	0	873,000
2015	12.91	$141,097	$504,403	$71,169,776,617	0	894,000
2016	12.93	$144,768	$516,323	$74,747,049,260	0	915,000
2017	12.95	$148,534	$528,525	$78,503,966,293	0	937,000
2018	12.97	$152,398	$541,017	$82,449,841,016	0	960,000
2019	12.99	$156,363	$553,804	$86,594,432,233	0	983,000
2020	13.02	$160,431	$566,894	$90,947,396,662	0	1,006,000
2021	13.04	$164,580	$580,403	$95,522,784,828	0	1,030,000
2022	13.07	$168,836	$594,235	$100,328,280,251	0	1,055,000
2023	13.10	$173,202	$608,397	$105,375,602,950	0	1,080,000
2024	13.13	$177,681	$622,897	$110,677,024,846	0	1,105,000
2025	13.16	$182,275	$637,744	$116,244,755,702	0	1,131,000
2026	13.19	$186,977	$653,090	$122,112,782,791	0	1,157,000
2027	13.22	$191,800	$668,806	$128,276,938,723	0	1,184,000
2028	13.26	$196,747	$684,900	$134,752,090,298	0	1,212,000
2029	13.29	$201,823	$701,383	$141,555,197,745	0	1,240,000
2030	13.33	$207,028	$718,263	$148,700,485,080	0	1,269,000
CAGR 1990-2007	-2.3%	2.9%	3.1%	6.1%		5.1%
CAGR 2007-2015	3.0%	2.6%	2.3%	5.0%		1.1%
CAGR 2015-2030	0.2%	2.6%	2.4%	5.0%		2.4%
CAGR 2007-2030	1.2%	2.6%	2.4%	5.0%		1.9%

[1/] Yield in cents of 2004 $
[2/] Personal Income in millions of 2004 $
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; Landrum & Brown analysis

C.2.3 North Mountain Region

The econometric model statistics for North Mountain region are presented in **Table C.2-5**.

TABLE C.2-5
NORTH MOUNTAIN REGION – ECONOMETRIC MODEL STATISTICS
San Diego International Airport

Time Period: 1990-2007

Independent Variables: Yield, Personal Income (PI), Dummy [1/]

Regression Equation:

$$\text{Dom O\&D Enpax} = e^{-0.303} \times \text{Yield}^{-0.364} \times \text{PI}^{0.541} \times e^{-0.110 \times \text{Dummy}}$$

Regression Statistics: Adj. $R^2 = 0.9601$, F = 137.33

T-stat (constant) = -0.19	p-value (constant) = 0.8508
T-stat (Yield) = -2.53	p-value (yield) = 0.0239
T-stat (PI) = 9.81	p-value (PI) = 0.000000
T-stat (Dummy) = -2.05	p-value (Dummy) = 0.0598

[1/] Dummy at 1.0 in 2001
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; Landrum & Brown analysis

The North Mountain region was the second smallest region in terms of domestic O&D enplanements in 2007. Enplanements to this region are forecast to increase to 136,000 enplanements by 2030 up from 78,460 enplanements in 2007 (see **Table C.2-6**).

TABLE C.2-6
DOMESTIC O&D ENPLANEMENTS – NORTH MOUNTAIN REGION
San Diego International Airport

	INDEPENDENT VARIABLES					DEPENDENT VARIABLE
Calendar Year	Yield [1/]	W&P Personal Income [2/] San Diego County	W&P Personal Income [2/] North Mountain	Combined Personal Income [2/]	Dummy	Domestic O&D Enplanements
Actual						
1990	21.81	$70,527	$49,068	$3,460,604,519	0	37,300
1991	20.69	$71,028	$50,754	$3,604,946,569	0	35,900
1992	20.13	$71,533	$52,505	$3,755,855,777	0	36,450
1993	19.95	$72,041	$54,325	$3,913,595,896	0	34,820
1994	16.82	$72,553	$56,215	$4,078,551,642	0	40,810
1995	15.56	$73,069	$58,179	$4,251,073,898	0	44,470
1996	14.91	$77,865	$60,641	$4,721,811,821	0	50,180
1997	15.51	$82,976	$63,209	$5,244,870,524	0	51,950
1998	15.32	$88,423	$65,889	$5,826,105,439	0	53,350
1999	16.02	$94,227	$68,685	$6,471,934,915	0	54,820
2000	15.83	$100,412	$71,601	$7,189,602,424	0	55,920
2001	14.62	$102,976	$74,714	$7,693,760,912	1	55,430
2002	14.27	$105,352	$75,496	$7,953,690,096	0	61,220
2003	13.54	$107,381	$77,396	$8,310,828,199	0	64,210
2004	13.47	$113,062	$81,743	$9,241,976,527	0	66,250
2005	13.79	$115,802	$84,379	$9,771,312,543	0	71,420
2006	15.31	$111,572	$89,365	$9,970,611,028	0	71,870
2007	15.00	$114,553	$91,444	$10,475,235,623	0	78,460
Forecast						
2008	17.11	$117,603	$93,578	$11,005,025,780	0	79,000
2009	18.25	$120,721	$95,761	$11,560,415,470	0	80,000
2010	18.42	$123,924	$98,017	$12,146,678,040	0	81,000
2011	18.49	$127,183	$100,326	$12,759,738,002	0	83,000
2012	18.87	$130,527	$102,689	$13,403,669,482	0	85,000
2013	18.94	$133,959	$105,108	$14,080,169,404	0	87,000
2014	18.96	$137,482	$107,585	$14,791,002,345	0	90,000
2015	18.98	$141,097	$110,121	$15,537,787,183	0	92,000
2016	19.00	$144,768	$112,722	$16,318,491,862	0	94,000
2017	19.02	$148,534	$115,384	$17,138,419,228	0	97,000
2018	19.04	$152,398	$118,109	$17,999,605,068	0	99,000
2019	19.07	$156,363	$120,899	$18,904,182,749	0	102,000
2020	19.09	$160,431	$123,756	$19,854,263,702	0	105,000
2021	19.12	$164,580	$126,692	$20,851,001,784	0	108,000
2022	19.14	$168,836	$129,699	$21,897,794,561	0	110,000
2023	19.17	$173,202	$132,777	$22,997,189,380	0	113,000
2024	19.20	$177,681	$135,928	$24,151,853,463	0	116,000
2025	19.23	$182,275	$139,155	$25,364,439,894	0	119,000
2026	19.26	$186,977	$142,478	$26,640,106,665	0	122,000
2027	19.30	$191,800	$145,881	$27,979,943,760	0	126,000
2028	19.33	$196,747	$149,365	$29,387,163,851	0	129,000
2029	19.37	$201,823	$152,933	$30,865,434,253	0	132,000
2030	19.41	$207,028	$156,587	$32,417,823,668	0	136,000
CAGR 1990-2007	-2.2%	2.9%	3.7%	6.7%		4.5%
CAGR 2007-2015	3.0%	2.6%	2.4%	5.1%		2.0%
CAGR 2015-2030	0.1%	2.6%	2.4%	5.0%		2.6%
CAGR 2007-2030	1.1%	2.6%	2.4%	5.0%		2.4%

[1/] Yield in cents of 2004 $
[2/] Personal Income in millions of 2004 $
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; Landrum & Brown analysis

C.2.4 South Mountain Region

The econometric model statistics for South Mountain region are presented in **Table C.2-7**.

TABLE C.2-7
SOUTH MOUNTAIN REGION – ECONOMETRIC MODEL STATISTICS
San Diego International Airport

Time Period: 1990-2007

Independent Variables: Yield, Personal Income (PI), Dummy [1/]

Regression Equation:

$$\text{Dom O\&D Enpax} = e^{12.408} \times \text{Yield}^{-0.519} \times \text{PI}^{0.132} \times e^{-0.117 \times \text{Dummy}}$$

Regression Statistics: Adj. $R^2 = 0.6449$, F = 11.29

T-stat (constant) = 15.30	p-value (constant) = 0.000000
T-stat (Yield) = -3.17	p-value (yield) = 0.0068
T-stat (PI) = 4.67	p-value (PI) = 0.0004
T-stat (Dummy) = -3.60	p-value (Dummy) = 0.0029

[1/] Dummy at 1.0 in 2001, in 2002 and in 2003
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; Landrum & Brown analysis

South Mountain is another region with a high-level of low-cost activity mainly due to Southwest presence. This region is again largely affected by yield over personal income (see Appendix A for regression details). As a result, domestic O&D enplanements to this region will grow very slowly through 2030 at 0.3 percent annually from 1.4 million in 2007 to 1.5 million in 2030 (see **Table C.2-8**).

TABLE C.2-8
DOMESTIC O&D ENPLANEMENTS – SOUTH MOUNTAIN REGION
San Diego International Airport

	INDEPENDENT VARIABLES					DEPENDENT VARIABLE
Calendar Year	Yield [1/]	W&P Personal Income [2/] San Diego County	W&P Personal Income [2/] South Mountain	Combined Personal Income [2/]	Dummy	Domestic O&D Enplanements
Actual						
1990	20.94	$70,527	$270,276	$19,061,790,645	0	1,192,070
1991	19.44	$71,028	$283,314	$20,123,201,714	0	1,159,890
1992	19.84	$71,533	$296,996	$21,244,990,116	0	1,083,010
1993	18.62	$72,041	$311,355	$22,430,355,049	0	1,198,550
1994	16.51	$72,553	$326,428	$23,683,297,344	0	1,384,740
1995	17.31	$73,069	$342,249	$25,007,756,231	0	1,350,080
1996	16.39	$77,865	$364,315	$28,367,401,620	0	1,412,530
1997	16.70	$82,976	$387,863	$32,183,358,875	0	1,366,910
1998	18.25	$88,423	$412,995	$36,518,272,363	0	1,346,510
1999	19.74	$94,227	$439,819	$41,442,846,081	0	1,356,420
2000	20.49	$100,412	$468,452	$47,038,214,474	0	1,354,870
2001	19.09	$102,976	$484,738	$49,916,349,807	1	1,276,500
2002	18.04	$105,352	$488,796	$51,495,648,413	1	1,198,060
2003	17.91	$107,381	$495,345	$53,190,676,236	1	1,246,930
2004	17.85	$113,062	$522,334	$59,056,108,166	0	1,325,770
2005	18.72	$115,802	$545,886	$63,214,678,065	0	1,399,080
2006	19.40	$111,572	$559,217	$62,392,960,240	0	1,397,920
2007	18.91	$114,553	$577,126	$66,111,543,889	0	1,441,860
Forecast						
2008	21.48	$117,603	$595,467	$70,028,662,794	0	1,456,000
2009	23.13	$120,721	$614,224	$74,149,700,736	0	1,412,000
2010	24.20	$123,924	$633,508	$78,506,822,714	0	1,390,000
2011	24.66	$127,183	$653,240	$83,081,022,030	0	1,386,000
2012	25.04	$130,527	$673,435	$87,901,480,266	0	1,386,000
2013	25.50	$133,959	$694,109	$92,982,108,683	0	1,383,000
2014	25.52	$137,482	$715,276	$98,337,591,255	0	1,393,000
2015	25.53	$141,097	$736,954	$103,981,930,811	0	1,402,000
2016	25.56	$144,768	$758,926	$109,868,127,486	0	1,412,000
2017	25.58	$148,534	$781,558	$116,087,936,706	0	1,422,000
2018	25.60	$152,398	$804,871	$122,660,736,622	0	1,431,000
2019	25.62	$156,363	$828,885	$129,606,982,448	0	1,441,000
2020	25.65	$160,431	$853,622	$136,947,408,943	0	1,451,000
2021	25.67	$164,580	$878,545	$144,590,920,228	0	1,461,000
2022	25.70	$168,836	$904,200	$152,661,441,891	0	1,470,000
2023	25.73	$173,202	$930,608	$161,183,082,521	0	1,480,000
2024	25.76	$177,681	$957,791	$170,181,246,534	0	1,490,000
2025	25.79	$182,275	$985,773	$179,681,713,607	0	1,500,000
2026	25.82	$186,977	$1,014,122	$189,617,518,290	0	1,509,000
2027	25.85	$191,800	$1,043,290	$200,102,997,503	0	1,519,000
2028	25.89	$196,747	$1,073,300	$211,168,460,765	0	1,529,000
2029	25.92	$201,823	$1,104,175	$222,848,009,654	0	1,539,000
2030	25.96	$207,028	$1,135,943	$235,171,981,318	0	1,548,000
CAGR 1990-2007	-0.6%	2.9%	4.6%	7.6%		1.1%
CAGR 2007-2015	3.8%	2.6%	3.1%	5.8%		-0.3%
CAGR 2015-2030	0.1%	2.6%	2.9%	5.6%		0.7%
CAGR 2007-2030	1.4%	2.6%	3.0%	5.7%		0.3%

[1/] Yield in cents of 2004 $
[2/] Personal Income in millions of 2004 $
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; Landrum & Brown analysis

C.2.5 Midwest Region

The econometric model statistics for Midwest region are presented in **Table C.2-9**.

TABLE C.2-9
MIDWEST REGION – ECONOMETRIC MODEL STATISTICS
San Diego International Airport

Time Period: 1990-2007

Independent Variables: Yield, Personal Income (PI), Dummy [1/]

Regression Equation:

$$\text{Dom O\&D Enpax} = e^{2.844} \times \text{Yield}^{-0.261} \times \text{PI}^{0.443} \times e^{-0.081 \times \text{Dummy}}$$

Regression Statistics: Adj. $R^2 = 0.9765$, F = 236.63

T-stat (constant) = 1.67	p-value (constant) = 0.1165
T-stat (Yield) = -2.68	p-value (yield) = 0.0179
T-stat (PI) = 7.71	p-value (PI) = 0.000002
T-stat (Dummy) = -3.59	p-value (Dummy) = 0.0029

[1/] Dummy at 1.0 in 2001 and in 2002
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; Landrum & Brown analysis

Since 1990, domestic O&D enplanements to the Midwest region have been growing by about 500,000 through 2007. Over the forecast period, enplanements to this region are expected to grow by almost 600,000 reaching 1.8 million by 2030 (see **Table C.2-10**).

TABLE C.2-10
DOMESTIC O&D ENPLANEMENTS – MIDWEST REGION
San Diego International Airport

	INDEPENDENT VARIABLES					DEPENDENT VARIABLE
Calendar Year	Yield [1/]	W&P Personal Income [2/] San Diego County	W&P Personal Income [2/] Midwest	Combined Personal Income [2/]	Dummy	Domestic O&D Enplanements
Actual						
1990	14.94	$70,527	$1,514,576	$106,818,526,660	0	659,830
1991	14.03	$71,028	$1,548,186	$109,964,576,476	0	647,850
1992	11.75	$71,533	$1,582,561	$113,205,367,140	0	747,290
1993	13.00	$72,041	$1,617,720	$116,542,135,208	0	704,870
1994	12.03	$72,553	$1,653,679	$119,979,366,250	0	721,870
1995	11.89	$73,069	$1,690,458	$123,520,085,612	0	758,050
1996	11.62	$77,865	$1,754,646	$136,625,472,810	0	810,890
1997	11.17	$82,976	$1,821,318	$151,125,712,255	0	851,130
1998	11.42	$88,423	$1,890,575	$167,170,312,187	0	881,330
1999	11.14	$94,227	$1,962,518	$184,922,153,619	0	903,510
2000	11.10	$100,412	$2,037,253	$204,564,635,182	0	946,240
2001	9.61	$102,976	$2,040,124	$210,083,805,214	1	927,720
2002	8.71	$105,352	$2,054,507	$216,446,452,754	1	954,760
2003	8.42	$107,381	$2,080,226	$223,376,766,039	0	1,007,820
2004	8.12	$113,062	$2,111,634	$238,745,536,851	0	1,073,510
2005	8.17	$115,802	$2,136,954	$247,463,555,909	0	1,129,330
2006	8.60	$111,572	$2,209,258	$246,491,300,216	0	1,127,970
2007	8.58	$114,553	$2,250,314	$257,780,275,429	0	1,164,220
Forecast						
2008	9.74	$117,603	$2,292,515	$269,606,670,711	0	1,176,000
2009	10.39	$120,721	$2,335,803	$281,980,475,532	0	1,180,000
2010	10.55	$123,924	$2,380,666	$295,021,622,403	0	1,199,000
2011	10.61	$127,183	$2,426,655	$308,629,300,638	0	1,221,000
2012	10.99	$130,527	$2,473,800	$322,897,718,053	0	1,234,000
2013	11.07	$133,959	$2,522,130	$337,862,027,807	0	1,257,000
2014	11.08	$137,482	$2,571,676	$353,559,153,508	0	1,282,000
2015	11.10	$141,097	$2,622,469	$370,022,504,401	0	1,308,000
2016	11.12	$144,768	$2,675,067	$387,264,078,648	0	1,334,000
2017	11.15	$148,534	$2,728,728	$405,308,818,584	0	1,360,000
2018	11.17	$152,398	$2,783,473	$424,195,672,675	0	1,387,000
2019	11.19	$156,363	$2,839,324	$443,965,277,125	0	1,415,000
2020	11.22	$160,431	$2,896,305	$464,657,124,461	0	1,443,000
2021	11.24	$164,580	$2,955,853	$486,474,365,629	0	1,472,000
2022	11.27	$168,836	$3,016,633	$509,316,330,196	0	1,501,000
2023	11.30	$173,202	$3,078,671	$533,231,928,115	0	1,531,000
2024	11.32	$177,681	$3,141,991	$558,272,173,333	0	1,562,000
2025	11.36	$182,275	$3,206,622	$584,487,058,224	0	1,593,000
2026	11.39	$186,977	$3,274,100	$612,181,460,400	0	1,624,000
2027	11.42	$191,800	$3,343,005	$641,188,420,882	0	1,657,000
2028	11.46	$196,747	$3,413,367	$671,569,800,942	0	1,690,000
2029	11.49	$201,823	$3,485,218	$703,397,075,109	0	1,723,000
2030	11.53	$207,028	$3,558,588	$736,727,256,677	0	1,758,000
CAGR 1990-2007	-3.2%	2.9%	2.4%	5.3%		3.4%
CAGR 2007-2015	3.3%	2.6%	1.9%	4.6%		1.5%
CAGR 2015-2030	0.3%	2.6%	2.1%	4.7%		2.0%
CAGR 2007-2030	1.3%	2.6%	2.0%	4.7%		1.8%

[1/] Yield in cents of 2004 $
[2/] Personal Income in millions of 2004 $
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; Landrum & Brown analysis

C.2.6 South West Region

The econometric model statistics for South West region are presented in **Table C.2-11**.

TABLE C.2-11
SOUTH WEST REGION – ECONOMETRIC MODEL STATISTICS
San Diego International Airport

Time Period: 1990-2007

Independent Variables: Yield, PCPI, Dummy [1/]

Regression Equation:

$$\text{Dom O\&D Enpax} = e^{0.976} \times \text{Yield}^{-0.305} \times \text{PCPI}^{0.628} \times e^{-0.072 \times \text{Dummy}}$$

Regression Statistics: Adj. $R^2 = 0.9617$, F = 143.13

T-stat (constant) = 0.47	p-value (constant) = 0.6428
T-stat (Yield) = -1.98	p-value (yield) = 0.0681
T-stat (PCPI) = 7.64	p-value (PCPI) = 0.000002
T-stat (Dummy) = -2.58	p-value (Dummy) = 0.0219

[1/] Dummy at 0.75 in 2001, 1.0 in 2002 and in 2003
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; Landrum & Brown analysis

Traffic to the South West region is less sensitive to yield than in the Northern California or South Mountain regions. As a result, growth in domestic O&D enplanements through 2030 will be slightly lower but in line with the growth of personal income of the region. Enplanements will increase from 678,840 in 2007 to 940,000 in 2030 at an average annual growth rate of 1.4 percent (see **Table C.2-12**).

TABLE C.2-12
DOMESTIC O&D ENPLANEMENTS – SOUTH WEST REGION
San Diego International Airport

	INDEPENDENT VARIABLES					DEPENDENT VARIABLE
Calendar Year	Yield [1/]	W&P Per Capita [2/] Personal Income San Diego County	W&P Per Capita [2/] Personal Income South West	Combined Per Capita [2/] Personal Income	Dummy	Domestic O&D Enplanements
Actual						
1990	17.28	$28,072	$22,431	$629,669,938	0	377,860
1991	16.63	$28,027	$22,722	$636,820,533	0	382,050
1992	15.13	$27,983	$23,017	$644,074,624	0	396,970
1993	16.24	$27,939	$23,315	$651,410,526	0	395,260
1994	14.93	$27,894	$23,618	$658,805,374	0	399,710
1995	15.00	$27,850	$23,925	$666,306,856	0	400,840
1996	14.80	$29,243	$24,825	$725,958,591	0	430,810
1997	14.73	$30,705	$25,764	$791,070,063	0	438,700
1998	14.99	$32,240	$26,742	$862,165,372	0	474,820
1999	14.73	$33,852	$27,762	$939,814,241	0	499,620
2000	14.68	$35,545	$28,826	$1,024,635,688	0	533,850
2001	12.65	$35,948	$29,277	$1,052,453,643	1	534,790
2002	12.18	$36,307	$28,815	$1,046,199,542	1	532,790
2003	11.75	$36,752	$28,879	$1,061,374,963	1	544,910
2004	11.49	$38,536	$29,539	$1,138,299,316	0	579,750
2005	11.68	$39,434	$29,822	$1,175,992,732	0	591,090
2006	12.11	$37,931	$29,764	$1,128,969,584	0	624,560
2007	11.61	$38,296	$30,069	$1,151,503,967	0	678,840
Forecast						
2008	13.13	$38,766	$30,459	$1,180,757,064	0	686,000
2009	14.00	$39,250	$30,862	$1,211,316,739	0	683,000
2010	14.30	$39,749	$31,279	$1,243,301,110	0	690,000
2011	14.43	$40,248	$31,699	$1,275,823,766	0	699,000
2012	14.81	$40,753	$32,122	$1,309,077,399	0	705,000
2013	14.95	$41,265	$32,547	$1,343,066,877	0	715,000
2014	14.97	$41,783	$32,990	$1,378,408,508	0	726,000
2015	14.99	$42,308	$33,430	$1,414,344,899	0	738,000
2016	15.01	$42,851	$33,887	$1,452,106,149	0	750,000
2017	15.03	$43,402	$34,351	$1,490,909,769	0	762,000
2018	15.05	$43,959	$34,821	$1,530,711,271	0	774,000
2019	15.07	$44,523	$35,298	$1,571,568,788	0	787,000
2020	15.10	$45,095	$35,781	$1,613,542,858	0	799,000
2021	15.12	$45,685	$36,279	$1,657,420,783	0	813,000
2022	15.15	$46,282	$36,785	$1,702,464,524	0	826,000
2023	15.18	$46,888	$37,297	$1,748,776,171	0	839,000
2024	15.21	$47,501	$37,816	$1,796,311,287	0	853,000
2025	15.24	$48,122	$38,343	$1,845,136,939	0	867,000
2026	15.27	$48,752	$38,878	$1,895,368,669	0	881,000
2027	15.30	$49,391	$39,420	$1,946,996,918	0	896,000
2028	15.34	$50,038	$39,970	$2,000,015,810	0	910,000
2029	15.37	$50,693	$40,527	$2,054,458,516	0	925,000
2030	15.41	$51,357	$41,093	$2,110,400,011	0	940,000
CAGR 1990-2007	-2.3%	1.8%	1.7%	3.6%		3.5%
CAGR 2007-2015	3.2%	1.3%	1.3%	2.6%		1.0%
CAGR 2015-2030	0.2%	1.3%	1.4%	2.7%		1.6%
CAGR 2007-2030	1.2%	1.3%	1.4%	2.7%		1.4%

[1/] Yield in cents of 2004 $
[2/] Per Capita Personal Income in 2004 $
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; Landrum & Brown analysis

C.2.7 Northeast Region

The econometric model statistics for Northeast region are presented in **Table C.2-13**.

TABLE C.2-13
NORTHEAST REGION – ECONOMETRIC MODEL STATISTICS
San Diego International Airport

Time Period: 1990-2007

Independent Variables: Yield, Personal Income (PI), Dummy [1/]

Regression Equation:

$$\text{Dom O\&D Enpax} = e^{-2.322} \times \text{Yield}^{-0.220} \times \text{PI}^{0.638} \times e^{-0.089 \times \text{Dummy}}$$

Regression Statistics: Adj. $R^2 = 0.9877$, F = 456.18

T-stat (constant) = -1.71	p-value (constant) = 0.1088
T-stat (Yield) = -3.10	p-value (yield) = 0.0079
T-stat (PI) = 13.68	p-value (PI) = 0.000000
T-stat (Dummy) = -4.18	p-value (Dummy) = 0.0009

[1/] Dummy at 1.0 in 2001 and in 2002
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; Landrum & Brown analysis

Northeast is one of the two regions where traffic from SDIA is mainly driven by the economy due to its long-haul characteristics. Third largest region after Northern California and the South Mountain region in 2007 in terms of domestic O&D enplanements, the Northeast region is expected to become the largest region in 2030 with 2.4 million enplanements. Enplaned passenger traffic to this region will grow 2.6 percent annually (see **Table C.2-14**).

TABLE C.2-14
DOMESTIC O&D ENPLANEMENTS – NORTHEAST REGION
San Diego International Airport

	INDEPENDENT VARIABLES					DEPENDENT VARIABLE
Calendar Year	Yield [1/]	W&P Personal Income [2/] San Diego County	W&P Personal Income [2/] Northeast	Combined Personal Income [2/]	Dummy	Domestic O&D Enplanements
Actual						
1990	13.00	$70,527	$1,736,047	$122,438,169,349	0	685,460
1991	12.00	$71,028	$1,755,367	$124,680,215,912	0	666,030
1992	10.54	$71,533	$1,774,925	$126,965,677,791	0	734,480
1993	11.82	$72,041	$1,794,722	$129,293,578,206	0	698,980
1994	11.36	$72,553	$1,814,763	$131,666,504,936	0	702,120
1995	10.70	$73,069	$1,835,051	$134,085,305,861	0	747,830
1996	11.33	$77,865	$1,912,807	$148,940,752,819	0	762,010
1997	10.62	$82,976	$1,993,950	$165,450,035,214	0	828,280
1998	10.93	$88,423	$2,078,631	$183,798,791,860	0	901,020
1999	10.45	$94,227	$2,167,008	$204,190,617,060	0	954,850
2000	10.70	$100,412	$2,259,246	$226,855,369,488	0	1,037,920
2001	9.07	$102,976	$2,284,667	$235,265,900,091	1	1,021,200
2002	8.46	$105,352	$2,277,563	$239,945,849,203	1	1,001,940
2003	7.84	$107,381	$2,287,349	$245,617,863,022	0	1,096,910
2004	6.96	$113,062	$2,367,205	$267,640,947,426	0	1,236,530
2005	6.85	$115,802	$2,408,099	$278,862,680,166	0	1,304,330
2006	7.23	$111,572	$2,455,781	$273,996,347,748	0	1,306,910
2007	7.42	$114,553	$2,497,572	$286,104,390,174	0	1,320,580
Forecast						
2008	8.46	$117,603	$2,540,638	$298,786,698,226	0	1,334,000
2009	9.02	$120,721	$2,584,895	$312,051,140,079	0	1,352,000
2010	9.11	$123,924	$2,630,680	$326,004,327,102	0	1,387,000
2011	9.15	$127,183	$2,677,714	$340,559,637,851	0	1,425,000
2012	9.53	$130,527	$2,726,027	$355,820,143,981	0	1,453,000
2013	9.57	$133,959	$2,775,649	$371,823,135,590	0	1,492,000
2014	9.59	$137,482	$2,826,610	$388,608,033,553	0	1,534,000
2015	9.61	$141,097	$2,878,942	$406,210,072,319	0	1,578,000
2016	9.63	$144,768	$2,933,477	$424,673,610,601	0	1,622,000
2017	9.65	$148,534	$2,989,064	$443,977,645,189	0	1,668,000
2018	9.67	$152,398	$3,045,724	$464,162,187,160	0	1,715,000
2019	9.70	$156,363	$3,103,477	$485,268,931,564	0	1,764,000
2020	9.72	$160,431	$3,162,345	$507,338,157,861	0	1,814,000
2021	9.75	$164,580	$3,224,444	$530,678,996,589	0	1,865,000
2022	9.77	$168,836	$3,287,780	$555,095,587,025	0	1,918,000
2023	9.80	$173,202	$3,352,377	$580,638,431,698	0	1,973,000
2024	9.83	$177,681	$3,418,262	$607,360,154,982	0	2,029,000
2025	9.86	$182,275	$3,485,459	$635,312,097,371	0	2,087,000
2026	9.89	$186,977	$3,556,142	$664,916,681,606	0	2,147,000
2027	9.93	$191,800	$3,628,273	$695,902,779,652	0	2,209,000
2028	9.96	$196,747	$3,701,884	$728,334,560,985	0	2,272,000
2029	10.00	$201,823	$3,777,005	$762,286,438,373	0	2,337,000
2030	10.04	$207,028	$3,853,667	$797,816,960,496	0	2,404,000
CAGR 1990-2007	-3.2%	2.9%	2.2%	5.1%		3.9%
CAGR 2007-2015	3.3%	2.6%	1.8%	4.5%		2.3%
CAGR 2015-2030	0.3%	2.6%	2.0%	4.6%		2.8%
CAGR 2007-2030	1.3%	2.6%	1.9%	4.6%		2.6%

[1/] Yield in cents of 2004 $
[2/] Personal Income in millions of 2004 $
Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; Landrum & Brown analysis

C.2.8 Southern California Region

Unlike other regions, the model did not provide reasonable results for the Southern California regions so a trend analysis was used to forecast future domestic O&D traffic for this region.

Southern California traffic out of SDIA has been decreasing over time since 1990. Based on a trend analysis ($R^2 = 0.7472$), domestic O&D enplanements for this region are expected to decrease by 2.5 percent a year reaching 15,000 enplanements by 2030 (see **Table C.2-15**).

TABLE C.2-15
DOMESTIC O&D ENPLANEMENTS – SOUTHERN CALIFORNIA REGION
San Diego International Airport

Calendar Year	Domestic O&D Enplanements
Actual	
1990	192,170
1991	185,730
1992	184,620
1993	182,160
1994	121,060
1995	168,980
1996	139,850
1997	202,040
1998	154,070
1999	151,930
2000	92,400
2001	53,020
2002	46,120
2003	74,990
2004	84,100
2005	64,260
2006	30,170
2007	26,860
Forecast	
2008	27,000
2009	26,000
2010	25,000
2011	24,000
2012	23,000
2013	23,000
2014	22,000
2015	21,000
2016	21,000
2017	20,000
2018	20,000
2019	19,000
2020	19,000
2021	18,000
2022	18,000
2023	17,000
2024	17,000
2025	17,000
2026	16,000
2027	16,000
2028	16,000
2029	15,000
2030	15,000
CAGR 1990-2007	-10.9%
CAGR 2007-2015	-3.0%
CAGR 2015-2030	-2.2%
CAGR 2007-2030	-2.5%

Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; SANDAG 2030 Regional Growth Forecast; Landrum & Brown analysis

C.2.9 South East Region

Similar to Southern California region, the model did not provide reasonable results for the South East regions so a trend analysis was used to forecast future domestic O&D traffic for this region.

Growth in enplaned passenger activity to the South East region is also largely driven by the growth in the economy. Similarly to the Northeast region, this long-haul destination is less sensitive to yield. Due to its fast growing economy, traffic to the South East will grow at a robust rate of 3.3 percent per annum over the next twenty-three years becoming the third largest region in terms of domestic O&D enplanements reaching 1,901,000 by 2030 (trend analysis with $R^2 = 0.9822$).

TABLE C.2-16
DOMESTIC O&D ENPLANEMENTS – SOUTH EAST REGION
San Diego International Airport

Calendar Year	Domestic O&D Enplanements
Actual	
1990	394,910
1991	401,140
1992	447,490
1993	447,230
1994	451,060
1995	474,690
1996	516,000
1997	566,950
1998	611,060
1999	667,290
2000	716,420
2001	720,900
2002	749,840
2003	752,510
2004	800,570
2005	873,960
2006	870,110
2007	910,380
Forecast	
2008	920,000
2009	957,000
2010	995,000
2011	1,034,000
2012	1,074,000
2013	1,114,000
2014	1,155,000
2015	1,197,000
2016	1,239,000
2017	1,282,000
2018	1,326,000
2019	1,370,000
2020	1,415,000
2021	1,461,000
2022	1,507,000
2023	1,554,000
2024	1,601,000
2025	1,650,000
2026	1,699,000
2027	1,748,000
2028	1,798,000
2029	1,849,000
2030	1,901,000
CAGR 1990-2007	5.0%
CAGR 2007-2015	3.5%
CAGR 2015-2030	3.1%
CAGR 2007-2030	3.3%

Sources: USDOT, *Air Passenger Origin-Destination Survey*; Woods & Poole Economics 2007; SANDAG 2030 Regional Growth Forecast; Landrum & Brown analysis

C.3 Aggregate Bound for International Destinations Enplanements Forecasts

Econometric models were developed to forecast bound for international destinations enplanements based on the World GDP forecast provided by the FAA Aerospace Forecasts 2008-2025. The econometric model statistics developed for aggregate forecasts are presented in **Table C.3-1**.

TABLE C.3-1
BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS - AGGREGATE ECONOMETRIC MODEL STATISTICS
San Diego International Airport

Time Period: 1993-2007

Independent Variables: World GDP (excludes U.S.)

Regression Equation:

Enpax = -331,732.27 + 33.63 x GDP

Regression Statistics: Adj. R^2 = 0.9229, F = 168.47

T-stat (constant) = -5.97	p-value (constant) = 0.00005
T-stat (GDP) = 12.98	p-value (GDP) = 0.000000

Sources: FAA Aerospace Forecasts 2008-2025; Landrum & Brown analysis

As a result, bound for international destinations enplanements are expected to grow 4.6 percent annually from 540,054 enplanements in 2007 to 1,512,200 enplanements in 2030 (see **TableC.3-2**).

TABLE C.3-2
BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS FORECASTS – AGGREGATE LEVEL
San Diego International Airport

Calendar Year	World GDP (Billions) (2000 $)	Enplanements Bound for Int'l Destinations
Actual		
1990	n.a.	215,321
1991	n.a.	178,383
1992	n.a.	205,324
1993	17,013	223,427
1994	17,989	245,591
1995	17,977	261,100
1996	18,742	280,058
1997	19,205	345,212
1998	19,568	344,107
1999	20,342	395,533
2000	21,343	435,091
2001	21,720	395,593
2002	22,134	383,716
2003	22,711	391,678
2004	23,642	477,454
2005	24,475	504,158
2006	25,517	528,626
2007	26,577	540,054
Forecast		
2008	27,605	573,300
2009	28,666	607,500
2010	29,712	641,400
2011	30,746	674,800
2012	31,797	708,700
2013	32,850	742,800
2014	33,940	778,000
2015	35,077	814,700
2016	36,285	853,800
2017	37,523	893,800
2018	38,761	933,800
2019	40,027	974,700
2020	41,320	1,016,500
2021	42,634	1,058,900
2022	43,984	1,102,500
2023	45,383	1,147,700
2024	46,842	1,194,900
2025	48,359	1,243,900
2026	49,912	1,294,100
2027	51,517	1,345,900
2028	53,176	1,399,500
2029	54,891	1,454,900
2030	56,664	1,512,200
CAGR 1990-2007	n.a.	5.6%
CAGR 2007-2015	3.5%	5.3%
CAGR 2015-2030	3.2%	4.2%
CAGR 2007-2030	3.3%	4.6%

Sources: FAA Aerospace Forecasts 2008-2025; Landrum & Brown analysis

International O&D enplanements were derived from the bound for international destinations enplanements forecast presented in this appendix. Future levels of international O&D enplanements were assumed for each world region based on the level of bound for international destinations enplanements. International O&D enplanements were then discounted from the original bound for international destinations enplanements forecast in order to get the final forecast presented in Chapter 5. **Table C.3.-3** provides the detail of the calculations.

TABLE C.3-3
BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS AND INTERNATIONAL O&D ENPLANEMENTS FORECASTS
San Diego International Airport

Calendar Year	Original Bound for Int'l Destinations Enplanements Forecast	Int'l O&D Enplanements Forecast	Additional [1/] Int'l O&D Enplanements	Final Bound for Int'l Destinations Enplanements Forecast
Actual				
1990	215,321	55,002	-	215,321
1991	178,383	82,495	-	178,383
1992	205,324	82,103	-	205,324
1993	223,427	96,616	-	223,427
1994	245,591	88,064	-	245,591
1995	261,100	70,693	-	261,100
1996	280,058	106,157	-	280,058
1997	345,212	107,351	-	345,212
1998	344,107	152,745	-	344,107
1999	395,533	143,120	-	395,533
2000	435,091	127,739	-	435,091
2001	395,593	136,612	-	395,593
2002	383,716	143,043	-	383,716
2003	391,678	122,025	-	391,678
2004	477,454	67,326	-	477,454
2005	504,158	115,670	-	504,158
2006	528,626	113,778	-	528,626
2007	540,054	121,006	-	540,054
Forecast				
2008	573,300	117,000	-	573,300
2009	607,500	133,500	12,400	595,100
2010	641,400	139,600	18,600	622,800
2011	674,800	145,900	24,900	649,900
2012	708,700	162,300	41,300	667,400
2013	742,800	169,700	48,800	694,000
2014	778,000	177,500	56,500	721,500
2015	814,700	205,100	84,100	730,600
2016	853,800	216,400	95,400	758,400
2017	893,800	228,500	107,500	786,300
2018	933,800	241,400	120,500	813,300
2019	974,700	255,400	134,400	840,300
2020	1,016,500	270,500	149,600	866,900
2021	1,058,900	280,400	159,400	899,500
2022	1,102,500	290,600	169,600	932,900
2023	1,147,700	301,300	180,200	967,500
2024	1,194,900	312,300	191,400	1,003,500
2025	1,243,900	323,800	202,800	1,041,100
2026	1,294,100	335,800	214,800	1,079,300
2027	1,345,900	348,200	227,200	1,118,700
2028	1,399,500	361,100	240,100	1,159,400
2029	1,454,900	374,600	253,500	1,201,400
2030	1,512,200	388,600	267,500	1,244,700
CAGR 1990-2007	5.6%	4.7%	n.a.	5.6%
CAGR 2007-2015	5.3%	6.8%	n.a.	3.8%
CAGR 2015-2030	4.2%	4.4%	8.0%	3.6%
CAGR 2007-2030	4.6%	5.2%	n.a.	3.7%

[1/] To be discounted from the original bound for international destinations enplanements forecast.

Sources: Airport Records; U.S. DOT, Air Passenger Origin-Destination Survey; U.S. DOT, Schedule T-100; FAA Aerospace Forecasts various years; Landrum & Brown analysis

C.4 Regional Bound for International Destinations Enplanements Forecasts

Bound for international destination enplanements forecasts are segmented into four world regions and presented as follow.

C.4.1 Europe, Africa, and Middle East

The econometric model statistics developed for the Europe/Africa/Middle East region is presented in **Table C.4-1**.

TABLE C.4-1
BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS – EUROPE/AFRICA/MIDDLE EAST - ECONOMETRIC MODEL STATISTICS
San Diego International Airport

Time Period: 1990-2007

Independent Variables: Europe/Africa/Middle East GDP

Regression Equation:

Enpax = -223.369.63 + 37.71 x GDP

Regression Statistics: Adj. R^2 = 0.9324, F = 235.50

T-stat (constant) = -9.10	p-value (constant) = 0.000000
T-stat (GDP) = 15.35	p-value (GDP) = 0.000000

Sources: FAA Aerospace Forecasts 2008-2025; Landrum & Brown analysis

Due to its very mature characteristics, Europe/Africa/Middle East region is expected to be one of the slowest in terms of GDP growth over the forecast period. The Europe/Africa/Middle East region will remain the largest region in terms of bound for international destinations enplanements with 589,400 enplanements forecast for 2030 (see **Table C.4-2**).

TABLE C.4-2
BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS – EUROPE/AFRICA/MIDDLE EAST REGION
San Diego International Airport

Calendar Year	Europe/Africa/ Middle East GDP (Billions of 2000 $)	Enplanements Bound for Int'l Destinations
Actual		
1990	8,265	93,990
1991	8,364	74,381
1992	8,499	91,292
1993	8,499	95,545
1994	9,033	101,912
1995	8,732	109,147
1996	8,909	113,190
1997	9,177	138,245
1998	9,467	149,209
1999	9,966	170,369
2000	10,360	188,297
2001	10,556	164,881
2002	10,712	163,921
2003	10,900	165,423
2004	11,227	208,200
2005	11,509	213,961
2006	11,910	226,120
2007	12,300	238,447
Forecast		
2008	12,646	251,400
2009	12,998	264,600
2010	13,350	277,700
2011	13,697	290,700
2012	14,052	304,000
2013	14,408	317,300
2014	14,770	330,800
2015	15,138	344,600
2016	15,517	358,800
2017	15,904	373,200
2018	16,286	387,500
2019	16,691	402,600
2020	17,105	418,100
2021	17,522	433,700
2022	17,941	449,400
2023	18,368	465,400
2024	18,809	481,900
2025	19,259	498,700
2026	19,722	516,000
2027	20,195	533,700
2028	20,680	551,800
2029	21,177	570,400
2030	21,685	589,400
CAGR 1990-2007	2.4%	5.6%
CAGR 2007-2015	2.6%	4.7%
CAGR 2007-2015	2.4%	3.6%
CAGR 2007-2030	2.5%	4.0%

Sources: FAA Aerospace Forecasts 2008-2025; Landrum & Brown analysis

C.4.2 Asia-Pacific

The econometric model statistics developed for the Asia-Pacific region forecasts are presented in **Table C.4-3**.

TABLE C.4-3
BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS
ASIA-PACIFIC REGION - ECONOMETRIC MODEL STATISTICS
San Diego International Airport

Time Period: 1990-2007

Independent Variables: Pacific GDP

Regression Equation:

Enpax = -28,999.03 + 12.44 x GDP

Regression Statistics: Adj. R^2 = 0.7813, F = 61.72

T-stat (constant) = -2.23	p-value (constant) = 0.0408
T-stat (GDP) = 7.86	p-value (GDP) = 0.000001

Sources: FAA Aerospace Forecasts 2008-2025; Landrum & Brown analysis

Asia-Pacific region is in constant expansion as shown in its GDP forecast. The Asia-Pacific region will remain the second largest region in terms of bound for international destinations enplanements and is expected to reach 390,500 enplanements by 2030 (see **Table C.4-4**).

TABLE C.4-4
BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS
ASIA-PACIFIC REGION
San Diego International Airport

Calendar Year	Pacific GDP (Billions) (2000 $)	Enplanements Bound for Int'l Destinations
Actual		
1990	5,844	36,896
1991	6,105	37,910
1992	6,306	41,097
1993	6,477	46,074
1994	6,813	57,407
1995	7,092	67,695
1996	7,619	67,961
1997	7,690	79,525
1998	7,685	77,238
1999	7,920	81,057
2000	8,386	89,955
2001	8,551	82,649
2002	8,801	73,847
2003	9,138	63,032
2004	9,596	78,314
2005	10,031	97,716
2006	10,534	104,886
2007	11,066	106,679
Forecast		
2008	11,611	113,300
2009	12,182	120,300
2010	12,735	127,100
2011	13,282	133,700
2012	13,835	140,500
2013	14,391	147,300
2014	14,973	154,400
2015	15,593	162,000
2016	16,265	170,200
2017	16,954	178,600
2018	17,641	187,000
2019	18,330	195,400
2020	19,033	204,000
2021	19,745	212,700
2022	20,488	221,800
2023	21,267	231,300
2024	22,086	241,300
2025	22,948	251,800
2026	23,823	262,500
2027	24,731	273,600
2028	25,674	285,100
2029	26,653	297,100
2030	27,670	309,500
CAGR 1990-2007	3.8%	6.4%
CAGR 2007-2015	4.4%	5.4%
CAGR 2007-2015	3.9%	4.4%
CAGR 2007-2030	4.1%	4.7%

Sources: FAA Aerospace Forecasts 2008-2025; Landrum & Brown analysis

C.4.3 Canada

The econometric model statistics developed for Canada region forecasts are presented in **Table C.4-5**.

TABLE C.4-5
BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS – CANADA - ECONOMETRIC MODEL STATISTICS
San Diego International Airport

Time Period: 1993-2007

Independent Variables: Canada GDP

Regression Equation:

Enpax = -31,148.19 + 159.34 x GDP

Regression Statistics: Adj. R^2 = 0.7311, F = 39.06

T-stat (constant) = -1.71	p-value (constant) = 0.1108
T-stat (GDP) = 6.25	p-value (GDP) = 0.00003

Sources: FAA Aerospace Forecasts 2008-2025; Landrum & Brown analysis

Similarly to the Europe/Africa/Middle East region, Canada is a well established and mature world destination. As such, bound for international destinations enplanements are expected to grow 2.8 percent annually over the forecast period to reach 183,300 enplanements by 2030.

TABLE C.4-6
BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS – CANADA
San Diego International Airport

Calendar Year	Canada GDP (Billions) (2000 $)	Enplanements Bound for Int'l Destinations
Actual		
1990	n.a.	48,242
1991	n.a.	43,840
1992	n.a.	46,925
1993	550	55,373
1994	571	52,593
1995	590	52,002
1996	602	60,540
1997	625	86,070
1998	652	67,565
1999	689	86,821
2000	725	89,990
2001	738	90,079
2002	759	82,564
2003	774	98,317
2004	797	112,447
2005	822	101,182
2006	844	90,474
2007	867	96,385
Forecast		
2008	889	99,700
2009	914	103,200
2010	940	106,900
2011	965	110,500
2012	991	114,200
2013	1,013	117,400
2014	1,036	120,800
2015	1,060	124,100
2016	1,084	127,600
2017	1,109	131,100
2018	1,135	134,900
2019	1,160	138,500
2020	1,185	142,200
2021	1,212	146,000
2022	1,239	149,800
2023	1,266	153,700
2024	1,293	157,600
2025	1,321	161,600
2026	1,350	165,800
2027	1,379	170,000
2028	1,409	174,300
2029	1,440	178,800
2030	1,472	183,300
CAGR 1990-2007	n.a.	4.2%
CAGR 2007-2015	2.5%	3.2%
CAGR 2007-2015	2.2%	2.6%
CAGR 2007-2030	2.3%	2.8%

Sources: FAA Aerospace Forecasts 2008-2025; Landrum & Brown analysis

C.4.4 Mexico, Central America, South America, and Caribbean

The econometric model statistics developed for the Mexico/Central America/South America/Caribbean region forecasts are presented in **Table C.4-7**.

TABLE C.4-7
BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS – MEXICO/CENTRAL AMERICA/SOUTH AMERICA/CARIBBEAN - ECONOMETRIC MODEL STATISTICS
San Diego International Airport

Time Period: 1990-2007	
Independent Variables: Mexico/Central America/South America GI	
Regression Equation:	
Enpax = -100,567.95 + 87.88 x GDP	
Regression Statistics: Adj. R^2 = 0.9311, F = 230.80	
T-stat (constant) = -9.69	p-value (constant) = 0.000000
T-stat (GDP) = 15.19	p-value (GDP) = 0.000000

Sources: FAA Aerospace Forecasts 2008-2025; Landrum & Brown analysis

Mexico/Central America/South America/Caribbean is probably the region with the most potential for growth through 2030 with an expected GDP growth of 6.1 percent per annum.

TABLE C.4-8
BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS – MEXICO/CENTRAL AMERICA/SOUTH AMERICA/CARIBBEAN REGION
San Diego International Airport

Calendar Year	Mexico/Central America/South America/Caribbean GDP (Billions of 2000 $)	Enplanements Bound for Int'l Destinations
Actual		
1990	1,358	36,193
1991	1,402	22,252
1992	1,438	26,010
1993	1,487	26,435
1994	1,572	33,679
1995	1,563	32,256
1996	1,612	38,367
1997	1,713	41,372
1998	1,765	50,095
1999	1,767	57,286
2000	1,872	66,849
2001	1,875	57,984
2002	1,862	63,384
2003	1,900	64,906
2004	2,021	78,493
2005	2,114	91,299
2006	2,229	107,146
2007	2,345	98,543
Forecast		
2008	2,459	108,000
2009	2,571	117,100
2010	2,687	126,700
2011	2,803	136,200
2012	2,919	145,700
2013	3,038	155,500
2014	3,161	165,600
2015	3,287	175,900
2016	3,419	186,800
2017	3,557	198,100
2018	3,700	209,800
2019	3,847	221,900
2020	3,998	234,300
2021	4,155	247,100
2022	4,316	260,400
2023	4,482	274,100
2024	4,654	288,200
2025	4,831	302,700
2026	5,017	318,000
2027	5,211	333,900
2028	5,412	350,400
2029	5,620	367,500
2030	5,837	385,300
CAGR 1990-2007	3.3%	6.1%
CAGR 2007-2015	4.3%	7.5%
CAGR 2007-2015	3.9%	5.4%
CAGR 2007-2030	4.0%	6.1%

Sources: FAA Aerospace Forecasts 2008-2025; Landrum & Brown analysis

Additional analyses were conducted in order to divide the Mexico/Central America/South America/Caribbean into three regions for more accuracy. Trend Analyses were developed for the Central America and South America/Caribbean regions in order to forecast them separately. **Table C.4-9** presents the results of these trend analyses as well as the enplanements forecast for each of the three regions: Mexico, Central America, and South America/Caribbean. Mexico will be the fastest growing region with an annual growth rate of 7.1 percent. Mexico will then become the third largest region after Europe/Africa/Middle East and Pacific. Based on a trend analysis (R^2 = 0.9161), bound for international enplanements for the Central America region are expected to increase by 6.4 percent a year reaching 75,600 enplanements by 2030. For South America and the Caribbean, bound for international enplanements are expected to increase to 125,900 by 2030 (Trend Analysis R^2 =0.9591).

TABLE C.4-9
BOUND FOR INTERNATIONAL DESTINATIONS ENPLANEMENTS – MEXICO, CENTRAL AMERICA, SOUTH AMERICA/CARIBBEAN
San Diego International Airport

Calendar Year	Mexico	Central America	South America/ Caribbean	Total
Actual				
1990	21,238	4,350	10,605	36,193
1991	11,706	3,341	7,205	22,252
1992	12,878	4,092	9,040	26,010
1993	12,402	4,214	9,819	26,435
1994	14,900	5,446	13,333	33,679
1995	12,979	5,790	13,487	32,256
1996	17,722	5,916	14,729	38,367
1997	14,943	7,167	19,262	41,372
1998	15,769	9,763	24,563	50,095
1999	21,328	10,769	25,189	57,286
2000	26,449	11,011	29,389	66,849
2001	20,523	10,186	27,275	57,984
2002	25,522	9,656	28,206	63,384
2003	26,196	10,704	28,006	64,906
2004	30,297	15,397	32,799	78,493
2005	35,150	19,263	36,886	91,299
2006	44,957	20,466	41,723	107,146
2007	38,170	17,974	42,399	98,543
Forecast				
2008	43,200	19,600	45,200	108,000
2009	47,800	21,300	48,000	117,100
2010	52,800	23,000	50,900	126,700
2011	57,300	24,900	54,000	136,200
2012	61,900	26,800	57,000	145,700
2013	66,500	28,800	60,200	155,500
2014	71,300	30,900	63,400	165,600
2015	76,000	33,100	66,800	175,900
2016	81,300	35,300	70,200	186,800
2017	86,800	37,700	73,600	198,100
2018	92,500	40,100	77,200	209,800
2019	98,500	42,600	80,800	221,900
2020	104,600	45,200	84,500	234,300
2021	110,900	47,900	88,300	247,100
2022	117,600	50,600	92,200	260,400
2023	124,500	53,500	96,100	274,100
2024	131,700	56,400	100,100	288,200
2025	139,100	59,400	104,200	302,700
2026	147,100	62,500	108,400	318,000
2027	155,600	65,600	112,700	333,900
2028	164,500	68,900	117,000	350,400
2029	173,900	72,200	121,400	367,500
2030	183,800	75,600	125,900	385,300
CAGR 1990-2007	3.5%	8.7%	8.5%	6.1%
CAGR 2007-2015	9.0%	7.9%	5.8%	7.5%
CAGR 2007-2015	6.1%	5.7%	4.3%	5.4%
CAGR 2007-2030	7.1%	6.4%	4.8%	6.1%

Sources: FAA Aerospace Forecasts 2008-2025; Landrum & Brown analysis