SECTION 2
AVIATION DEMAND FORECASTS

2.1 INTRODUCTION

Forecasts of aviation demand provide a basis for determining the type, size, and timing of aviation facility development. Consequently, the forecasts influence virtually all phases of the planning process.

Forecasting future activity involves both analytical techniques and subjective considerations. Regardless of the methodology used, assumptions must be made about how internal and external forces might change in the future. Factors that can influence aviation activity levels include regulatory policy on the local and national level, technological innovations, aviation industry trends, market demand and local fluctuations in population, income and employment. The objective of forecasting is to develop a realistic measure of the potential for these changes so their effect can be estimated in a rational manner, and preparations can be made to smoothly and cost-effectively accommodate their impact on airport facilities.

The development of forecasts of aviation demand for Melbourne International Airport (MLB or the Airport) is presented in the following sub-sections of this Section:

- Historical Activity Review
- Factors Affecting Future Aviation Demand
- Forecast of Annual Enplaned Passengers
- Forecast of Enplaned Cargo
- Forecasts of Annual Aircraft Operations
- Based Aircraft Forecast
- Annual Instrument Approaches
- Comparisons with Other Forecast Efforts
- Design Day/Design Hour Activity Forecasts
- Summary of Forecasts

The forecasts presented herein provide five, ten, and twenty-year estimates of future aviation activity levels at the Airport. The association of activity levels with specific time frames is necessary in order to develop a schedule of improvement needs and assess the ability of the airport to finance the recommended development plan. It is important, however, to view the projections independent of specific years, and consider the projections to be planning activity levels which identify trigger points for future facility expansion decisions. If actual growth occurs faster than anticipated, the implementation schedule should be reassessed and accelerated as necessary. Similarly, slower than projected growth may warrant deferment of planned improvements to a later date. Actual activity growth should be frequently compared to projected growth so schedule corrections can be identified and implemented.

2.2 HISTORICAL ACTIVITY REVIEW

This section presents a brief review of long-term historical trends for various elements of aviation activity at the Airport. Elements reviewed include airlines serving the Airport, annual enplaned passengers, annual aircraft operations, top origin and destination markets, and annual air cargo.

2.2.1 Airlines Serving the Airport

Figure 2.1 depicts the air carrier and commuter airlines that have operated at the Airport since calendar year 1995. As shown, the total number of airlines reached a peak in 1996 when seven different airlines provided air service to MLB. Several carriers ceased operating at the Airport during 1997. The number of airlines serving the Airport began to rebound in 1999 when Atlantic Southeast Airlines began service. The Airport is currently served by three different airlines. Delta Air Lines is the only air carrier that has operated in each year depicted in Figure 2.1.

Figure 2.1

AIRLINES SERVING THE AIRPORT	CY 1995	CY 1996	CY 1997	CY 1998	CY 1999	CY 2000	CY 2001	CY 2002
AIR CARRIER								
Continnental	X	X					X	
Delta	X	X	X	X	X	X	X	X
Spirit				X	X	X	X	
US Airways	X	X	X					
COMMUTER								
Atlantic Southeast Airlines					X	X	X	X
Comair	X	X					X	X
Flagship (d/b/a American Eagle)	X	X						
Florida Gulf (d/b/a US Airways Express)	X	X						
Gulfstream		X						X

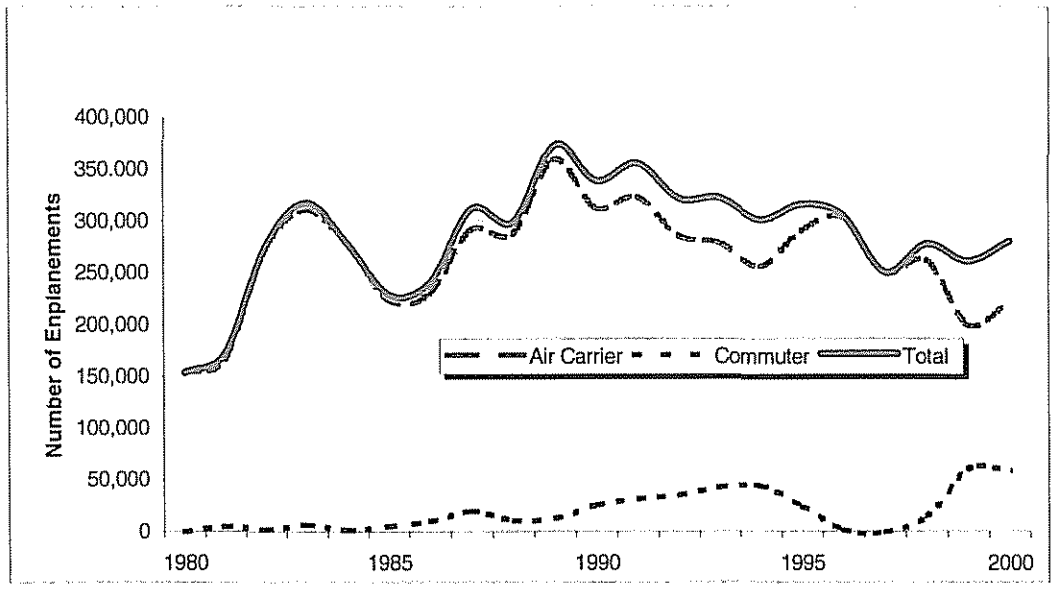
Source: Melbourne Airport Authority aviation activity reports
Compiled by Reynolds. Smith and Hills, Inc

2.2.2 Annual Enplaned Passengers

Figure 2.2 presents the 20-year history of passengers boarding (enplanements) scheduled commercial service aircraft at the Airport. Air Carrier enplanements reached a peak in 1990. Since that time, the commuter air carriers began enplaning a larger percentage of the total enplanements at the Airport. This trend was no longer evident however when the level of commuter enplanements began decreasing in 1996 as a result of commuter carriers leaving the market. Commuter enplanements began to grow in 1999 when Atlantic Southeast Airlines began service, and peaked in 2000 when commuter enplanements were at the highest level posted in the last 20 years. Total enplanements have grown at an average annual growth rate of 3.0% over the last 20 years.

Figure 2.2

HISTORICAL ENPLANEMENT



Year	Commercial Service Air Carrier	Commercial Service Commuter	Total Enplanements	Annual Increase (Decrease)
1981	153,979	323	154,302	
1982	167,369	5,542	172,911	12.1%
1983	274,162	2,091	276,253	59.8%
1984	311,175	6,629	317,804	15.0%
1985	276,963	1,481	278,444	-12.4%
1986	224,040	5.230	229,270	-17.7%
1987	230,509	10,272	240,781	5.0%
1988	291,915	19,901	311.816	29.5%
1989	288,087	11,113	299,200	-4.0%
1990	360,126	13,462	373,588	24.9%
1991	313,242	26,029	339,271	-9.2%
1992	323,720	32,165	355,885	4.9%
1993	286,390	35,622	322,012	-9.5%
1994	279,449	43,259	322,708	0.2%
1995	257,106	44,630	301,736	-6.5%
1996	291,521	25,079	316,600	4.9%
1997	304,084	2,079	306,163	-3.3%
1998	250,878	0	250,878	-18.1%
1999	263,068	15,085	278,153	10.9%
2000	200,728	61,152	261,880	-5.9%
2001	221,729	59,233	280,962	7.3%
Average Annual Growth	1.8%	29.8%	3.0%	

Source: Terminal Area Forecast (TAF)
Compiled by Reynolds, Smith and Hills, Inc

2.2.3 Annual Aircraft Operations

An aircraft operation is defined as either a takeoff or a landing. Figure 2.3 presents a 20-year history of the annual aircraft operations recorded at MLB in four categories: air carrier, commuter/air taxi ("commuter"), general aviation, and military. An air carrier operation represents either a takeoff or a landing of a commercial aircraft with a seating capacity of more than 60 seats. Similarly, a commuter operation represents either a takeoff or a landing of a scheduled commercial aircraft with a seating capacity of 60 seats or less and includes air-taxi operations, which are nonscheduled flights or for-hire flights of aircraft with 60 or fewer seats.

Air carrier operations were at their highest annual level of 11,800 more than 10 years ago. Since then these operations have been decreasing each year until 1999 when these operations increased to nearly 5,700 annual operations. These operations have remained at approximately 5,000 since that time period.

Commuter aircraft operations peaked in 1993 at just over 12,000 annually. Since then, these aircraft operations have dropped as the airlines operating this type of aircraft began to reduce service in the Melbourne market beginning in 1996. These operations began to grow during 1999 and exceeded 2,600 operations in 2001, the highest number of commuter operations over the last five years.

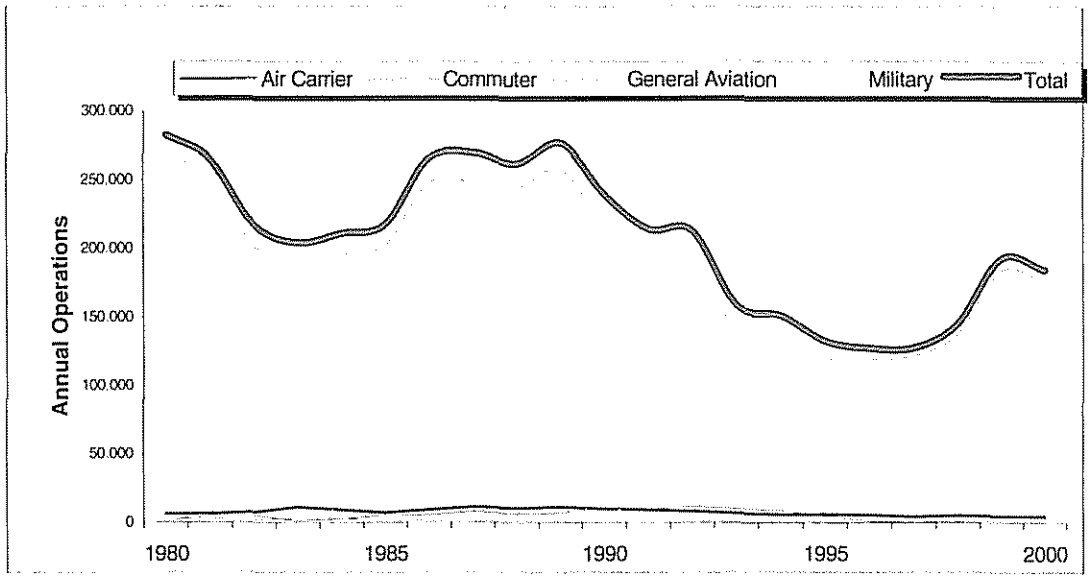
General aviation operations represent all civil aviation aircraft takeoffs and landings not classified as commercial (air carrier or commuter) or military. As shown in Figure 2.3, these operations declined significantly in the mid 90's which occurred nearly a decade later than the significant decline experienced nationwide, which started in the late 70's. General aviation operations have increased dramatically in 2000 primarily as a result of FIT operations and an increasing level of corporate activity at the Airport.

Military aircraft operations have ranged between a peak of nearly 4,500 in 1981 to a low of 277 operations in 1989. The military has not been a dominant user of the Airport over the last 20 years.

Total operations at the airport have decreased at an average annual rate of 2.0% over the last 20 years.

Figure 2.3

HISTORICAL OPERATIONS



Year	Commercial Service Air Carrier	Commercial Service Commuter	General Aviation	Military	Total	Annual Increase (Decrease)
1981	6,991	1,586	269,699	4,495	282,771	
1982	6,893	5,046	249,757	3,731	265,427	-6.1%
1983	7,858	5,266	201,940	2,575	217,639	-18.0%
1984	11,627	1,279	188,230	3,013	204,149	-6.2%
1985	9,471	2,672	195,818	2,944	210,905	3.3%
1986	7,437	5,371	202,405	2,390	217,603	3.2%
1987	9,618	5,753	248,104	2,070	265,545	22.0%
1988	11,810	8,327	248,475	1,377	269,989	1.7%
1989	10,844	6,541	244,180	277	261,842	-3.0%
1990	11,700	7,123	257,698	389	276,910	5.8%
1991	10,384	11,165	217,658	306	239,513	-13.5%
1992	9,680	9,975	194,265	444	214,364	-10.5%
1993	8,750	12,076	191,633	498	212,957	-0.7%
1994	7,457	10,347	140,702	601	159,107	-25.3%
1995	6,476	9,103	134,994	830	151,403	-4.8%
1996	6,461	5,118	120,492	646	132,717	-12.3%
1997	6,096	1,254	119,461	699	127,510	-3.9%
1998	4,719	400	122,255	476	127,850	0.3%
1999	5,676	1,170	138,179	459	145,484	13.8%
2000	5,089	2,408	184,461	1,057	193,015	32.7%
2001	4,981	2,609	176,095	797	184,482	-4.4%
Average Annual Growth Rate	-1.6%	2.4%	-2.0%	-7.9%	-2.0%	

Source: Terminal Area Forecast (TAF)
Compiled by Reynolds, Smith and Hills, Inc

2.2.4 Top Origin & Destination Markets

Non-stop service to/from MLB is provided to Atlanta Hartsfield International Airport, and Greater Cincinnati/Northern Kentucky International Airport. These two airports are hub facilities in the hub-and-spoke network of Delta Airlines (ATL and CVG). Service to all other cities from the Airport is provided via connections through one of these airports. Additionally, beginning in early 2003, non-stop service will be initiated to Dallas/ Ft. Worth (DFW).

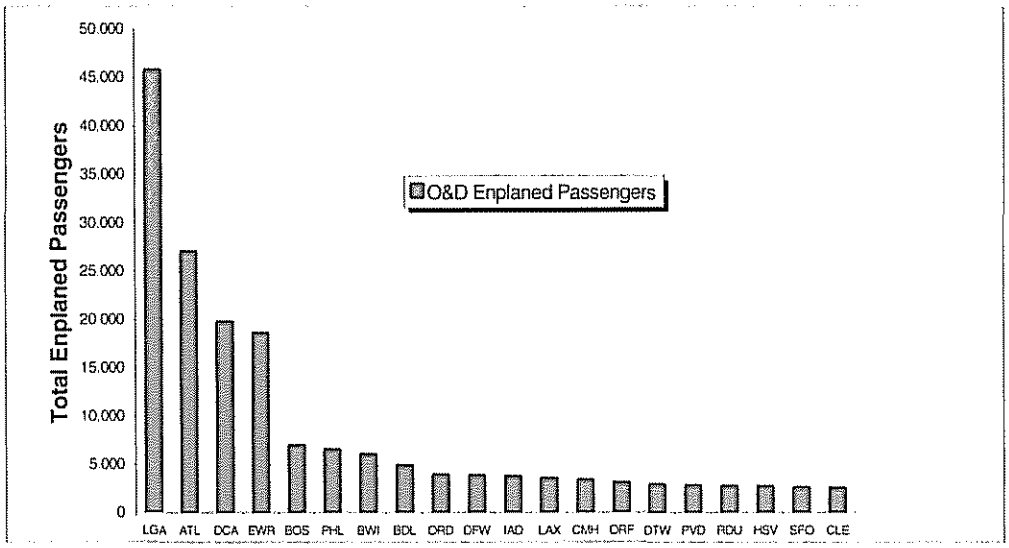
Information presented in the *Melbourne, Florida International Airport Catchment Area Study,* prepared by Sabre Consulting in August 2002, identified the Top 20 Origin & Destination ("O&D") markets for the Airport. Figure 2.4 presents a listing of Melbourne's Top 20 O&D markets for the four quarters ending June 30, 2001, contained in that report.

Notable observations concerning the information presented include:

- Two airports in the New York City market area (LGA and EWR) accounted for 64,350 annual passengers, which represents 24% of the total O&D traffic at the Airport. An additional 52,903 annual passengers in the MLB Airport Service Area (ASA) traveled to the New York City area from competing Airports.
- The Washington, DC area airports (DCA, IAD and BWI) are the second largest O&D market for Melbourne, accounting for 10.9% of the total O&D enplanements. These Airports also generated an additional 34,675 annual passengers from the MLB Airport Service Area who departed from competing Airports.
- The top 20 markets represent 64% of the total O&D traffic to/from all markets in the period shown in Figure 2.4
- Total market potential for passenger enplanements generated from within the MLB ASA exceed one million passengers annually.

Figure 2.4

TOP 20 O&D MARKETS



Rank	Airport	Actual PDEW[1]	Annual PDEW	Percent of Total
1	LGA	125 3	45,735	16.9%
2	ATL	74 2	27,083	10.0%
3	DCA	54.2	19.783	7.3%
4	EWR	51.0	18,615	6 9%
5	BOS	19 1	6,972	2 6%
6	PHL	17 9	6.534	2 4%
7	BWI	16.5	6,023	2 2%
8	BDL	13.4	4,891	1 8%
9	ORD	10.7	3,906	1.4%
10	DFW	10 5	3.833	1.4%
11	IAD	10 3	3.760	1 4%
12	LAX	9 7	3,541	1 3%
13	CMH	9 3	3.395	1 3%
14	ORF	8.4	3.066	1 1%
15	DTW	8.1	2.957	1.1%
16	PVD	7 7	2.811	1 0%
17	RDU	7 5	2,738	1 0%
18	HSV	7 4	2,701	1 0%
19	SFO	7 2	2,628	1 0%
20	CLE	7.0	2,555	0 9%
Total Top 20 Markets		475 4	173,521	63 9%
Total All Makets [2]			271,421	100 0%
NYC Total		176.3	64,350	23.7%
Washington, DC		81 0	29,565	10.9%

[1] Passengers Daily Each Way

[2] Average enplanements for 2000 and 2001 based on the DB1A data

Source: *Melbourne, Florida International Airport Catchment Area Study,* Sabre Consulting. August 2002
DB1AQ3 2000 - Q2 2001
Compiled by Reynolds, Smith and Hills, Inc

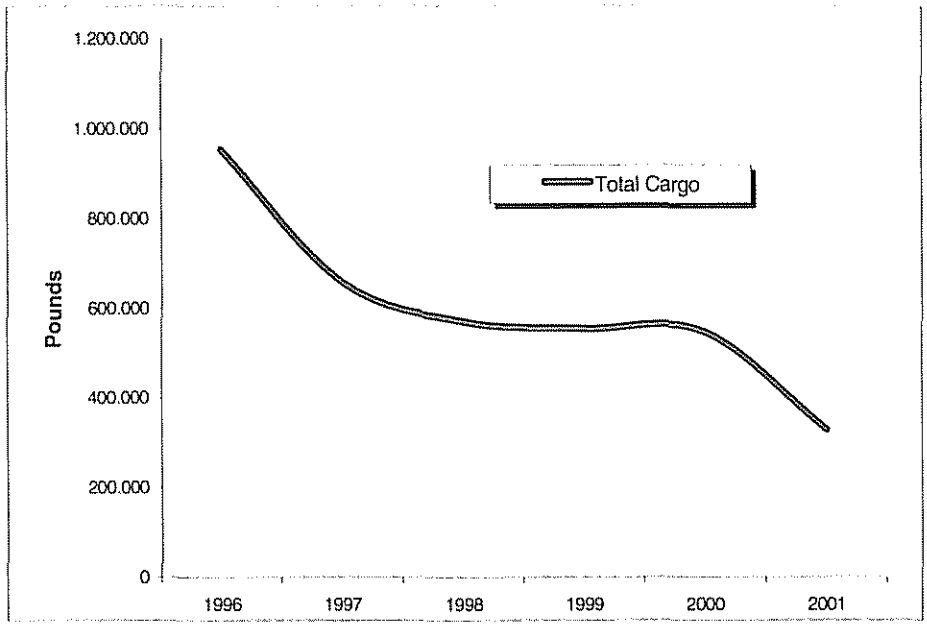
2.2.5 Total Air Cargo

Air cargo at an airport represents the total annual weight of express packages, mail and other air freight that is shipped into or from an airport loaded on commercial passenger or dedicated air cargo aircraft. A majority of all air cargo shipped to/from MLB is loaded in the belly of commercial passenger aircraft. With the exception of daily Beech 18 cargo service provided by DHL, there are no dedicated air cargo airlines operating at the Airport.

Figure 2.5 presents annual enplaned cargo recorded at MLB by the air carriers operating at the Airport since 1996. Total air cargo has decreased from 954,191 pounds in 1996 to 330,213 pounds in 2001, which represents an average annual decrease of 19.1%. The decline in air cargo volumes at the Airport can be attributed to the close proximity of Orlando International Airport and Miami International Airport, and the decrease in total air carrier operations during this time period. Turboprops and regional jets have limited cargo capacity that is far less than the capacity available in the belly of jet aircraft operated by the larger air carriers. As the cargo lift available from the Airport has declined, potential airfreight shipments have been diverted to other modes of transportation.

Figure 2.5

HISTORICAL AIR CARGO



Year	Enplaned Cargo	Deplaned Cargo	Total Cargo	Annual Increase (Decrease)
1996	532,674	421,517	954,191	
1997	306,260	352,837	659,097	-30 9%
1998	361,780	209,394	571.174	-13 3%
1999	382,618	173,291	555,909	-2 7%
2000	298.195	250,280	548,475	-1 3%
2001	218,494	111,719	330,213	-39 8%
Average Annual Growth				
1996 - 2001	-16 3%	-23 3%	-19 1%	

Source: Terminal Area Forecast (TAF)
Compiled by Reynolds. Smith and Hills, Inc

2.3 FACTORS AFFECTING FUTURE AVIATION DEMAND

The terrorist acts of September 11, 2001 resulted in indefinite and unpredictable negative impacts on the global economy and the aviation industry. A brief review of what has happened at Melbourne International Airport since September 11, 2001 is followed by a discussion of other factors that will have an affect on the aviation industry. More specifically, the national economy, local socioeconomic conditions, airfare levels, airline competition and the quality of airline service are reviewed to determine what affect these variables may have on the demand for future aviation activity.

2.3.1 Impact of September 11, 2001

Prior to September 11, 2001 the residents of Melbourne Florida and the Melbourne Airport Authority were enjoying the benefits of new air service at MLB. Spirit Airlines began daily jet service to Washington Reagan Airport on October 26, 2000 and Continental Airlines began service to Newark Liberty International Airport on February 15, 2001. Enplanements for the first 10 months of 2001 were 13% higher then the same time period in 2000 (202,982 versus 179,083).

However, since September 11, 2001, enplanements have declined 30% year over year, primarily as a result of Continental and Spirit Airlines terminating service to MLB on September 20, 2001. Although Gulfstream Airlines (d/b/a Continental Connection) began operating two daily turboprop flights to Tampa, Florida, capacity has not yet been restored at the Airport, and seats are down by 36% based on the July 2002 schedule. In addition, average one-way fares from MLB to Newark and Washington Reagan were comparable to those offered at neighboring airports (Orlando, Palm Beach and Daytona Beach) when MLB had non-stop service to those markets. However, since the elimination of non-stop service after September 11, airfares have increased significantly. Non-stop service is currently offered to only one of the top 20 O&D markets at the Airport (i.e., Atlanta).[1]

This is not the first time that the airport has experienced a fluctuation in the number of airlines that operate at MLB. Historically, several airlines who introduced service to the Airport later decided they could better utilize their aircraft in other markets. As a result,

[1] *Melbourne, Florida International Airport Catchment Area Study, Sabre Consulting, August, 2002*

enplanements at the Airport have experienced significant growth in some years, followed by a decline which at times approached 20% on an annual basis. The Melbourne Airport Authority has always searched for ways to improve the level of air service at MLB and efforts continue to attract both domestic and international carriers to the Airport. Additional service by ASA to Cincinnati and Atlanta, as well as Comair service to Dallas/Ft. Worth Texas will begin in early 2003.

2.3.2 National Economic Conditions

The national economy began slowing during the latter stages of 2000. Since the conclusion of the Persian Gulf War in early 1992, the national economy has been in an expansion mode for a record number of quarters and exceeded economist's expectations until 2000. According to FAA and other national forecasts, the national economy will reverse its current trend and grow throughout the forecast period. It is expected that 2002 will bring a 2.8 percent increase in the economy. During the next three years, the economy will slow to a 2.0 percent annual growth rate, but will continue to grow at 2.4 percent annually throughout the remainder of the planning period. These forecasts have been considered in calculating future annual growth rates at MLB. The timing, extent and rate of annual growth in the U.S. economy and future changes in real disposable income will affect the rate of future airline traffic both nationally and at MLB.

2.3.3 Local Socioeconomic Conditions

Consideration of a community's economic character is particularly important to the determination of business and leisure travel, general aviation and air cargo levels. Prior to developing the aviation demand forecasts for the Airport a review of current and projected economic trends and population projections associated with the airport's Air Service Area (ASA) was conducted. As previously described in Section I, the Airport's ASA was determined to be the same as the catchment area identified in the *Melbourne, Florida International Airport Catchment Area Study* completed by Sabre Consulting in August, 2002.

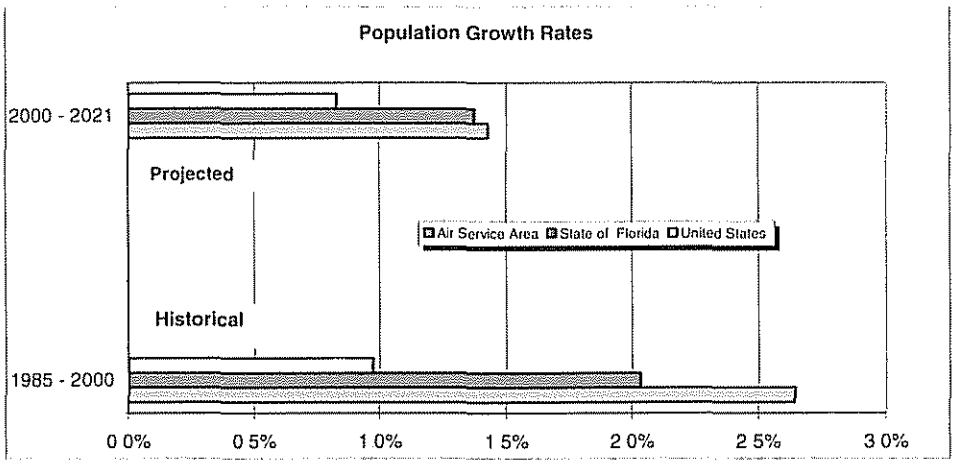
Figure 2.6 presents historical and projected information for the ASA, the State of Florida and the United States. The following summarizes information depicted in Figure 2.6

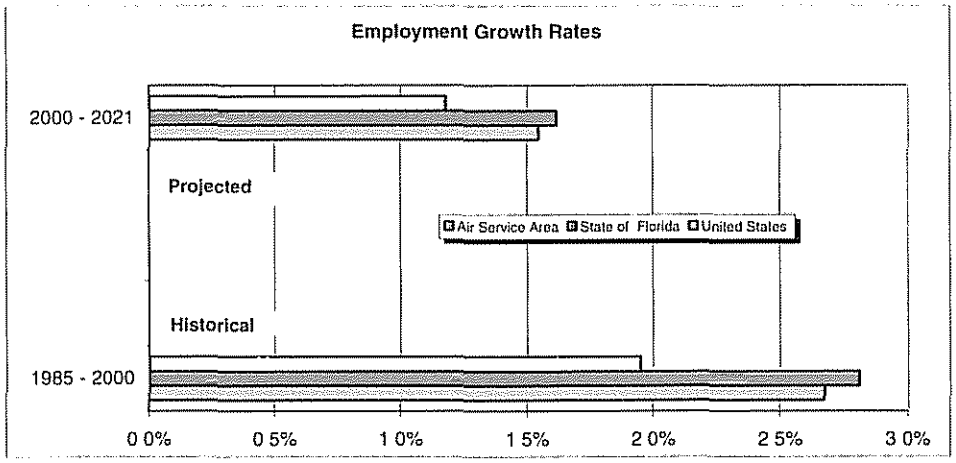
- Historical population growth rates for the ASA have been higher than the State of Florida and the United States from 1985 through 2000. Population growth rates in the ASA are projected to exceed the anticipated growth rates for population in the State of Florida and the United States over the next 20 years.
- Historical and projected growth rates in employment for the State of Florida exceeded the ASA and the United States. Historical and projected growth rates in employment for the ASA surpassed the growth rates for the United States for the same time periods.
- Historical per capita personal income (PCPI) growth rates have been higher than the State of Florida and the United States from 1985 through 2000. PCPI growth rates in the ASA are projected to exceed the anticipated growth rates for PCPI in the United States but lag slightly behind the growth rates for the State of Florida over the next 20 years.

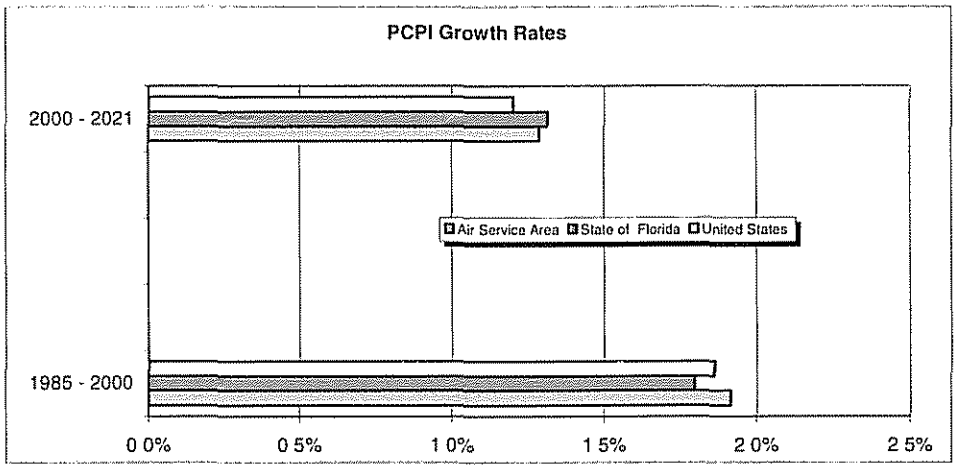
The local socioeconomic picture derived from examination of the historical trends and forecasts presented in Figure 2.6 present positive outlooks for the ASA and MLB. It is expected that population and the economy will continue to grow at a moderate rate as experienced in the mid 1980's through 2001. Likewise, the demand for air service can be expected to grow in a similar manner. The new air service described above by Comair and ASA are additional positive indications of the demand for air service within the ASA.

Figure 2.6

HISTORICAL AND PROJECTED DEMOGRAPHIC GROWTH RATES







Source: US Census Bureau
Compiled by Reynolds, Smith and Hills. Inc

2.3.4. Air Fares

Airfare levels will have an important affect on the demand for airline service nationally and at MLB. Airfares are influenced by airline operational costs such as fuel and aircraft maintenance, and industry competition. Overall, aviation fuel has decreased in price since 1980. A slight increase in fuel prices was recorded in the early 1990s as a result of the Persian Gulf War. Aviation fuel prices increased during 1996 and 1997, but stabilized in 1998 before beginning to increase through 2002. Aviation fuel prices are projected to remain volatile through 2002 but stabilize in 2003 with moderate increases in the range of 3.5% to 5.0%[2]. Jet fuel prices will add to the long-term stability of airfares nationally and help establish renewed growth of the aviation activity at MLB. Other costs impacting airfares, such as labor costs, are projected to increase only moderately during the forecast period.

2.3.5 Airline Competition

Competitive factors have a significant influence on airline fares. On more competitive routes, or in a city with a strong competitive environment such as two or more dominant air carriers or a low-fare carrier similar to Southwest, AirTran or Jet Blue, airfares on average are significantly lower. The staff at MLB have recognized this fact and are engaged in extensive marketing efforts to recruit competing airlines. Additionally, changes in competitive factors such as airline bankruptcies, mergers and acquisitions could significantly influence, positively or negatively, the demand for airline traffic at the Airport.

The results of the *Melbourne, Florida International Airport Catchment Area Study* also validated the fact that a significant amount of passenger traffic generated in the MLB ASA currently utilize other competing airports for air service. The Study revealed that 78% of the passengers who reside in the ASA are using either Orlando International, Palm Beach International, or Daytona Beach, with Orlando capturing 91% of the market. Reasons for the significant amount of passenger "leakage" to competing airports is attributed to lower available air service options, higher average fare levels, lack of non-stop destinations, and lower air service frequencies at MLB as compared to competing

[2] *FAA Aeropace Forecasts, Fiscal Years 2002 – 2013.*

airports. Due to these competitive pressures MLB is significantly more underutilized than competing airports on a population/scheduled seats basis. Although competitive pressures have historically had an adverse effect on available air service at MLB, future economic growth, capacity constraints at major hub-airport facilities, and the advent of longer-range regional jet service will position the airport to attract additional air service and compete more effectively for passengers within the ASA who currently utilize other airports. The challenge, however, in developing realistic forecasts of future aviation demand is to recognize and understand the competitive pressures exerted on MLB in the current environment, and create realistic and defensible projections for aviation demand as a tool for long-term planning. As a means of moderating the uncertainty of future aviation demand and ensure the timing of capital investment occurs when the demand is actually reached, planning activity levels will be developed in subsequent Sections of this report and used to identify specific activity levels which must be reached before facility development takes place.

2.3.6 Summary

The variables discussed in this portion of the master plan play an important role in the future demand for aviation activity at MLB. The ASA has experienced steady population, employment and personal income growth from 1985 to the present, and these economic activity indicators are expected to continue to grow throughout the forecast period. Furthermore, the demand for aviation services in the ASA is expected to continue to grow, and MLB will play an increasing role in servicing that demand. MLB is not only positioned to take advantage of an increasing demand for services in the ASA, but by aggressively marketing its services to current and future customers, MLB is capable of recapturing a significant portion of its market share lost to competing airports in the region.

2.4 FORECAST OF ANNUAL ENPLANED PASSENGERS

The forecast of enplaned passengers is the foundation upon which other commercial service activity forecasts are developed. The enplaned passenger forecasts are also the basis for determination of the future facilities needed to accommodate projected passenger demands. The preparation of the preferred projection of this element of aviation demand employs a variety of analytical methods including:

- Historical trend line analyses, also called time series projections
- Regression analyses, which examine various socioeconomic indicators to determine if strong relationships exist between the indicators and elements of aviation activity
- Market share analyses which compare the performance of the local market to a larger regional or national market

Each of these analytical techniques was employed in the preparation of enplanement projections for the MLB.

2.4.1 Trend Analysis Projections

Trend line analyses are one of the simplest and most familiar forecasting techniques. This technique provides projections of the aviation demand element by fitting classical growth curves to historical data and extending the curves into the future. A fundamental assumption of this technique is that historical stimuli for aviation demand will continue to exert a similar influence on future demand levels. As broad as this assumption may be, this technique serves as a reliable benchmark against which the results of other projection methods may be compared.

A total of five scenarios were developed using trend line techniques for enplanement projections. In two scenarios, historic annual ratios of air passengers to regional population totals were also calculated to determine annual enplanements per capita factors. Three scenarios were also developed using varying assumptions regarding future average annual enplanement growth rates. As indicated on Table 2.1, enplanements per capita ratios in the Melbourne area were 0.63 in 1985 and increased to 0.69 in 1990 prior to decreasing in subsequent years. Two scenarios were prepared to project future enplanements at the Airport based on this trend technique.

In the first scenario, it was assumed that the enplanements per capita ratio would remain constant throughout the planning horizon as depicted by the historical average in Table 2.7 (i.e., 0.55 enplanements per capita). In the second scenario, the enplanements per capita ratio was assumed to remain constant through 2006 and then grow to 0.60 by 2011 and 0.65 by 2021. The increasing ratio reflects a trend that a larger percentage of

the demand for air services within the ASA will use MLB for air travel rather than diverting to a different airport. These ratios were applied to forecasts of regional population for the Melbourne ASA. The enplanement projections developed using enplanement per capita factors are presented in Table 2.1.

Table 2.1

ENPLANEMENT PROJECTIONS USING PER CAPITA TRENDS

				Per Capita Trend Scenarios			
				Sceenario A		Sceenario B	
Year	Enplanements	Population	EPs per Capita	EP per Capita	Enplanements	EP per Capita	Enplanements
Historical							
1985	278.444	442,300	0 63				
1990	373.588	539,700	0 69				
1995	301.736	594.100	0 51				
2000	261,880	654,100	0 40				
Projected							
2006		718.800		0 55	391,800	0 55	395.300
2011		772,200		0 55	420,900	0 60	463,300
2021		880,700		0 55	480,100	0 65	572,500
Average Annual Growth							
2000 - 2006					6 9%		7 1%
2000 - 2011					4 9%		5 9%
2000 - 2021					3 1%		4 0%

Source: Terminal Area Forecast (TAF) and US Census Bureau
Compiled by Reynolds, Smith and Hills, Inc.

Three scenarios of average annual growth rate assumptions were used to develop the enplanement projections presented in Table 2.2. The annual compounded growth rate in enplanements at MLB averaged 1.5% per year between calendar year 1998 and 2001. In the first scenario using this trend analysis technique, it was assumed this rate of growth would continue through the planning period at 1.5% per year. The second scenario reflects an assumption that future growth will parallel the historical growth rate of 3.0% experienced over the last 20-years. In the third scenario, an average annual growth rate of 4.5% was assumed. This growth rate is marginally higher than the FAA's projected growth rate (i.e., 3.7%) published in the FAA's long-term average annual growth rate projections for total domestic U.S. enplanements.

Table 2.2

ENPLANEMENT PROJECTIONS USING AVERAGE ANNUAL GROWTH RATES

			Average Annual Growth Rates		
Year	Enplanements	Percentage Change	1.5%	3.0%	4.5%
Historical					
1995	301,736				
1996	316,600	4.9%			
1997	306,163	-3.3%			
1998	250,878	-18.1%			
1999	278,153	10.9%			
2000	261,880	-5.9%			
2001	280,962	7.3%			
Projected					
2006			302,700	326,400	350,100
2011			326,100	379,200	436,300
2021			378,500	511,700	677,600

Source: Terminal Area Forecast (TAF)
Compiled by Reynolds, Smith and Hills, Inc.

2.4.2 Regression Analysis

Several local socioeconomic indicators were reviewed and tested to determine if a statistically significant relationship exists between historical enplanements at MLB and various indicators for the ASA. The indicators reviewed in this analysis included population, employment and per capita personal income. Historical data and projections of these socioeconomic indicators were taken from the US Census Bureau, Table DP-1, Profile of General Demographic Characteristics, 2000 and the U.S. Bureau of Economic Analysis.

The statistical significance of projections produced by a regression analysis is assessed using the coefficient of determination, or R^2 value. The R^2 value is the square of the correlation coefficient and measures the contribution of the independent variables in the prediction of the dependent variable. The R^2 values range between 0.00 and 1.00, with 1.00 indicating a perfect correlation between the independent and dependent variables. R^2 values of less than 0.90 indicate there is little correlation between the two variables.

Table 2.3 presents the results of this projection technique for predicting future enplanements at MLB. The regression analysis used the three socioeconomic indicators noted above as the independent variables and annual enplanements as the dependent variable. In addition, a multiple regression analysis was also performed, combining population, employment and per capita personal income as the independent variables.

As shown, the R^2 value for all four regression analyzes is below 0.90 which indicates that there is little correlation between the independent and dependent variables. A possible reason for this poor correlation between the two variables is the fact that population, employment, and income in the ASA have increased from 1995 to 2001 while overall enplanements have decreased during this same time period with the diversion of passengers in the ASA to competing airports. As a result, the regression analysis and the enplanement projections developed for the planning period will not be used to select a preferred forecast methodology.

Table 2.3

REGRESSION ANALYSIS PROJECTION SUMMARY

Year	Independent Variables: Population	Employment	PCPI	Multiple Regression
	Projected Enplanements (Dependent Variable)			
2006	198,300	235,700	213,000	236,800
2011	149,300	190,100	172,600	178,300
2021	49,800	62,700	83,700	41,300
R^2 Values	0.852	0.796	0.746	0.859

Source: Terminal Area Forecast (TAF) and US Census Bureau.
Compiled by Reynolds, Smith and Hills, Inc.

2.4.3 Market Share Analysis

The historical market share for MLB was calculated by dividing each year's enplanements at the Airport by total domestic U.S. Commercial enplanements for the corresponding year. The resulting historical market share percentages were reviewed and a projection of future market share percentages was applied to the FAA's forecast of total U.S. Enplanements. Table 2.4 presents the historical market share of commercial service enplanements at MLB, as well as two different scenarios to project future enplanements.

The first scenario assumes that the future market share of enplanements at the Airport will equal the average market share (0.050%) experienced at the Airport from 1994 through 2001 and remain constant throughout the forecast period. This yields a forecast of 355,700 enplanements in 2006, increasing to 426,400 in 2011 and 460,600 enplanements in 2021. This equates to an average annual growth rate of approximately 4.0%.

Table 2.4

MARKET SHARE METHODOLOGY

	Airport		United States		Market Share Scenarios			
Year	Enplanements	Annual Growth	Enplanements	Annual Growth	Market Share	Enplanements	Market Share	Enplanements
Historical								
1994	322,708		511,300,000		0.063%		0.063%	
1995	301,736	-6.5%	531,100,000	3.9%	0.057%		0.057%	
1996	316,600	4.9%	558,100,000	5.1%	0.057%		0.057%	
1997	306,163	-3.3%	579,100,000	3.8%	0.053%		0.053%	
1998	250,878	-18.1%	592,100,000	2.2%	0.042%		0.042%	
1999	278,153	10.9%	613,300,000	3.6%	0.045%		0.045%	
2000	261,880	-5.9%	640,500,000	4.4%	0.041%		0.041%	
2001	280,962	7.3%	627,500,000	-2.0%	0.045%		0.045%	
Projected								
2006			706,300,000		0.050%	355,700	0.055%	388,500
2011			846,700,000		0.050%	426,400	0.065%	550,400
2021			914,600,000		0.050%	460,600	0.075%	686,000
Average Annual Growth								
2001 - 2006						4.8%		6.7%
2001 - 2011						4.3%		7.0%
2001 - 2021						2.5%		4.6%

Source: TAF and ***FAA Aerospace Forecasts, Fiscal Years 2002 - 2013***
Compiled by Reynolds, Smith and Hills, Inc.

The second scenario projects a slight increase in market share through 2006, and increasing thereafter as MLB recaptures passenger demand from within the ASA that are presently diverting to competing airports. Due to current marketing efforts and incentives to attract additional air service, and the overall level of demand for air service generated within the ASA,[3] it is projected that MLB will be successful in recapturing a significant portion of its' market during the forecast period. An immediate 10% recapture of market share will create an additional 76,000 annual enplanements which can easily be sustained over the forecast period. The projections of this scenario yield a forecast of 388,500 enplanements in 2006, increasing to 550,400 by 2011 and 686,000 by 2021. This equates to an average annual growth rate of approximately 6.5% throughout the planning period.

2.4.4 Selection of a Preferred Annual Enplanement Forecast

A summary of the projections of future enplanements developed through the use of the analytical methods discussed in this Section are illustrated in the chart contained in Figure 2.7. As previously discussed, little correlation exists between the dependent and independent variables in the regression analysis. Therefore, those projections are not considered valid and are not presented in Figure 2.7. The enplanements per capita and average annual growth rate projections present more realistic forecasts of the potential for passenger growth at MLB. However, considering the competitive environment for air service demand within the ASA, and the Airport's potential and propensity to historically capture a greater share of the market, these forecasts were not selected as the preferred methodology. For the reasons discussed below, the market share approach is the preferred methodology for forecasting future enplanements at MLB.

As discussed previously, the market share approach is developed by examining the Airport's ability to capture a percentage of the overall domestic air service market, and based on its' share of the overall market, projections for future growth are developed. On average over the last 7 years, MLB has captured approximately 0.050% of the total enplanements generated nationally, with a high of 0.063% of the market occurring in 1994. Based on the historical average, a forecast was created holding MLB's market share constant while total U.S. enplanements grow at the rates published by FAA. This

[3] *The ASA generated approximately 1,016,000 passenger boardings for the 12 month period ending August 2001.*

forecasting method yielded 355,700 enplanements in 2006, 426,400 in 2011 and 460,600 in 2021, for an average annual growth rate of approximately 4.0%.

A second forecast was also developed using this methodology but began with the premise that MLB is positioned to recapture a portion of the air service market lost to competing airports. This recapture of market share would initially increase MLB's share of the market to 0.055% by 2006, and grow at a marginal rate thereafter with market shares of 0.065% in 2011 and 0.075% in 2021. These projected market shares yield 388,500 enplanements by 2006, 550,400 by 2011 and 686,000 by 2021, which results in an average annual growth rate of approximately 6.0%. The justification for MLB's ability to increase market share and recapture a significant portion of the ASA's passenger base is predicated on the following conclusions:

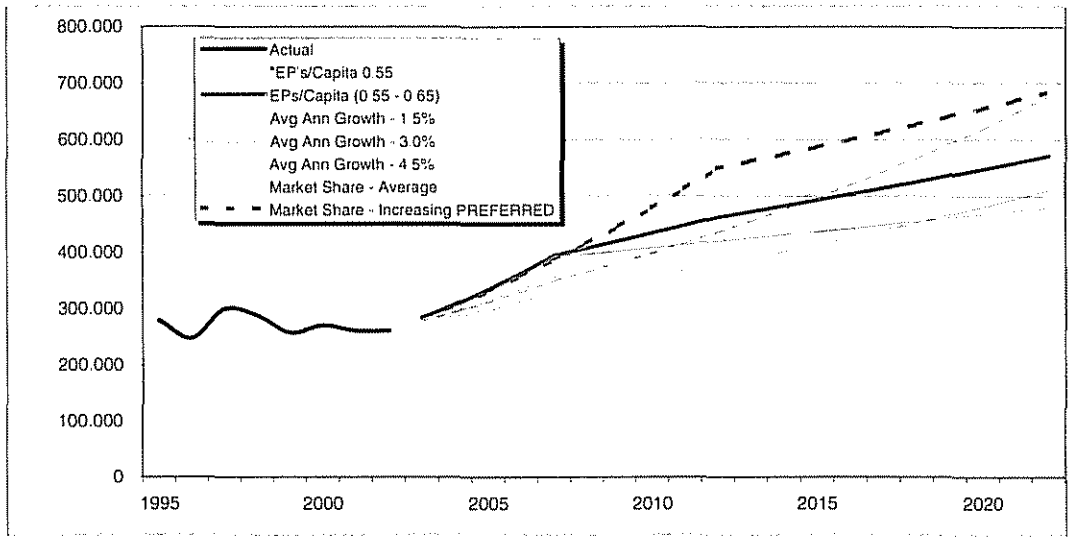
- MLB is underserved on a population per scheduled seat basis compared to airports in the surrounding region and has the available infrastructure and facility capacity to accommodate growth.
- Prior to September 11, 2001, and even considering the significant decline in passenger demand nationwide in the 4th quarter of 2001, total annual passenger enplanements at MLB for 2001 were 7.3% higher than 2000.
- For the 12 months ending June 2002, 78% of the demand for air service within the ASA diverted to competing airports. This "leakage" accounted for approximately 753,000 enplanements.
- Prior to September 11, 2001, MLB supported service to three of its' Top 20 Origination and Destination (O&D) markets. Significant domestic and international traffic demand can be recaptured with additional direct service to other Top O&D markets and international gateways.
- Over the next 20 years within the ASA total population, employment and income levels are expected to grow at rates which match or exceed the State of Florida and United States.
- The airlines are continuing to add regional jets to their fleet mix. Regional jet aircraft will be increasingly used to bypass major hub and capacity constrained facilities and provide more point to point service for major O&D markets. MLB is well positioned to take advantage of this trend.

- MLB's close proximity to the Port of Canaveral positions the Airport to attract some of the one to two million annual cruise passengers who arrive by air for their excursion.
- In 2001, according to the Brevard County Office of Tourism, 1.6 million tourists visited Brevard County. Of those tourists, 38% arrived by air with 88% of those using Orlando International Airport. With the proper mix of air service, MLB can recapture passengers lost to competing airports.

There is significant demand for air service within the Airport's ASA, and the Melbourne Airport Authority is aggressively pursing additional domestic and international air carriers to serve that demand. The preferred forecast developed in this Section recognizes those efforts, and conservatively forecasts a more than doubling of the passenger enplanements over the next 20 years. Although the preferred forecast significantly exceeds the TAF projections published in early 2003, planning activity levels will be developed in subsequent sections of this report in order to tie the required development to future activity levels as opposed to calendar years. This will ensure that the forecasts presented in this Section will not affect the scope nor timing of the required facilities until the planning level (i.e. demand) is reached and the justification for the development is achieved.

Figure 2.7

COMPARISON OF ENPLANEMENT PROJECTIONS



Year	Actual	Enplanements/Capita 0.55	Enplanements/Capita .55 - .65	Average Annual Growth 1.5%	Average Annual Growth 3.0%	Average Annual Growth 4.5%	Market Share Average	Market Share Increase	Preferred Methodology
Historical									
1996	316.600								
1997	306.163								
1998	250.878								
1999	278.153								
2000	261.880								
2001	280.962								
Projected									
2006		391.800	395.300	302.700	326.400	350.100	355.700	388.500	388.500
2011		420.900	463.300	326.100	379.200	436.300	426.400	550.400	550.400
2021		480.100	572.500	378.500	511,700	677.600	460.600	686.000	686.000

Source: Terminal Area Forecast (TAF)
Compiled by Reynolds. Smith and Hills. Inc

2.5 FORECASTS OF ANNUAL AIRCRAFT OPERATIONS

Forecasts of annual aircraft operations were prepared for four separate elements of aviation activity. The four elements include commercial service (air carrier and commuter) operations, general aviation operations and military operations.

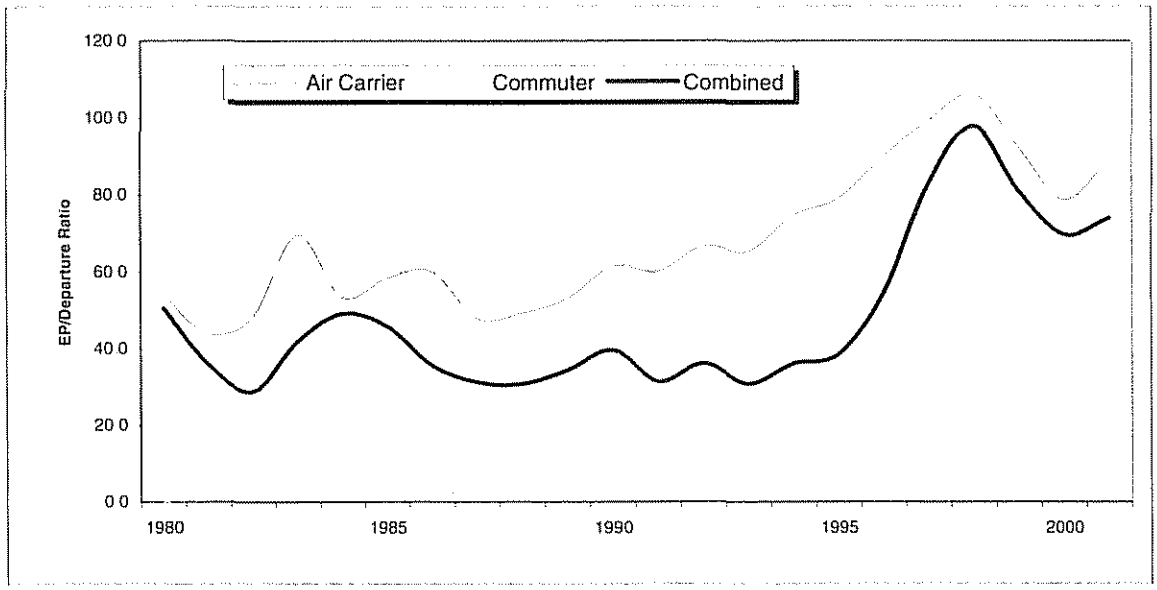
2.5.1 Annual Commercial Service Operations Forecast

The forecast of operations performed by commercial service aircraft is a function of the number of seats on the aircraft used to serve the airport and the percentage of seats occupied in those aircraft. The percentage of seats occupied is known as aircraft load factor. Historical data regarding passenger enplanements and aircraft operations can be combined to determine annual enplanements per departure ratios.

Ratios of historical enplanements per departure for the years 1980 through 2000 are presented on Figure 2.8 for air carrier operations, commuter operations, and total commercial service operations. As illustrated on Figure 2.8, the combined enplanements per departure ratio has been moving closer to the ratio experienced by the commuter aircraft segment. This movement reflects the increasing reliance over the last several years of the use of regional jets and turboprop aircraft by carriers serving Melbourne International Airport.

Figure 2.8

Enplanements per Departure



Year	Enplanements			Departures			Eps/Departures		
	Air Carrier	Commuter	Total	Air Carrier	Commuter	Total	Air Carrier	Commuter	Combined
1980	191.005	0	191.005	3.539	234	3,773	54 0	0 0	50 6
1981	153.979	323	154.302	3.496	793	4,289	44.1	0 4	36 0
1982	167.369	5,542	172,911	3.447	2,523	5.970	48.6	2 2	29 0
1983	274,162	2.091	276,253	3,929	2.633	6.562	69 8	0 8	42.1
1984	311,175	6.629	317,804	5,814	640	6.453	53 5	10 4	49 2
1985	276.963	1,481	278.444	4.736	1.336	6,072	58 5	1.1	45 9
1986	224.040	5,230	229,270	3.719	2,686	6,404	60 3	1 9	35 8
1987	230.509	10,272	240,781	4.809	2,877	7,686	47 9	3 6	31 3
1988	291,915	19.901	311.816	5,905	4.164	10.069	49.4	4 8	31.0
1989	288,087	11.113	299.200	5,422	3.271	8.693	53 1	3 4	34 4
1990	360.126	13,462	373,588	5.850	3,562	9,412	61 6	3 8	39 7
1991	313,242	26.029	339,271	5,192	5,583	10.775	60 3	4 7	31 5
1992	323,720	32.165	355.885	4,840	4.988	9.828	66 9	6 4	36 2
1993	286.390	35,622	322,012	4.375	6,038	10.413	65 5	5 9	30 9
1994	279,449	43.259	322.708	3,729	5.174	8.902	74 9	8 4	36 3
1995	257.106	44,630	301.736	3.238	4.552	7,790	79 4	9 8	38 7
1996	291,521	25.079	316,600	3,231	2,559	5.790	90 2	9 8	54 7
1997	304,084	2.079	306.163	3,048	627	3.675	99 8	3 3	83 3
1998	250.878	0	250,878	2,360	200	2,560	106.3	0 0	98 0
1999	263,068	15.085	278.153	2,838	585	3.423	92 7	25 8	81 3
2000	200.728	61,152	261.880	2.545	1.204	3,749	78 9	50.8	69 9
2001	221,729	59.233	280,962	2,491	1,305	3.795	89 0	45 4	74 0

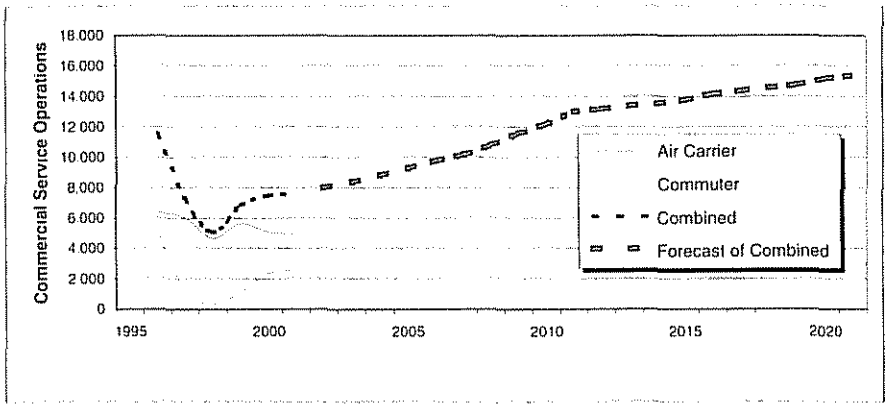
Source: Terminal Area Forecast (TAF)
Compiled by Reynolds. Smith and Hills. Inc

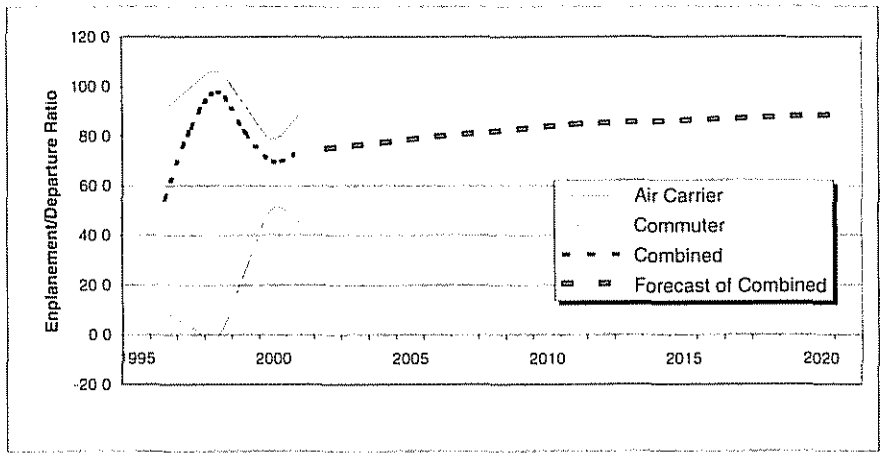
As indicated on Figure 2.9, the combined enplanements per departure ratio will climb moderately by 2006 and continue to climb at a slow but steady pace throughout the planning period. This climb reflects growing load factors as well as slight growth in the average size of regional airline aircraft as larger regional jets replace turboprop aircraft.

It is important to note that the forecast methodology employed in this analysis does not preclude the addition of narrow-body jet service to MLB. It is reasonable to assume that the airport will likely see more growth in commuter aircraft operations at the Airport for the foreseeable future due to an increasing reliance on regional jet aircraft. Some continued use of narrow-body aircraft, or a change in fleet allocation practices by the serving airlines will likely occur at various times, but the impact on the forecast of total commercial service aircraft operations will not be significantly impacted by these practices.

Figure 2 9

Forecast of Commercial Service Operations





Year	Enplanements/Departure Air Carrier	Commuter	Combined	Total Enplanements	Operations Air Carrier	Commuter	Combined
Historical							
1996	90 2	9 8	54 7	316.600	6.461	5.118	11.579
1997	99 8	3 3	83 3	306.163	6.096	1.254	7.350
1998	106 3	0 0	98 0	250.878	4.719	400	5.119
1999	92 7	25 8	81 3	278.153	5.676	1.170	6.846
2000	78 9	50 8	69 9	261.880	5.089	2.408	7.497
2001	89 0	45 4	74 0	280.962	4.981	2.609	7.590
Projected							
2006			80	388.500	5.500	4.200	9.700
2011			85	550.400	6.500	6.500	13.000
2021			89	686.000	7.500	7.900	15.400

Source: Terminal Area Forecast (TAF)
Compiled by Reynolds, Smith and Hills, Inc.

2.5.2 Annual General Aviation Operations Forecast

General aviation operations at the Airport dropped significantly in the mid 90's which occurred nearly a decade later than the significant decline experienced nationwide, which started in the late 70's. General aviation operations increased dramatically in 2000 primarily as a result of FIT and other corporate operations at the Airport, and remained at a comparable level in 2001.

Future general aviation operations at MLB are projected to continue to grow at a moderate rate similar to the average annual growth rate projected by the FAA nationwide for general aviation operations at airports with an air traffic control tower. General aviation operations will grow 2.0% annually from the 2001 total of 176,095 to 261,600 in 2021. This forecast is also presented on Figure 2.10 with the projection of military operations.

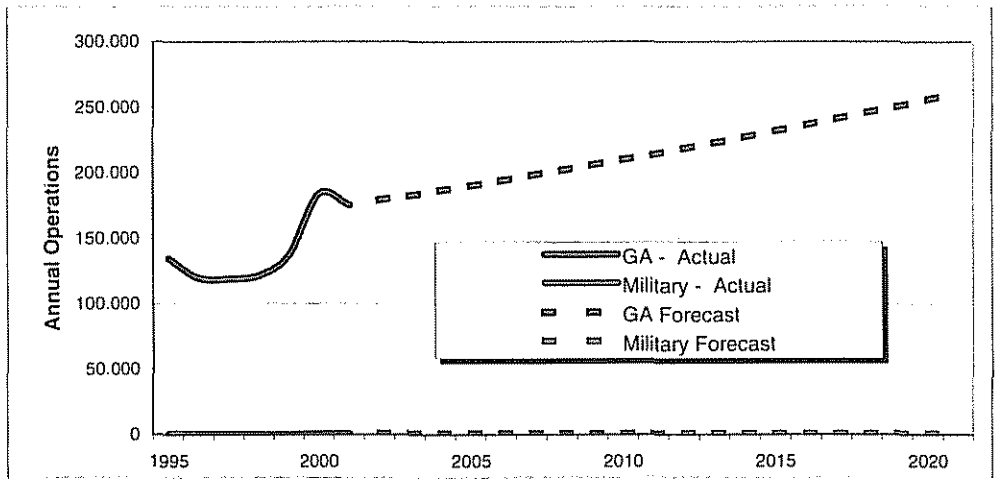
2.5.3 Annual Military Operations Forecast

Annual activity by military aircraft is a function of Department of Defense policy, military appropriations, and the mission assigned to a particular flying unit. As such, projections of future operations by military aircraft are not reliably predictable through the use of socioeconomic indicators or trend analyses.

Military aircraft operations at MLB have ranged between 459 and 1,100 annually for most of the last 10 years. For the purposes of this forecast effort, military activity is projected to maintain an annual level of 1,000 operations, as indicated on Figure 2.10.

Figure 2.10

FORECAST OF GENERAL AVIATION AND MILITARY OPERATIONS



Year	General Aviation	Military
Historical		
1996	120.492	646
1997	119,461	699
1998	122.255	476
1999	138,179	459
2000	184,461	1,057
2001	176.095	797
Projected		
2006	194,400	1.000
2011	214,600	1.000
2021	261,600	1,000
Average Annual Growth Rates		
1996 - 2001	7.9%	4 3%
2001 - 2011	2 0%	2.3%
2001 - 2021	2 0%	1 1%

Source: Terminal Area Forecast (TAF)
Compiled by Reynolds, Smith and Hills, Inc

2.5.4 Itinerant and Local Operations

Aircraft operations have been classified in this Section as commercial service, general aviation or military operations. General aviation and military operations can be further segregated into two additional categories -- local or itinerant. Aircraft operating in the traffic pattern or within sight of the tower, aircraft known to be departing or arriving from flight in local practice areas, or aircraft executing practice instrument approaches at the airport are classified by the FAA air traffic controllers as local operations. Itinerant (or transient) operations are all other aircraft operations and represent takeoffs and landings from one airport to another. All commercial service operations are itinerant operations.

Local and itinerant general aviation operations are shown in Table 2.5. Itinerant operations reached a peak in 1996 representing 57.6% of total general aviation operations. Local operations exceeded itinerant operations for the first time in 2000 representing 50.2% of total general aviation operations.

Forecasts for local and itinerant operations were based on a review of the historical percentage of total operations experienced at the Airport from 1996 through 2001. This ratio of itinerant versus local general aviation operations was held constant over the planning horizon.

Table 2.5

GENERAL AVIATION OPERATIONS - LOCAL AND ITINERANT

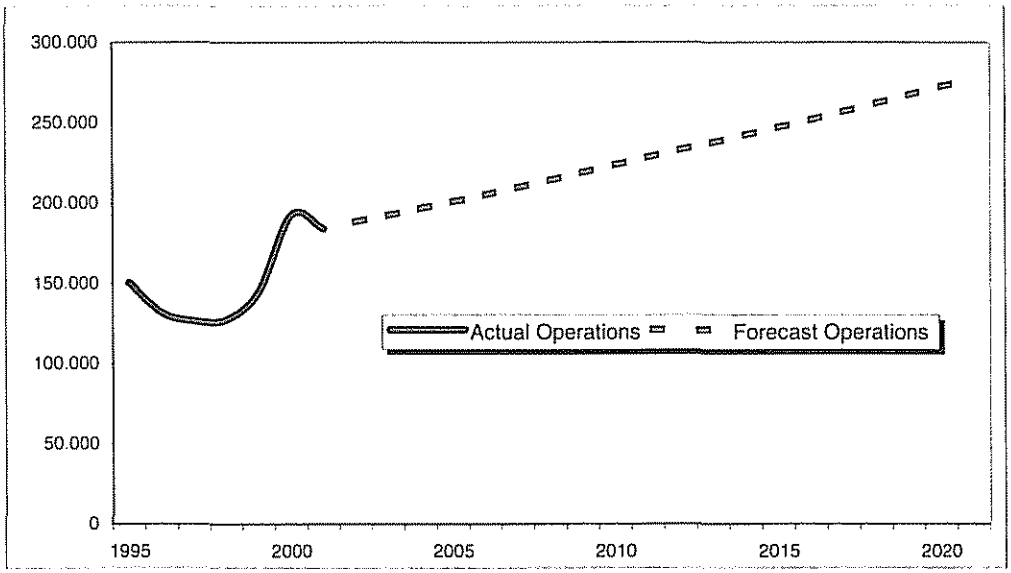
Year	Total General Aviation	Itinerant General Aviation	Itinerant Percent of Total	Local General Aviation	Local Percent of Total
Historical					
1996	120,492	69,376	57.6%	51,116	42.4%
1997	119,461	66,859	56.0%	52,602	44.0%
1998	122,255	66,787	54.6%	55,468	45.4%
1999	138,179	76,263	55.2%	61,916	44.8%
2000	185,009	92,083	49.8%	92,926	50.2%
2001	176,095	85,250	48.4%	90,845	51.6%
Projected					
2006	194,400	97,200	50.0%	97,200	50.0%
2011	214,600	107,300	50.0%	107,300	50.0%
2021	261,600	130,800	50.0%	130,800	50.0%

Source: Terminal Area Forecast
Compiled by Reynolds, Smith and Hills, Inc.

Figure 2.11 presents the forecast of total operations at Melbourne International Airport for the combined elements of commercial service operations, general aviation operations and military operations.

Figure 2.11

FORECAST OF TOTAL OPERATIONS



Year	Commercial Service		General Aviation	Military	Total
	Air Carrier	Commuter			
Historical					
1996	6.461	5.118	120.492	646	132,717
1997	6,096	1,254	119,461	699	127,510
1998	4.719	400	122,255	476	127,850
1999	5,676	1,170	138,179	459	145,484
2000	5,089	2,408	184,461	1,057	193,015
2001	4,981	2,609	176,095	797	184,482
Projected					
2006	5,500	4,200	194,400	1,000	205,100
2011	6,500	6,500	214,600	1,000	228,600
2021	7,500	7,900	261,600	1,000	278,000

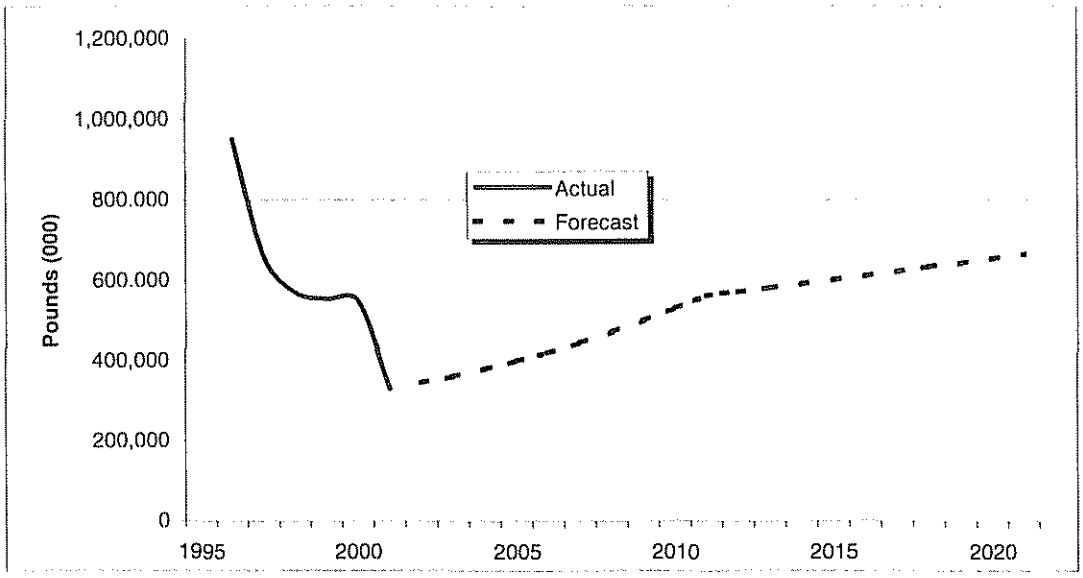
Source: Terminal Area Forecast
Compiled by Reynolds, Smith and Hills, Inc

2.6 FORECAST OF ENPLANED CARGO

Air cargo activity at MLB will continue to be dependent on the amount of lift available for belly freight in the commercial service passenger aircraft or the service of an all-cargo airline at the Airport. It is expected that air cargo activity will grow based on the growth of commercial service at the Airport. As a result, air cargo was projected to grow at the same growth rate anticipated for total commercial service operations. The forecast of enplaned air cargo for Melbourne International Airport is presented in Figure 2.12.

Figure 2.12

FORECAST OF ENPLANED CARGO



Year	Enplaned Cargo	Deplaned Cargo	Total Cargo
Historical			
1996	532,674	421,517	954,191
1997	306,260	352,837	659,097
1998	361,780	209,394	571,174
1999	382,618	173,291	555,909
2000	298,195	250,280	548,475
2001	218,494	111,719	330,213
Projected			
2006	279,200	142,800	422,000
2011	374,200	191,400	565,600
2021	443,300	226,700	670,000

Source: Melbourne Airport Authority
Compiled by Reynolds, Smith and Hills, Inc

2.7 BASED AIRCRAFT

The general aviation industry experienced declines in nearly all measures of activity during the early 80's. Previous discussion in this section illustrated the drop in annual operations by general aviation aircraft at MLB which began in the 1990's. The same trends were also experienced in other measures such as new aircraft shipments, active fixed base operators (FBO's), hours flown, etc.

Based aircraft at an airport represents the total number of active aircraft permanently located or projected to be located at an airport during a specific period. Based aircraft categories include single-engine, multiengine, turboprop, turbojet and rotorcraft. The number of aircraft based at individual airports has historically dropped at many facilities, including MLB. In the early 90's,an average of 220 general aviation aircraft were based at the Airport. By 2001, the number had declined to 164.

The FAA forecast reflects little change in based aircraft for the next 12 years, while the forecasts for the Florida Aviation System Plan (FASP) indicate approximately 2% average growth during the planning period. Considering the anticipated continued growth of FIT and other corporate activity at MLB, based aircraft are expected to increase by the same growth rate as projected in the FASP (see Table 2.6)

Table 2.6

BASED AIRCRAFT

Year	Single Engine	Multi Engine	Jet	Hellcopter	Total
Historical					
1996	172	44	4	0	220
1997	160	44	4	2	210
1998	119	25	20	2	166
1999	121	30	20	3	174
2000	121	29	11	3	164
2001	121	31	11	3	166
Projected					
2006	134	34	14	3	185
2011	147	38	18	3	207
2021	174	45	30	4	253
Average Annual Growth					
2001 - 2021	2.0%	2.0%	2.0%	2.0%	2.0%

Source: FAA 5010 Forms.
Compiled by Reynolds, Smith and Hills, Inc.

2.8 ANNUAL INSTRUMENT APPROACHES

Instrument approaches are authorized by an FAA approach control facility for aircraft operating on an Instrument Flight Rule (IFR) flight plan. These approaches are conducted by an instrument-rated pilot in an instrument-equipped aircraft. Instrument approach operations require the use of a published instrument approach procedure and the installation of electronic navigational equipment at an airport.

Historical instrument approach data for MLB is presented in Table 2.7. Annual instrument approaches have decreased from 27,186 in 1992 to 19,538 in 2001, representing an average annual decrease of 3.6% during this time period. The number of annual instrument approaches performed ranged from a high of 27,186 in 1992 to a low of 12,699 in 1998.

The FAA projects annual instrument approach growth rates for each segment of the industry, ranging from a low of 0.17 percent in Military operations to a high of 2.54 percent in commuter operations. Given the moderate growth rate in air carrier operations, coupled with the flat growth rate in military operations, instrument approaches are anticipated to increase at the same growth rates anticipated by the FAA over the next 12 years, (refer to Table 2.7)

Table 2.7

INSTRUMENT APPROACHES

Year	Air Carriers		Air Taxi		General Aviation		Military		Total Annual Approaches
	Total Inst Opns	Total Apprchs	Total Inst Opns	Total Apprchs	Total Inst Opns	Total Apprchs	Total Inst Opns	Total Apprchs	
Historical									
1992	9,644	4.822	8,528	4.264	35.981	17,991	219	110	27,186
1993	8,728	4.364	10.285	5,143	32,384	16,192	257	129	25.827
1994	7,511	3,756	9,966	4,983	25,251	12.626	274	137	21,501
1995	6,440	3.220	8,805	4,403	22.550	11,275	437	219	19,116
1996	6,461	3.231	4.967	2,484	19.787	9,894	358	179	15.787
1997	6.131	3,066	956	478	19,326	9.663	369	185	13,391
1998	4,711	2.356	280	140	20.074	10,037	332	166	12,699
1999	5,272	2.636	1,289	645	24.358	12,179	228	114	15.574
2000	4.610	2,305	2,761	1.381	41,096	20.548	516	258	24,492
2001	4.469	2,235	2,663	1.332	31,433	15.717	511	256	19.538
Projected									
2006		2,400		1,500		16,700		300	20.900
2011		2,600		1.700		17.700		300	22,300
2021		3.100		2,200		20,000		300	25.600
Average Annual Growth									
2001 - 2011		1 5%		2 5%		1 2%		1 6%	1 3%
2001 - 2021		1.7%		2 5%		1.2%		0 8%	1 4%

NOTE: Totals may not add due to rounding

Source: Terminal Area Forecast
Compiled by Reynolds. Smith and Hills. Inc

2.9 DESIGN DAY/DESIGN HOUR ACTIVITY FORECASTS

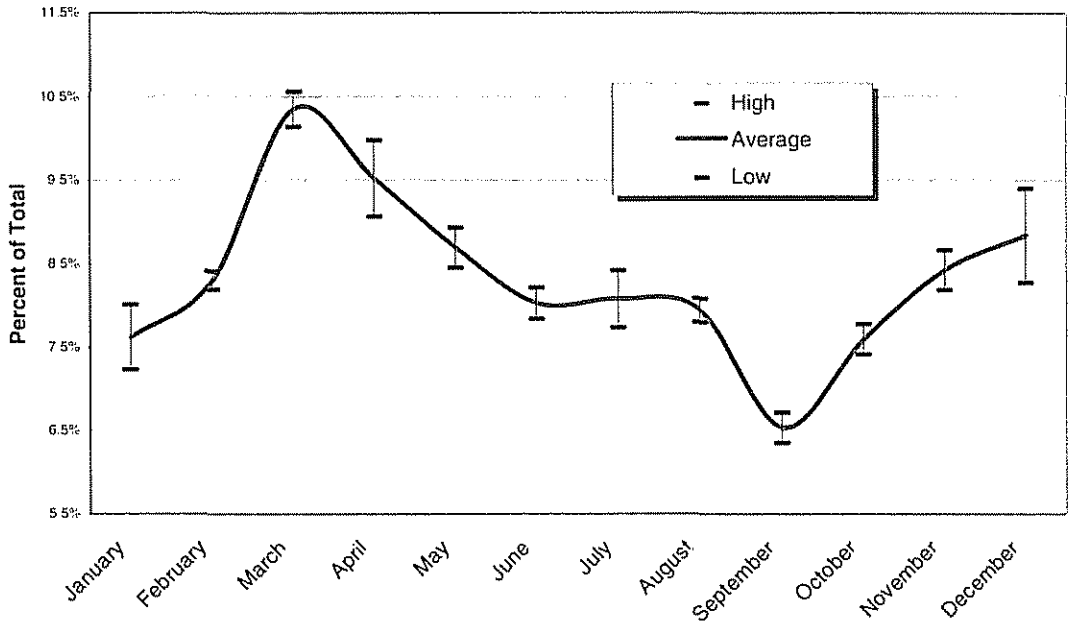
Capacity analyses and determination of future facility requirements of various elements of airport facilities are often based on design day or design hour activity levels. Design day or design hour activity levels are not represented by the absolute busiest period at the airport, which would be comparable to designing a church for Easter Sunday. The design day and design hour activity levels are generally equivalent to the 85th percentile of activity for the design year. Facilities designed to accommodate this level of activity in the design year will provide a comfortable level of service for a large majority of the time. During unusually high activity periods such as the Wednesday before and the Sunday after Thanksgiving Day, airport facilities can be expected to experience longer, but not unreasonable or intolerable processing times.

The 85th percentile level of activity is often calculated in airport planning efforts using a peak month/average day/peak hour definition. Figure 2.13 through Figure 2.15 present high, low, and average monthly distributions of annual enplanements, annual total operations, and annual commercial service operations for 1995 and 2000 at Melbourne International Airport. As is common when evaluating such data at various airports, the calendar month that experienced the highest level of activity in a given year often varies. However, the annual activity in the peak month expressed as a percentage of annual activity is usually fairly constant from year to year. If annual activity were equally distributed among all twelve months in a year, monthly activity would be 8.3 percent.

For the purposes of this forecast element, the peak month for all three demand elements under review is assumed to be 11.0 percent of annual activity. The average day activity is expressed as the peak month activity divided by 30. The peak hour is expressed as a percentage of the average day activity. For passenger enplanements, the peak hour is projected to be 20 percent of the average day activity. For commercial service operations and total operations, the peak hour is projected to be ten percent of the average day activity. The design day and design hour activity levels that result from the application of these factors to annual forecasts of the respective demand elements are presented on Table 2.8.

Figure 2.13

MONTHLY DISTRIBUTION OF ANNUAL ENPLANEMENTS



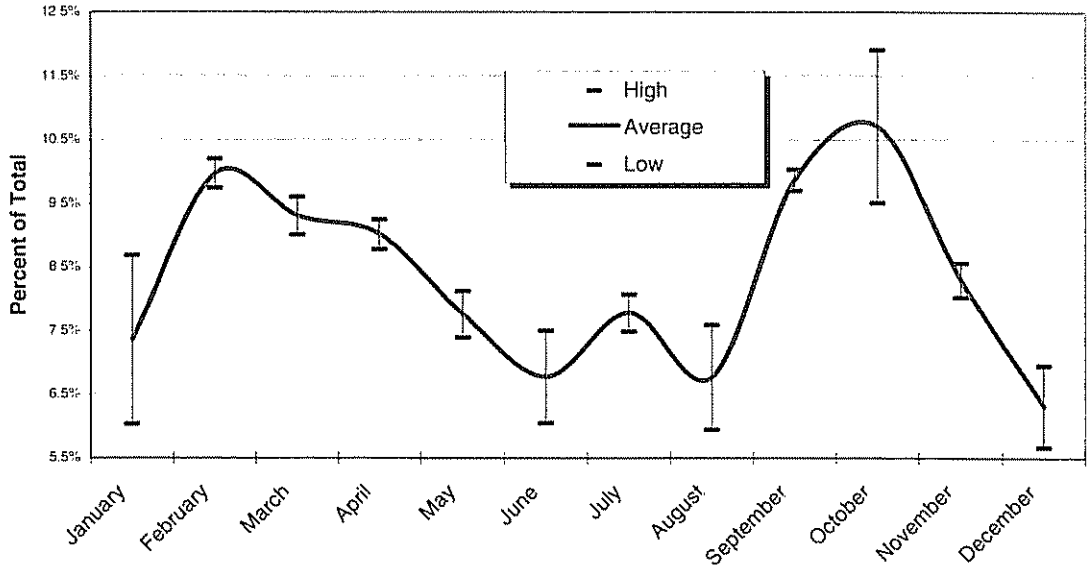
Monthly Enplanements

Month	1995	Percent of Total	2000	Percent of Total	Average	Max	Min
January	23,613	8.0%	18,905	7.2%	7.6%	8.0%	7.2%
February	24,154	8.2%	21,990	8.4%	8.3%	8.4%	8.2%
March	31,130	10.6%	26,507	10.1%	10.4%	10.6%	10.1%
April	29,413	10.0%	23,696	9.1%	9.5%	10.0%	9.1%
May	24,919	8.5%	23,343	8.9%	8.7%	8.9%	8.5%
June	23,123	7.8%	21,476	8.2%	8.0%	8.2%	7.8%
July	22,823	7.7%	22,022	8.4%	8.1%	8.4%	7.7%
August	23,013	7.8%	21,144	8.1%	8.0%	8.1%	7.8%
September	18,745	6.4%	17,568	6.7%	6.5%	6.7%	6.4%
October	21,866	7.4%	20,345	7.8%	7.6%	7.8%	7.4%
November	24,142	8.2%	22,661	8.7%	8.4%	8.7%	8.2%
December	27,731	9.4%	21,625	8.3%	8.8%	9.4%	8.3%
	294,672	100.0%	261,282	100.0%	100.0%	103.2%	96.8%

Source: Melbourne Airport Authority
Compiled by Reynolds, Smith and Hills, Inc.

Figure 2.14

MONTHLY DISTRIBUTION OF TOTAL OPERATIONS

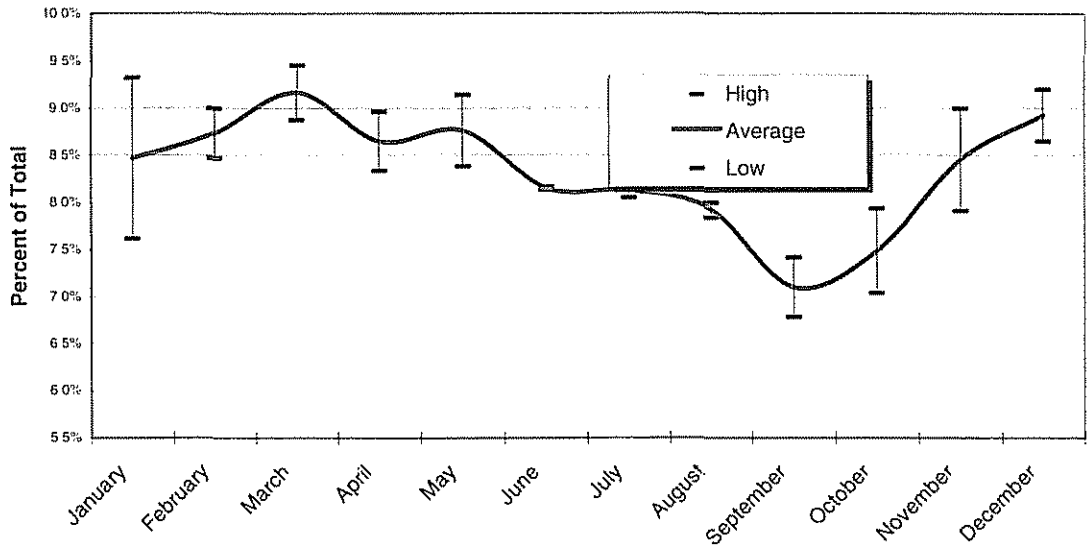


Month	1995	Percent of Total	2000	Percent of Total	Average	Max	Min
January	12,586	8 7%	11,621	6 0%	7.4%	8 7%	6 0%
February	14,769	10 2%	18,734	9 7%	10 0%	10 2%	9 7%
March	13,906	9 6%	17,332	9 0%	9.3%	9 6%	9 0%
April	13.396	9 3%	16,883	8 8%	9 0%	9 3%	8 8%
May	10,702	7 4%	15,624	8 1%	7.8%	8.1%	7.4%
June	8,769	6 1%	14,421	7 5%	6 8%	7 5%	6.1%
July	11,696	8.1%	14,405	7.5%	7 8%	8.1%	7.5%
August	8,620	6 0%	14,602	7 6%	6 8%	7.6%	6.0%
September	14,049	9 7%	19.295	10 0%	9 9%	10.0%	9 7%
October	13,774	9 5%	22,892	11.9%	10 7%	11.9%	9 5%
November	12,403	8 6%	15,442	8 0%	8 3%	8.6%	8 0%
December	10,065	7 0%	10,902	5.7%	6 3%	7 0%	5.7%
	144,735	100 0%	192,153	100 0%	100 0%	106.6%	93.4%

Source: Melbourne Airport Authority
Compiled by Reynolds, Smith and Hills. Inc

Figure 2.15

MONTHLY DISTRIBUTION OF COMMERCIAL OPERATIONS



Month	1995	Percent of Total	2000	Percent of Total	Average	Max	Min
January	1,440	9.3%	618	7.6%	8.5%	9.3%	7.6%
February	1,308	8.5%	730	9.0%	8.7%	9.0%	8.5%
March	1,460	9.5%	720	8.9%	9.2%	9.5%	8.9%
April	1,384	9.0%	676	8.3%	8.7%	9.0%	8.3%
May	1,412	9.1%	680	8.4%	8.8%	9.1%	8.4%
June	1,262	8.2%	660	8.1%	8.2%	8.2%	8.1%
July	1,244	8.1%	666	8.2%	8.1%	8.2%	8.1%
August	1,236	8.0%	636	7.8%	7.9%	8.0%	7.8%
September	1,048	6.8%	602	7.4%	7.1%	7.4%	6.8%
October	1,088	7.0%	644	7.9%	7.5%	7.9%	7.0%
November	1,222	7.9%	730	9.0%	8.5%	9.0%	7.9%
December	1,336	8.7%	746	9.2%	8.9%	9.2%	8.7%
	15,440	100.0%	8,108	100.0%	100.0%	103.9%	96.1%

Source: Melbourne Airport Authority
Compiled by Reynolds, Smith and Hills, Inc

Table 2.8

DESIGN DAY/DESIGN HOUR ACTIVITY FORECASTS

Description	Actual 2001	2003	2006	2011	2016	2021
ENPLANEMENTS						
Annual Enplanements	280,962	295,200	388,500	550,400	614,500	686,000
Peak Month (11.0% of Annual)	30,906	32,472	42,735	60.544	67,595	75,460
Average Day (30 days)	1,030	1,082	1,425	2,018	2,253	2,515
Peak Hour (20 0 Percent)	206	216	285	404	451	503
TOTAL OPERATIONS						
Annual Operations	184,482	188,600	205,100	228.600	252,100	278,000
Peak Month (11 0% of Annual)	20,293	20,746	22,561	25,146	27,731	30,580
Average Day (30 days)	676	692	752	838	924	1,019
Peak Hour (12.0 Percent)	81	83	90	101	111	122
COMMERCIAL SERVICE OPERATIONS						
Total Commercial Service	7,590	7.900	9,700	13,000	14,200	15,400
Air Carrier Operations	4,981	5,200	5,500	6,500	7,000	7,500
Commuter Operations	2,609	2,700	4.200	6,500	7,200	7,900
Peak Month (11 0% of Annual)	721	751	922	1,235	1,349	1,463
Average Day (30 days)	24	25	31	41	45	49
Peak Hour (12.0 Percent)	3	3	4	5	5	6

Source: FAA 5010 Forms
Compiled by Reynolds, Smith and Hills, Inc

2.10 COMPARISON WITH OTHER FORECAST EFFORTS

Forecasts prepared in a master plan are reviewed by the FAA and compared to the Terminal Area Forecast (TAF) projections. FAA Order 5090.3C provides guidance on the FAA review process and states that the FAA will find an airport planning forecast acceptable if the 5-year, 10-year and 15-year forecasts contained in the planning document (master plan) are within 10 percent of the TAF projections. It should be noted that if the proposed airport forecast in the master plan exceed the TAF by more than 10 percent and is considered valid by the FAA, they will be incorporated into the TAF and replace the existing TAF projections. The FAA will also consider a locally developed planning forecast to be acceptable if the forecast activity levels do not affect the timing or scale of an airport project.

The purpose of this sub-section is to compare the projections developed for this Master Plan to other existing forecasts. Table 2.9 presents a comparison of enplanement and operations forecasts prepared for this Section with projections published in the current TAF, the forecasts prepared in the previous Master Plan completed for the Airport in 1996, and forecast prepared in the Florida Aviation System Plan (FASP). The data shown in Table 2.9 is also presented graphically in Figure 2.15.

Table 2.9 (Page 1 of 3)

ENPLANEMENT COMPARISON

Year	Actual	TAF	FASP	1996 Master Plan	Current Master Plan
1985	278,444				
1986	229,270				
1987	240,781				
1988	311,816				
1989	299,200				
1990	373,588				
1991	339,271				
1992	355,885				
1993	322,012				
1994	322,708				
1995	301,736				
1996	316,600				
1997	306,163				
1998	250,878				
1999	278,153			486,300	
2000	261,880			505,725	
2001	280,962			525,926	
2002		210,934	273,862	546,934	283,558
2003		207,773	286,186	568,780	307,031
2004		212,264	299,064	591,500	332,446
2005		216,755	312,522	611,168	359,966
2006		221,247	326,586	631,490	388,500
2007		225,738	341,282	652,487	416,532
2008		230,230	356,640	674,183	446,587
2009		234,721	372,688	696,600	478,810
2010		239,213	389,459	718,411	513,359
2011		243,704	406,985	740,904	550,400
2012		248,196	425,299	764,102	562,656
2013		252,688	444,438	788,027	575,185
2014		257,179	464,438	812,700	587,993
2015		261,671	485,337		601,086
2016		266,162	507,178		614,471
2017		270,654	530,001		628,154
2018		275,145	553,851		642,141
2019		279,637	578,774		656,440
2020		284,129	604,819		671,057
2021			632,035		686,000

Note: Projected years for each study identified with a box, other years extrapolated

Sources: Terminal Area Forecast quicksum online database, previous Master Plan
Compiled by Reynolds, Smith and Hills, Inc.

Table 2-9 (Page 2 of 3)

COMMERCIAL SERVICE OPERATIONS COMPARISON

Year	Actual	TAF	FASP	1996 Master Plan	Current Master Plan
1985	12,143				
1986	12,808				
1987	15,371				
1988	20,137				
1989	17,385				
1990	18,823				
1991	21,549				
1992	19,655				
1993	20,826				
1994	17,804				
1995	15,579				
1996	11,579				
1997	7,350				
1998	5,119				
1999	6,846			27,200	
2000	7,497			28,046	
2001	7,590			28,918	
2002		6,591	7,361	29,817	
2003		6,545	7,597	30,744	
2004		6,637	7,840	31,700	
2005		6,730	8,091	32,571	
2006		6,822	8,350	33,466	9,700
2007		6,915	8,617	34,385	10,316
2008		7,007	8,893	35,329	10,953
2009		7,100	9,177	36,300	11,612
2010		7,193	9,471	37,303	12,294
2011		7,285	9,774	38,334	13,000
2012		7,378	10,087	39,393	13,223
2013		7,470	10,409	40,481	13,449
2014		7,563	10,743	41,600	13,679
2015		7,656	11,086		13,913
2016		7,748	11,441		14,150
2017		7,841	11,087		14,392
2018		7,933	12,185		14,638
2019		8,026	12,575		14,888
2020		8,119	12,977		15,142
2021			13,393		15,400

Note: Projected years for each study identified with a box, other years extrapolated.

Sources: Terminal Area Forecast quicksum online database, previous Master Plan
Compiled by Reynolds, Smith and Hills, Inc.

Table 2-9 (Page 3 of 3)

TOTAL OPERATIONS COMPARISON

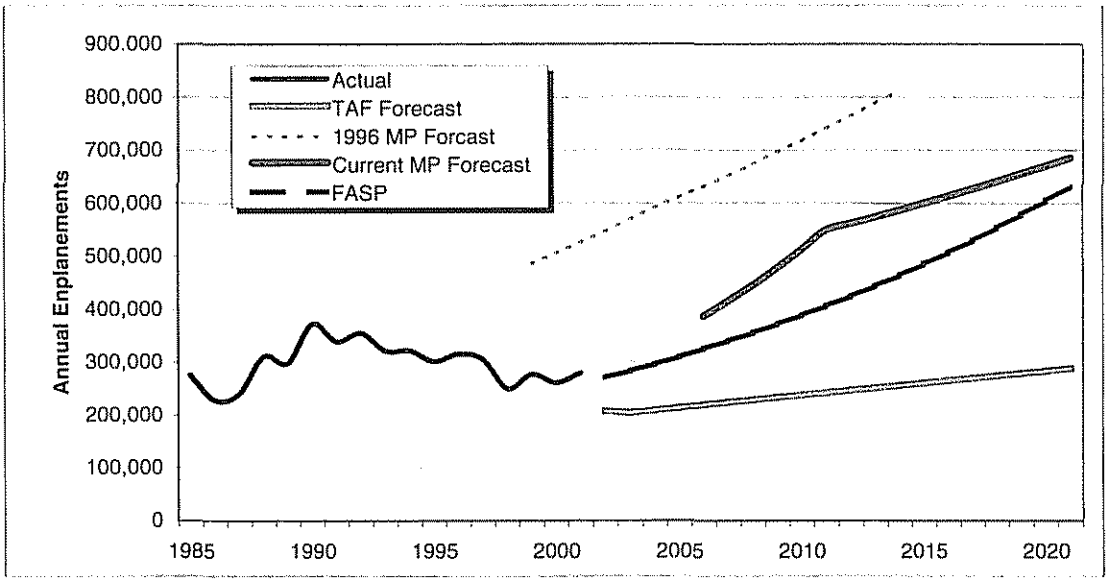
Year	Actual	TAF	FASP	1996 Master Plan	Current Master Plan
1985	210,905				
1986	217,603				
1987	265,545				
1988	269,989				
1989	261,842				
1990	276,910				
1991	239,513				
1992	214,364				
1993	212,957				
1994	159,107				
1995	151,403				
1996	132,717				
1997	127,510				
1998	127,850				
1999	145,484			260,100	
2000	193,015			266,841	
2001	184.482			273,757	
2002		194,512	195,087	280,853	
2003		198,372	199,077	288,132	
2004		202,372	203,150	295,600	
2005		206,372	207,307	301,850	
2006		210,371	211,551	308,232	205,100
2007		214,371	215,882	314,749	209,598
2008		218,370	220,303	321,404	214,195
2009		222,370	224,815	328,200	218,893
2010		226,370	229,422	332,922	223,694
2011		230,369	234,124	337,712	228,600
2012		234,369	238,924	342,571	233,117
2013		238,369	243,823	347,500	237,722
2014		242,369	248,825	352,500	242,419
2015		246,369	253,929		247,209
2016		250,368	259,141		252,093
2017		254,368	263,741		257,074
2018		258,367	269,892		262,153
2019		262,367	275,437		267,332
2020		266,369	281,096		272,614
2021			286,874		278,000

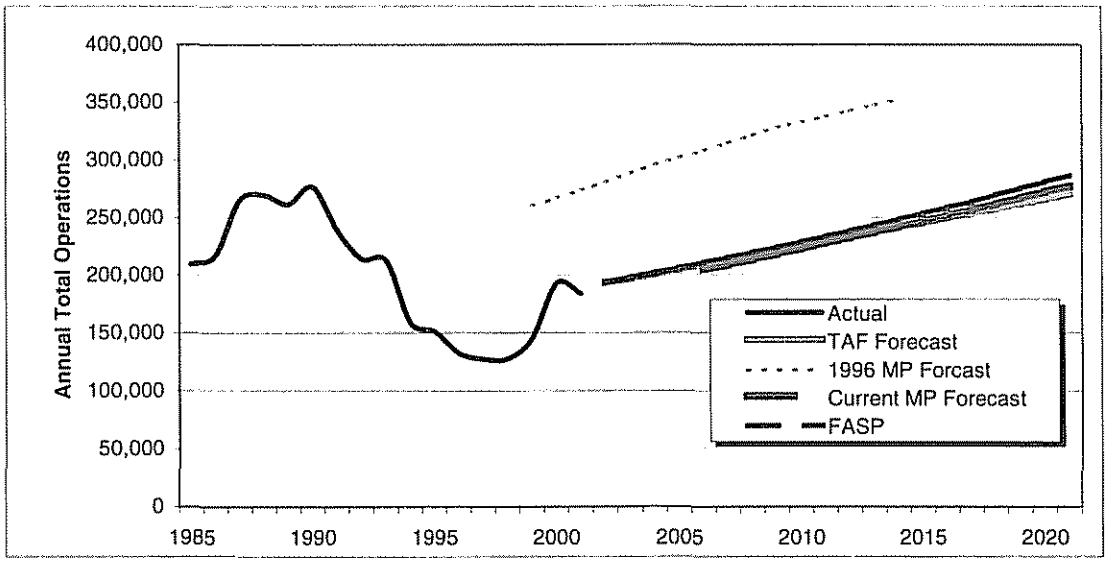
Note: Projected years for each study identified with a box, other years extrapolated.

Sources: Terminal Area Forecast quicksum online database, previous Master Plan
Compiled by Reynolds, Smith and Hills, Inc.

Figure 2.16

COMPARISON WITH OTHER FORECASTS





Sources: Terminal Area Forecast quicksum online database, previous Master Plan
Compiled by Reynolds, Smith and Hills, Inc

As illustrated on Figure 2.16, the forecasts of enplanements prepared in this section are less aggressive than the previous master plan forecasts and more optimistic than the current FAA projections in the TAF. Although the preferred enplanement forecast exceed the TAF by 10%, planning activity levels will be developed in subsequent sections of this report which tie all long-term capital improvement decisions to specific demand levels. Therefore, the enplanement forecast activity levels discussed in this section would not affect the timing or scope of any future airport projects. Total aircraft operations projected in this section are less than those contained in the TAF and considerably lower than the previous master plan. A comparison between the projections in this master plan and the current TAF are presented in Table 2.10.

Table 2.10

TAF COMPARISON

Description	Year	Master Plan Forecast	TAF	Percent Higher (Lower)
ENPLANEMENTS				
Base Year	2001	280,962	280,962	0.0%
Base Year + 5 years	2006	388,500	221,247	75.6%
Base Year + 10 years	2011	550,400	243,704	125.8%
Base Year + 15 years	2016	614,500	266,162	130.9%
TOTAL OPERATIONS				
Base Year	2001	184,482	184,482	0.0%
Base Year + 5 years	2006	205,100	210,371	-2.5%
Base Year + 10 years	2011	228,600	230,369	-0.8%
Base Year + 15 years	2016	252,100	250,368	0.7%
COMMERCIAL OPERATIONS				
Base Year	2001	7,590	7,590	0.0%
Base Year + 5 years	2006	9,700	6,822	42.2%
Base Year + 10 years	2011	13,000	7,285	78.4%
Base Year + 15 years	2016	14,200	7,748	83.3%

Source: Airport Authority
Compiled by Reynolds, Smith and Hills, Inc

2.11 SUMMARY OF FORECASTS

Table 2.11 presents a summary listing of the aviation demand forecasts at MLB. These projections will be used in the next section of the master plan to assess the capacity of existing facilities and determine facility expansions or improvements needed to satisfy future activity levels.

Table 2.11

FORECAST SUMMARY

Description	Actual 2001	Projected 2002	2006	2011	2016	Average Annual Compound Growth Rates 2002	2006	2011	2016
ENPLANEMENTS									
Total Annual Enplanements	280,962	200,032	388,500	550,400	614,500	-28.8%	6.7%	7.0%	5.4%
OPERATIONS									
Itinerant									
Air Carrier Operations	4,981	4,562	5,500	6,500	7,000	-9.2%	2.0%	2.7%	2.3%
Commuter Operations	2,609	2,390	4,200	6,500	7,200	-9.2%	10.0%	9.6%	7.0%
Total Commercial Operations	7,590	6,952	9,700	13,000	14,200	-9.2%	5.0%	5.5%	4.3%
General Aviation	85,250	87,547	97,200	107,300	118,450	2.7%	2.7%	2.3%	2.2%
Military	797	587	1,000	1,000	1,000	-35.8%	4.6%	2.3%	1.5%
Local									
General Aviation	90,845	91,318	97,200	107,300	118,450	0.5%	1.4%	1.7%	1.8%
Military	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
TOTAL OPERATIONS	184,482	186,404	205,100	228,600	252,100	1.0%	2.1%	2.2%	2.1%
INSTRUMENT APPROACHES	19,538	23,518	20,900	22,300	23,905	20.4%	1.4%	1.3%	1.4%
PEAK HOUR OPERATIONS	81	82	90	101	111	1.2%	2.1%	2.2%	2.1%
CARGO/MAIL[1] (TONS)	165	148	211	283	308	-10.3%	5.0%	5.5%	4.2%
BASED AIRCRAFT									
Single Engine	121	130	134	147	162	7.4%	2.1%	2.0%	2.0%
Multi Engine	31	29	34	38	42	-6.9%	1.9%	2.1%	2.0%
Jet Engine	11	17	14	18	20	54.5%	4.9%	5.0%	4.1%
Helicopter	3	3	3	3	3	0.0%	0.0%	0.0%	0.0%
Other	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
TOTAL BASED AIRCRAFT	166	179	185	206	227	7.8%	2.2%	2.2%	2.1%

[1]Total Enplaned and Deplaned

Source: Airport Authority

Compiled by Reynolds, Smith and Hills, Inc.