

III. Aviation Activity Forecasts

Since the aviation demand analysis was initiated in early 2002, historical activity through 2001 was used to assess operating characteristics at the Airport and to derive future airport activity profiles. Activity patterns throughout 2002 were monitored in order to identify changes in operating patterns at the Airport and to assess activity volumes at O'Hare following the September 11, 2001 terrorist attacks and the slowdown in the U.S. economy that began during the first quarter of 2001. Future activity projections were established for the 20-year horizon starting in 2002 and ending in 2022.

The O'Hare Master Plan demand analysis built on previously developed forecasts to define aviation activity profiles and demand thresholds for the Airport. The adopted forecasts and the methodology utilized in the development of the associated derivative profiles and future design day schedules represent unconstrained demand scenarios. These unconstrained demand scenarios assume that there are, or will be, sufficient airport facilities/infrastructure to allow the Airport to serve the demand for air transportation. In addition, it is also assumed that regulatory constraints on activity, such as the High Density Rule, are non-existent and thus, do not limit the Airport's ability to process its true demand.

3.1 Adopted Forecast Sources

To accomplish these objectives, the 2001 FAA Terminal Area Forecasts (TAF) were used as the primary forecast source for quantifying future aviation activity for O'Hare. In addition to the 2001 TAF, historical activity patterns and traffic statistics were used for purposes of:

- Assessing historical patterns and projected sources and volumes of demand;
- Assimilating recent trends (i.e., 1998-2002);
- Establishing future peaking demand patterns at O'Hare; and
- Understanding the demand profiles that formed the basis for other ongoing airfield, terminal, support/ancillary, and ground access improvements at O'Hare.

The 2001 TAF represented the official demand forecasts published by the FAA for O'Hare at the time of this analysis. The 2001 TAF were prepared in the spring and summer of 2001, prior to the September 11, 2001 terrorist attacks and before the effects of the U.S. economic recession were as defined as they are today. At that time, the FAA was developing draft iterations of the 2002 TAF that were not finalized until the O'Hare Master Plan Demand Analysis was completed.

Following a review of the 2001 TAF and the draft 2002 TAF issued by the FAA at that time, the City of Chicago, FAA, and the planning consulting team mutually agreed to the utilization of the 2001 TAF for this master planning analysis. A copy of the FAA concurrence letter is included in **Appendix A**. The 2001 TAF's projected levels of activity for 2003 and 2004 are likely overly optimistic given the September 11, 2001 terrorist attacks and the slowdown in the U.S. and global economies. However, airline fleet mix adjustments may make the difference in the projected level of aircraft operations between the 2001 TAF and the draft 2002 TAF available at that time less significant. From a long-term perspective, it was discussed and mutually agreed to by the City and the FAA that the 2001 TAF projections, and its underlying assumptions still remain valid for long-term planning (i.e., the 2010 through 2022 horizon).

Even if the industry continues to consolidate, as many predicted even prior to September 11, 2001, and near-term and long-term airline operating characteristics reflect a more efficient balance between fleet capacity and seat demand, the unconstrained demand projections forecast for O'Hare by the FAA continue to represent an adequate quantification of future aviation activity for the 10- to 20-year horizon. A comparison of the 2001 TAF to the 2002 TAF published after this demand analysis had been completed to illustrate similar growth rate patterns during the outer forecast years, thus reflecting the air service demand in the region and the geographic attractiveness of O'Hare for hubbing operations by existing and/or new entrant carriers.

As appropriate, other industry forecasts available at the time these demand projections were prepared, such as the FAA's Long Range Forecasts, the Airbus Global Market Forecasts (2000-2019), and the Boeing Market Outlook Forecasts (2001) were used as reference documents to confirm some of the demand profiles established for O'Hare.

3.2 Summary of 2001 TAF Projections

The FAA publishes its TAFs on a fiscal year basis (assuming an October 1 through September 30 fiscal year cycle). As an example, fiscal year 2003 is assumed to represent October 1, 2002 through September 30, 2003.

These FAA forecasts, which provide annual unconstrained projections of passenger enplanements and total aircraft operations through fiscal year 2015, were converted to calendar year projections and extrapolated through the year 2022 to produce a 20-year demand evaluation period. The following formula was used to convert the TAF data from fiscal years (FY) to calendar years (CY).

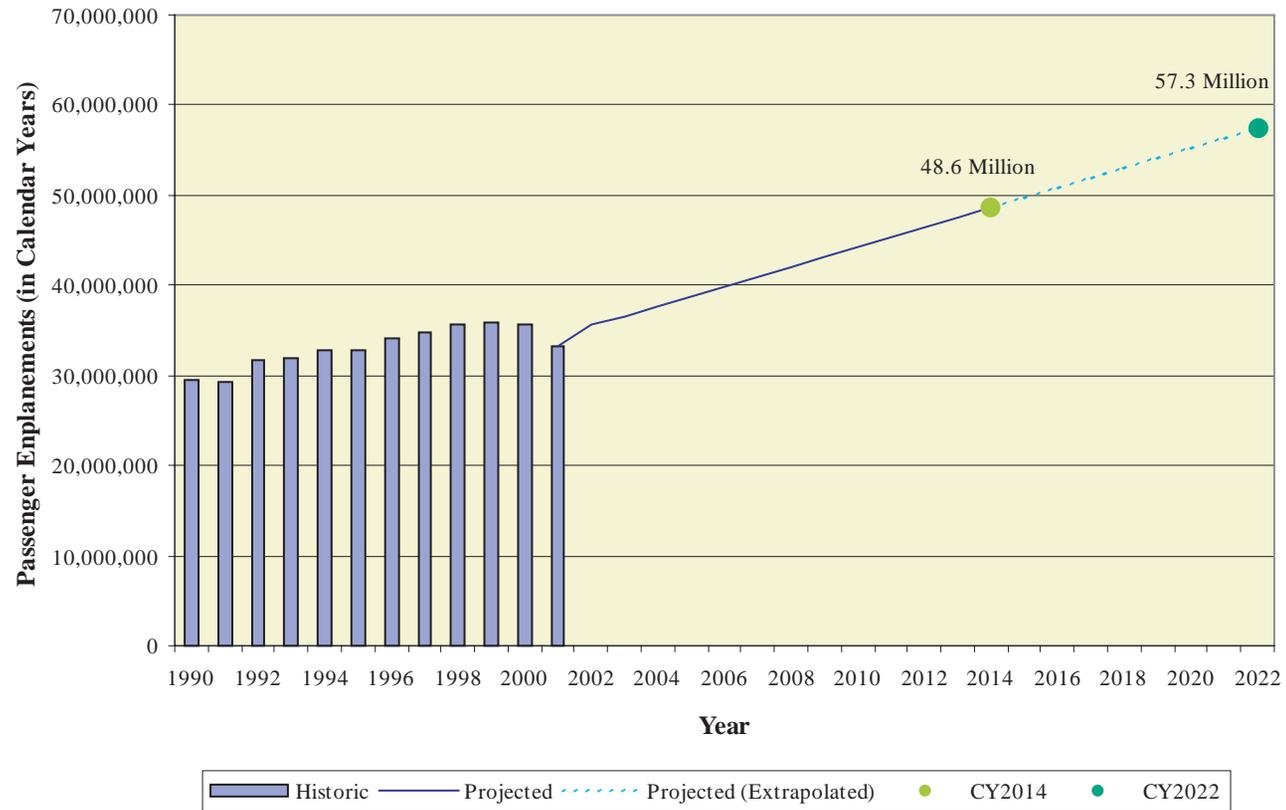
$$\text{CY Activity}_{\text{Year } 0} = .75 * \text{FY Activity}_{\text{Year } 0} + .25 * \text{FY Activity}_{\text{Year } 1}$$

An analysis of O'Hare's historical data from 1991 through 2001 showed that, on average, the last quarter of the calendar year represents between 24 percent and 25 percent of the fiscal year activity (for both total passengers and total operations). The extrapolated projections of unconstrained activity for CY2015 and beyond were derived using a trend analysis of the forecast activity from CY2002 through CY2014 (the forecast horizon included in the published 2001 TAF).

Tables III-1 and III-2 summarize the 2001 TAF projections in fiscal years (as published by the FAA) and in calendar years. Calendar year projections are also graphically depicted in **Exhibits III-1 and III-2**. As shown, the 2001 TAF projections reflect passenger enplanements at O'Hare would grow to approximately 48.6 million in calendar year 2014. The extrapolation of the 2001 TAF as described above resulted in annual unconstrained passenger enplanements reaching approximately 57.3 million in the CY2022. Similarly, the 2001 TAF's show total annual unconstrained aircraft operations growing up to approximately 1.1 million operations in CY2014. The extrapolation of the TAF projections resulted in 1.2 million operations by CY2022.

3.3 Derivative Demand Profiles – Passenger Enplanements

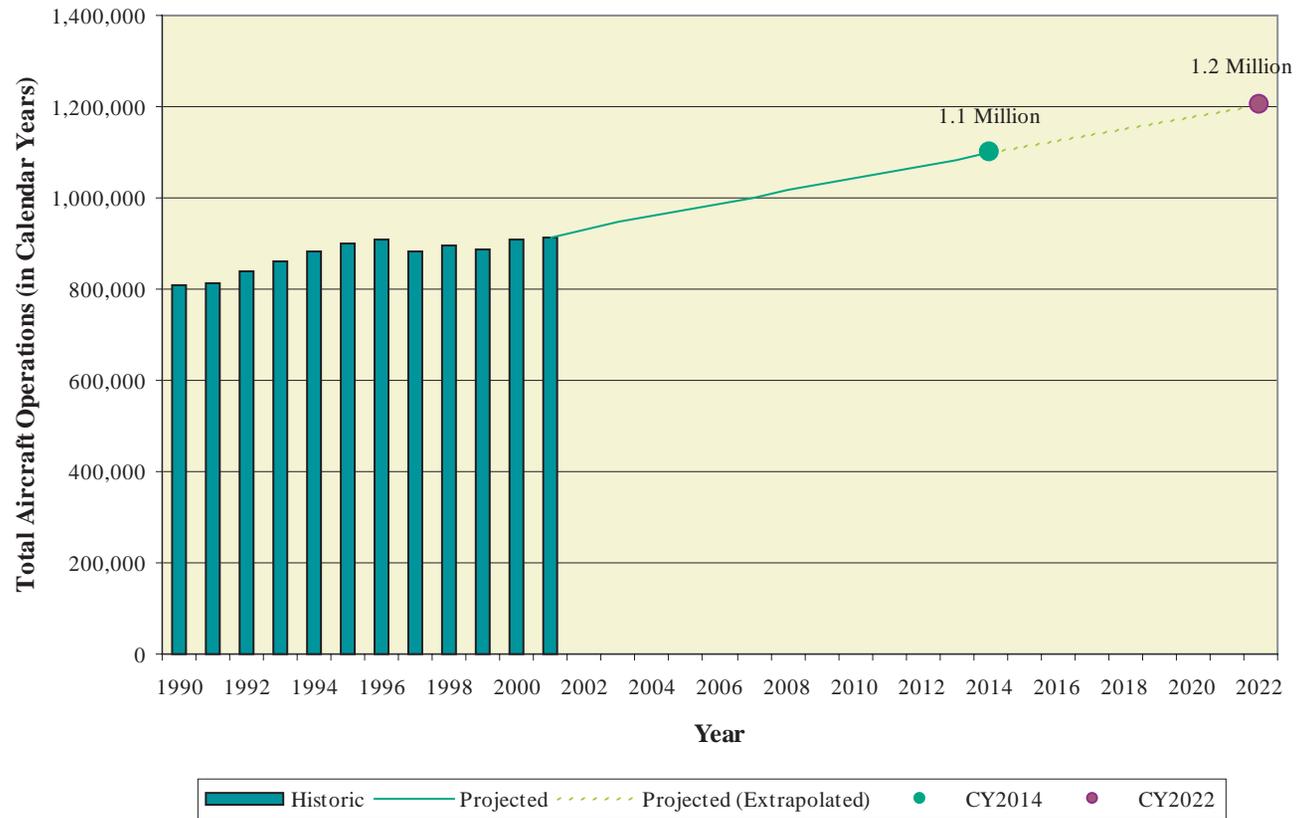
The passenger enplanement forecast contained in Table III-1 was categorized as domestic or international and then categorized further to provide estimates of O&D and connecting passenger traffic. This section documents these categorizations of the passenger enplanement forecast as well as how the forecast was converted into peak month and Peak Month Average Day (PMAD) equivalents, as presented in **Table III-3**.



Source: Historical - City of Chicago DOA Management Records; Projected - FAA Terminal Area Forecasts; Projected (Extrapolated) - Ricondo & Associates, Inc.
 Prepared by: Ricondo & Associates, Inc.

Exhibit III-1

2001 FAA Terminal Area Forecasts Passenger Enplanements in Calendar Years



Source: Historical - City of Chicago DOA Management Records; Projected - FAA Terminal Area Forecasts; Projected (Extrapolated) - Ricondo & Associates, Inc.
 Prepared by: Ricondo & Associates, Inc.

Exhibit III-2

2001 FAA Terminal Area Forecasts Total Aircraft Operations in Calendar Years

Table III-1**2001 FAA Terminal Area Forecasts for O'Hare International Airport - Passenger Enplanements**

Year	2001 TAF Enplanements (in FY)		2001 TAF Enplanements (in CY)		Extrapolated ⁴
	Historical ¹	Projected	Historical ¹	Projected ³	
1990	29,419,002		29,419,002		
1991	29,376,349		29,376,349		
1992	31,655,074		31,655,074		
1993	31,983,998		31,983,998		
1994	32,718,725		32,718,725		
1995	32,861,460		32,861,460		
1996	34,067,885		34,067,885		
1997	34,774,114		34,774,114		
1998	35,758,810		35,758,810		
1999	35,946,964		35,946,964		
2000	35,700,525		35,700,525		
2001	33,310,203	34,153,190 ²	33,310,203		
2002		35,284,393		35,556,730	
2003		36,373,739		36,646,076	
2004		37,463,086		37,735,423	
2005		38,552,434		38,824,771	
2006		39,641,781		39,914,118	
2007		40,731,129		41,003,466	
2008		41,820,477		42,092,814	
2009		42,909,825		43,182,162	
2010		43,999,173		44,271,510	
2011		45,088,521		45,360,858	
2012		46,177,868		46,450,205	
2013		47,267,216		47,539,553	
2014		48,356,563		48,628,901	
2015		49,445,913			49,719,645
2016		<i>50,540,840</i>			50,813,438
2017		<i>51,631,234</i>			51,903,832
2018		<i>52,721,628</i>			52,994,226
2019		<i>53,812,022</i>			54,084,620
2020		<i>54,902,416</i>			55,175,014
2021		<i>55,992,810</i>			56,265,408
2022		<i>57,083,204</i>			57,355,802

Notes:

1 Historic Activity shown in Calendar Years and obtained from the City of Chicago's Department of Aviation Management Records. The FAA relies on the U.S. DOT Form 41, T100 database for its source of historic data, which is not as comprehensive as that which is reported to the City and recorded by the local Air Traffic Control Tower. In addition, the City data contained more detail than that included within the 2001 TAFs, thus facilitating the calculation of the demand calculation with forecast metrics that are consistent with historic trends or assumptions relative to future operating patterns.

2 Represents FAA TAF projections for FY 2001.

3 Represents FAA TAF projections converted to calendar years by Ricondo & Associates, Inc.

4 Represents FAA TAF projections extrapolated by Ricondo & Associates, Inc. Italic text represents extrapolated TAF projections.

Sources: City of Chicago Airport Activity Statistics; FAA Terminal Area Forecasts; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003.

Table III-2**2001 FAA Terminal Area Forecasts for O'Hare International Airport - Total Aircraft Operations**

Year	2001 TAF Total Aircraft Operations (in FY)		2001 TAF Total Operations (in CY)		
	Historical ¹	Projected	Historical ¹	Projected	Extrapolated ⁴
1990	812,865		810,865		
1991	813,896		813,896		
1992	841,193		841,193		
1993	859,208		859,208		
1994	883,062		883,062		
1995	900,279		900,279		
1996	909,593		909,593		
1997	883,761		883,761		
1998	896,104		896,104		
1999	884,783		884,783		
2000	908,989		908,989		
2001	911,917	923,435 ²	911,917	911,917	
2002		929,097		932,542	
2003		942,878		946,324	
2004		956,661		960,107	
2005		970,444		973,890	
2006		984,227		987,673	
2007		998,010		1,001,456	
2008		1,011,793		1,015,238	
2009		1,025,574		1,029,020	
2010		1,039,357		1,042,803	
2011		1,053,140		1,056,586	
2012		1,066,923		1,070,369	
2013		1,080,706		1,084,152	
2014		1,094,489		1,097,935	
2015		1,108,272			1,111,447
2016		1,120,971 ³			1,124,366
2017		1,134,551 ³			1,137,946
2018		1,148,131 ³			1,151,525
2019		1,161,710 ³			1,165,105
2020		1,175,290 ³			1,178,685
2021		1,188,870 ³			1,192,265
2022		1,202,449 ³			1,205,844

Notes:

¹ Historic Activity shown in Calendar Years and obtained from the City of Chicago's Department of Aviation Management Records. The FAA relies on the U.S. DOT Form 41, T100 database for its source of historic data, which is not as comprehensive as that which is reported to the City and recorded by the local Air Traffic Control Tower. In addition, the City data contained more detail than that included within the 2001 TAFs, thus facilitating the derivation of the demand derivatives with forecast metrics that are consistent with historic trends or assumptions relative to future operating patterns.

² Represents FAA TAF projections for FY 2001.

³ Represents FAA TAF projections converted to calendar years by Ricondo & Associates, Inc.

⁴ Represents FAA TAF projections extrapolated by Ricondo & Associates, Inc. Italic text represents extrapolated TAF projections.

Sources: City of Chicago Airport Activity Statistics; FAA Terminal Area Forecasts; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003.

3.3.1 Domestic/International Passenger Splits

The annual passenger enplanement projections were segregated into domestic and international activity. The FAA reports Canadian activity as international traffic. However, for purposes of this Demand Analysis, passenger activity and aircraft operations to/from Canadian destinations were included within the domestic activity.

In addition, there were a few other small adjustments to the categorization of domestic and international airline activity that were adopted for this demand analysis. The 1990 through 2001

Table III-3

Passenger Enplanement Projections - Summary

Year	Domestic					International					Share of Total Enplanements	Total Enplanements
	O&D	Total Domestic Connecting	Total Annual Domestic ^{1/}	Peak Month	PMAD	O&D	Domestic to Int'l Connecting	Total Annual International ^{2/}	Peak Month	PMAD		
Actual 2001	12,366,025	17,122,735	29,488,760	3,061,711	98,765	1,528,577	2,292,866	3,821,443	401,013	12,936	11.5%	33,310,203
2002	14,772,526	16,330,854	31,103,380	2,937,957	94,773	1,781,340	2,672,010	4,453,349	531,548	17,147	12.5%	35,556,730
2003	15,226,477	16,698,257	31,924,734	3,015,540	97,275	1,888,537	2,832,805	4,721,342	563,536	18,179	12.9%	36,646,076
2004	15,668,941	17,046,304	32,715,245	3,090,210	99,684	2,008,071	3,012,107	5,020,178	599,205	19,329	13.3%	37,735,423
2005	16,110,167	17,386,439	33,496,606	3,164,016	102,065	2,131,266	3,196,899	5,328,165	635,966	20,515	13.7%	38,824,771
2006	16,550,098	17,718,718	34,268,816	3,236,957	104,418	2,258,121	3,387,181	5,645,302	673,819	21,736	14.1%	39,914,118
2007	16,988,681	18,043,195	35,031,876	3,309,034	106,743	2,388,636	3,582,954	5,971,590	712,764	22,992	14.6%	41,003,466
2008	17,424,745	18,358,750	35,783,495	3,380,030	109,033	2,523,728	3,785,591	6,309,319	753,075	24,293	15.0%	42,092,814
2009	17,864,655	18,672,176	36,536,831	3,451,189	111,329	2,658,132	3,987,199	6,645,331	793,182	25,587	15.4%	43,182,162
2010	18,303,300	18,978,152	37,281,453	3,521,524	113,598	2,796,023	4,194,034	6,990,057	834,328	26,914	15.8%	44,271,510
2011	18,740,628	19,276,731	38,017,359	3,591,036	115,840	2,937,399	4,406,099	7,343,499	876,514	28,275	16.2%	45,360,858
2012	19,176,585	19,567,965	38,744,550	3,659,725	118,056	3,082,262	4,623,393	7,705,655	919,741	29,669	16.6%	46,450,205
2013	19,579,254	19,978,852	39,558,106	3,736,572	120,535	3,192,579	4,788,868	7,981,446	952,659	30,731	16.8%	47,539,553
2014	19,979,766	20,387,539	40,367,305	3,813,007	123,000	3,304,638	4,956,957	8,261,595	986,098	31,810	17.0%	48,628,901
2015	20,378,694	20,794,609	41,173,303	3,889,140	125,456	3,391,829	5,154,512	8,546,342	1,020,085	32,906	17.2%	49,719,645
2016	20,776,709	21,200,747	41,977,456	3,965,098	127,906	3,479,168	5,356,814	8,835,982	1,054,656	34,021	17.4%	50,813,438
2017	21,171,173	21,603,261	42,774,434	4,040,379	130,335	3,566,171	5,563,227	9,129,399	1,089,678	35,151	17.6%	51,903,832
2018	21,563,477	22,003,572	43,567,049	4,115,248	132,750	3,653,031	5,774,146	9,427,177	1,125,221	36,297	17.8%	52,994,226
2019	21,953,623	22,401,680	44,355,303	4,189,704	135,152	3,739,706	5,989,611	9,729,317	1,161,284	37,461	18.0%	54,084,620
2020	22,341,610	22,797,586	45,139,195	4,263,749	137,540	3,826,156	6,209,663	10,035,819	1,197,868	38,641	18.2%	55,175,014
2021	22,727,438	23,191,288	45,918,726	4,337,382	139,916	3,912,339	6,434,343	10,346,682	1,234,972	39,838	18.4%	56,265,408
2022	23,111,107	23,582,788	46,693,895	4,410,603	142,278	3,998,215	6,663,692	10,661,907	1,272,597	41,052	18.6%	57,355,802

Notes:

- 1/ Includes Canadian traffic.
- 2/ Excludes Canadian traffic.

Sources: 2001 FAA Terminal Area Forecasts (Total Enplanement figures only through 2014); U.S. DOT Origin-Destination Passenger Survey; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

distributions of passenger activity by domestic and international components, including the reallocation of Canadian traffic from international activity to domestic activity, are presented in **Tables III-4 and III-5**.

The historic percentages of domestic passengers and international passengers were extrapolated through a trend analysis and compared against the domestic and international passenger splits previously developed as part of the 1998 Chicago Airport System Forecasts.¹ Recent activity trends experienced at the Airport from 1997 through 2001 confirm the domestic/international activity distributions identified in the 1998 Chicago Airport System Forecasts through 2002. The 1998 Chicago Airport System Forecasts estimate that domestic activity will constitute approximately 85.4 percent and 83.4 percent of the Airport's total enplaned passenger volumes in the years 2007 and 2012, respectively.

Similarly, the 1998 Chicago Airport System Forecasts project that international activity in 2007 and 2012 will represent approximately 14.6 percent and 16.6 percent, respectively, of the Airport's total enplaned passenger volumes. These projected patterns (which represent an average annual decrease in the share of domestic passenger enplanements of 0.4 percent points and an average annual increase in the share of international passenger enplanements by an equal number of percent points) indicate that O'Hare's international activity will continue to grow at a greater rate than the Airport's domestic traffic during the near to mid-term future. These projected patterns reflect the trends in passenger growth at O'Hare in the last five years. Therefore, the growth patterns projected in the 1998 Chicago Airport System Forecasts and experienced at the Airport since 1998 (i.e., domestic activity share decreasing at an average annual rate of 0.4 percent points and international activity share growing at 0.4 percent points) are assumed to continue through 2012. Beyond 2012, a continuation of these patterns is assumed, but at a smaller magnitude. From 2012 through 2022, domestic activity share is estimated to continue decreasing at an average annual rate of 0.2 percent points. International activity share is assumed to continue growing at an average annual rate of 0.2 percent points.

Table III-6 summarizes the annual domestic and international passenger projections derived from the 2001 TAF. As shown, these demand characteristics result in a domestic/international split of 83.4 percent/16.6 percent for 2012 and 81.4 percent/18.6 percent for 2022. These traffic splits translate to 38.7 million annual domestic passengers and 7.7 million annual international passengers in 2012 and 46.7 million annual domestic passengers and 10.7 million annual international passengers in 2022. The 2022 passenger volumes result in an average annual growth of 2.2 percent in domestic passenger traffic and 5.0 percent in international passenger traffic from 2001 through 2022. In comparison, the FAA's Long-Range Aerospace Forecasts for fiscal years 2013 through 2025 project the following average annual growth rates: 3.7 percent in domestic passenger activity served by mainline air carriers, 4.2 percent in domestic passenger activity served by regional/commuter carriers, and 4.7 percent in international passenger traffic served by U.S flag and foreign flag carriers.

¹ *Chicago Airport System Forecast*, June 1998. Landrum & Brown, Inc.

Table III-4**Historical Domestic Passenger Enplanements**

Year	Domestic Enplanements ^{1/}	Domestic Enplanement Adjustments				Adjusted Domestic Enplanements
		Add-Other ^{2/}	Add-Canadian	Deduct-Express One ^{3/}	Deduct-Other ^{4/}	
1990	27,101,329	0	765,199	0	198	27,866,330
1991	27,098,675	0	727,707	0	62	27,826,320
1992	29,121,304	0	633,027	0	0	29,754,331
1993	29,101,964	0	812,632	0	4,603	29,909,993
1994	29,715,188	0	826,460	0	0	30,541,648
1995	29,563,080	1,673	931,300	0	0	30,496,053
1996	30,538,684	1,120	939,552	0	186	31,479,170
1997	30,887,134	0	971,642	0	0	31,858,776
1998	31,460,468	0	995,731	234	0	32,455,965
1999	31,190,082	0	1,027,230	119	3,741	32,213,452
2000	30,651,529	0	1,001,645	0	224	31,652,950
2001	28,693,866	0	794,894	0	0	29,488,760

Notes:

- 1/ As reported in the Airport Management Records. Domestic activity includes commuters.
- 2/ Add-Other represents domestic activity reported as international activity in the Airport's Management Records.
- 3/ Express-One is a charter operator that was not included in this data inventory.
- 4/ Deduct-Other represents international activity reported as domestic activity in the Airport's Management Records.

Sources: City of Chicago Airport Activity Statistics; Official Airline Guide; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

Table III-5**Historical International Passenger Enplanements**

Year	International Enplanements ^{1/}	International Enplanement Adjustments			Adjusted International Enplanements
		Add-Other ^{2/}	Deduct-Other ^{3/}	Deduct-Canadian	
1990	2,317,673	198	0	765,199	1,552,672
1991	2,277,674	62	0	727,707	1,550,029
1992	2,533,770	0	0	633,027	1,900,743
1993	2,882,034	4,603	0	812,632	2,074,005
1994	3,003,537	0	0	826,460	2,177,077
1995	3,298,380	0	1,673	931,300	2,365,407
1996	3,529,201	186	1,120	939,552	2,588,715
1997	3,886,980	0	0	971,642	2,915,338
1998	4,298,576	0	0	995,731	3,302,845
1999	4,757,001	3,741	0	1,027,230	3,733,512
2000	5,048,996	224	0	1,001,645	4,047,575
2001	4,616,337	0	0	794,894	3,821,443

Notes:

- 1/ As reported in the Airport Management Records.
- 2/ Add-Other represents international activity reported as domestic activity in the Airport's Management Records.
- 3/ Deduct-Other represents domestic activity reported as international activity in the Airport's Management Records.

Sources: City of Chicago Airport Activity Statistics; Official Airline Guide; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

Table III-6**Domestic/International Passenger Splits**

Passenger Enplanements ^{1/} - OMP Demand Analyses using the 2001 TAFs						
	Calendar Year	Domestic ^{4/}	% of Total	International	% of Total	Total
Historic ^{2/}	1990	27,866,330	94.7%	1,552,672	5.3%	29,419,002
	1991	27,826,320	94.7%	1,550,029	5.3%	29,376,349
	1992	29,754,331	94.0%	1,900,743	6.0%	31,655,074
	1993	29,909,993	93.5%	2,074,005	6.5%	31,983,998
	1994	30,541,648	93.3%	2,177,077	6.7%	32,718,725
	1995	30,496,053	92.8%	2,365,407	7.2%	32,861,460
	1996	31,479,170	92.4%	2,588,715	7.6%	34,067,885
	1997	31,858,776	91.6%	2,915,338	8.4%	34,774,114
	1998	32,455,965	90.8%	3,302,845	9.2%	35,758,810
	1999	32,213,452	89.6%	3,733,512	10.4%	35,946,964
	2000	31,652,950	88.7%	4,047,575	11.3%	35,700,525
2001	29,488,760	88.5%	3,821,443	11.5%	33,310,203	
Projected ^{3/}	2002	31,103,380	87.5%	4,453,349	12.5%	35,556,730
	2003	31,924,734	87.1%	4,721,342	12.9%	36,646,076
	2004	32,715,245	86.7%	5,020,178	13.3%	37,735,423
	2005	33,496,606	86.3%	5,328,165	13.7%	38,824,771
	2006	34,268,816	85.9%	5,645,302	14.1%	39,914,118
	2007	35,031,876	85.4%	5,971,590	14.6%	41,003,466
	2008	35,783,495	85.0%	6,309,319	15.0%	42,092,814
	2009	36,536,831	84.6%	6,645,331	15.4%	43,182,162
	2010	37,281,453	84.2%	6,990,057	15.8%	44,271,510
	2011	38,017,359	83.8%	7,343,499	16.2%	45,360,858
	2012	38,744,550	83.4%	7,705,655	16.6%	46,450,205
	2013	39,558,106	83.2%	7,981,446	16.8%	47,539,553
	2014	40,367,305	83.0%	8,261,595	17.0%	48,628,901
	Projected by Extrapolating the 2001 TAFs	2015	41,173,303	82.8%	8,546,342	17.2%
2016		41,977,456	82.6%	8,835,982	17.4%	50,813,438
2017		42,774,434	82.4%	9,129,399	17.6%	51,903,832
2018		43,567,049	82.2%	9,427,177	17.8%	52,994,226
2019		44,355,303	82.0%	9,729,317	18.0%	54,084,620
2020		45,139,195	81.8%	10,035,819	18.2%	55,175,014
2021		45,918,726	81.6%	10,346,682	18.4%	56,265,408
2022		46,693,895	81.4%	10,661,907	18.6%	57,355,802

Average Annual Growth Rates:

1990-2001	0.5%	8.5%
2001-2007	2.9%	7.7%
2007-2014	2.0%	4.7%
2014-2022	1.8%	3.2%
2001-2022	2.2%	5.0%

Notes:

- 1/ Includes Canadian activity as domestic. TAF Projections were converted from fiscal year to calendar year projections.
- 2/ City of Chicago's Department of Aviation Management Records (adjusted to reflect Canadian activity as domestic).
- 3/ Total Passenger projections (from CY 2002-2014) obtained from 2001 TAFs. Projections beyond CY2014 were extrapolated by Ricondo & Associates, Inc.; Domestic/International Splits: Chicago Airport System Forecast, June 1998;
- 4/ Commuter/Regional enplanements have been included within the domestic traffic volumes.

Sources: City of Chicago Airport Traffic Statistics; 1998 Chicago Airport System Forecasts; 2001 FAA TAFs; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

3.3.2 O&D/Connecting Passenger Splits

The annual domestic and international passenger projections presented above were further categorized into O&D and connecting passenger volumes. The derivation of total domestic and international passenger traffic into O&D and connecting passenger projections was performed using the following methodology:

- Domestic to international connecting passenger activity was derived assuming that 60 percent of the total international passenger traffic is comprised of passengers connecting from international flights to domestic flights from 2001 through 2014 (i.e., the forecast horizon for the 2001 TAF prior to being extrapolated). This share of connecting activity represents actual connecting traffic for O'Hare for CY2000, as reported in the U.S. DOT International Origin-Destination Passenger Survey, obtained from BACK Aviation Solutions. From 2015 through 2022, it was assumed that international to domestic connecting traffic would increase steadily from 60 percent to 65 percent. This growth in connecting activity would result from an unconstrained operating environment coupled with increased hubbing operations by domestic/international carrier alliances.
- International O&D passenger activity was estimated by subtracting total international enplanements from the estimated share of international connecting enplanements.
- It was assumed that the domestic to international connecting passenger percentage is the same as the international to domestic connecting passenger percentage. Based on this assumption, future estimates of international to domestic connecting enplanements were derived.
- Total domestic connecting activity is assumed to decrease from 58.1 percent in 2001 to 50.5 percent (estimated to occur on or near 2012) and then remain constant at that level through 2022. This decreasing trend in domestic connecting traffic is indicative of anticipated growth in O&D domestic passenger traffic resulting from continued population growth and the region's economic strength. Using these shares of total domestic connecting activity, estimates of future domestic connecting passengers were derived.
- Estimates of domestic-to-domestic connecting enplanements were developed by subtracting the projections of international to domestic connecting enplanements from the total projected domestic connecting enplanements.
- Domestic O&D enplanements were derived by subtracting domestic connecting enplanements from the total projected domestic enplanements.

Table III-7 presents the detailed passenger projections (by domestic and international activity and further divided into O&D and connecting passengers), for O'Hare from 2001 through 2022.

Of O'Hare's total international enplanements, connecting traffic is projected to grow faster than O&D traffic, reflecting increased hubbing operations by domestic/international carrier alliances. In terms of total domestic passenger volumes, O&D traffic is still expected to constitute a larger share of O'Hare's domestic passenger activity (i.e., 49.5 percent in 2012 and beyond compared to 41.9 percent in 2001).

Table III-7

Passenger Enplanements - Activity Profiles

Year	Domestic							International							
	O&D	Share of Total Domestic	Domestic to Domestic Connecting	International to Domestic Connecting	Total Domestic Connecting	Share of Total Domestic	Total Domestic ^{1/}	Share of Total Enplanements	O&D	Share of Total International	Domestic to International Connecting	Share of Total International	Total International ^{2/}	Share of Total Enplanements	Total Enplanements
Actual 2001	12,366,025	41.9%	14,829,870	2,292,866	17,122,735	58.1%	29,488,760	88.5%	1,528,577	40.0%	2,292,866	60.0%	3,821,443	11.5%	33,310,203
2002	14,772,526	47.5%	13,658,844	2,672,010	16,330,854	52.5%	31,103,380	87.5%	1,781,340	40.0%	2,672,010	60.0%	4,453,349	12.5%	35,556,730
2003	15,226,477	47.7%	13,865,452	2,832,805	16,698,257	52.3%	31,924,734	87.1%	1,888,537	40.0%	2,832,805	60.0%	4,721,342	12.9%	36,646,076
2004	15,668,941	47.9%	14,034,197	3,012,107	17,046,304	52.1%	32,715,245	86.7%	2,008,071	40.0%	3,012,107	60.0%	5,020,178	13.3%	37,735,423
2005	16,110,167	48.1%	14,189,540	3,196,899	17,386,439	51.9%	33,496,606	86.3%	2,131,266	40.0%	3,196,899	60.0%	5,328,165	13.7%	38,824,771
2006	16,550,098	48.3%	14,331,537	3,387,181	17,718,718	51.7%	34,268,816	85.9%	2,258,121	40.0%	3,387,181	60.0%	5,645,302	14.1%	39,914,118
2007	16,988,681	48.5%	14,460,241	3,582,954	18,043,195	51.5%	35,031,876	85.4%	2,388,636	40.0%	3,582,954	60.0%	5,971,590	14.6%	41,003,466
2008	17,424,745	48.7%	14,573,158	3,785,591	18,358,750	51.3%	35,783,495	85.0%	2,523,728	40.0%	3,785,591	60.0%	6,309,319	15.0%	42,092,814
2009	17,864,655	48.9%	14,684,977	3,987,199	18,672,176	51.1%	36,536,831	84.6%	2,658,132	40.0%	3,987,199	60.0%	6,645,331	15.4%	43,182,162
2010	18,303,300	49.1%	14,784,118	4,194,034	18,978,152	50.9%	37,281,453	84.2%	2,796,023	40.0%	4,194,034	60.0%	6,990,057	15.8%	44,271,510
2011	18,740,628	49.3%	14,870,632	4,406,099	19,276,731	50.7%	38,017,359	83.8%	2,937,399	40.0%	4,406,099	60.0%	7,343,499	16.2%	45,360,858
2012	19,176,585	49.5%	14,944,573	4,623,393	19,567,965	50.5%	38,744,550	83.4%	3,082,262	40.0%	4,623,393	60.0%	7,705,655	16.6%	46,450,205
2013	19,579,254	49.5%	15,189,985	4,788,868	19,978,852	50.5%	39,558,106	83.2%	3,192,579	40.0%	4,788,868	60.0%	7,981,446	16.8%	47,539,553
2014	19,979,766	49.5%	15,430,582	4,956,957	20,387,539	50.5%	40,367,305	83.0%	3,304,638	40.0%	4,956,957	60.0%	8,261,595	17.0%	48,628,901
2015	20,378,694	49.5%	15,640,096	5,154,512	20,794,609	50.5%	41,173,303	82.8%	3,391,829	39.7%	5,154,512	60.3%	8,546,342	17.2%	49,719,645
2016	20,776,709	49.5%	15,843,933	5,356,814	21,200,747	50.5%	41,977,456	82.6%	3,479,168	39.4%	5,356,814	60.6%	8,835,982	17.4%	50,813,438
2017	21,171,173	49.5%	16,040,034	5,563,227	21,603,261	50.5%	42,774,434	82.4%	3,566,171	39.1%	5,563,227	60.9%	9,129,399	17.6%	51,903,832
2018	21,563,477	49.5%	16,229,426	5,774,146	22,003,572	50.5%	43,567,049	82.2%	3,653,031	38.8%	5,774,146	61.3%	9,427,177	17.8%	52,994,226
2019	21,953,623	49.5%	16,412,069	5,989,611	22,401,680	50.5%	44,355,303	82.0%	3,739,706	38.4%	5,989,611	61.6%	9,729,317	18.0%	54,084,620
2020	22,341,610	49.5%	16,587,923	6,209,663	22,797,586	50.5%	45,139,195	81.8%	3,826,156	38.1%	6,209,663	61.9%	10,035,819	18.2%	55,175,014
2021	22,727,438	49.5%	16,756,945	6,434,343	23,191,288	50.5%	45,918,726	81.6%	3,912,339	37.8%	6,434,343	62.2%	10,346,682	18.4%	56,265,408
2022	23,111,107	49.5%	16,919,096	6,663,692	23,582,788	50.5%	46,693,895	81.4%	3,998,215	37.5%	6,663,692	62.5%	10,661,907	18.6%	57,355,802
Average Annual Growth Rates															
2001-2014	3.8%		0.3%		1.4%		2.4%		6.1%		6.1%		6.1%		3.0%
2014-2022	1.9%		1.2%		1.9%		1.9%		2.4%		3.8%		3.3%		2.1%

Notes:

- 1/ Includes Canadian traffic
- 2/ Excluded Canadian traffic

Sources: 2001 FAA Terminal Area Forecasts; U.S. DOT Origin-Destination Passenger Survey; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

3.3.3 Peak Month and PMAD Passengers

The annual enplanement projections were converted into peak month equivalents using historical traffic statistics collected by the DOA. Historical traffic statistics for the period 1990-2000 were used to derive the average percent of passenger traffic served in the peak month relative to the total annual passenger volumes. The share of peak month to annual passenger activity for 2001 was not considered given the skewed ratio produced by the sharp decrease in fourth quarter traffic due to the September 11, 2001 terrorist attacks.

The monthly passenger activity volumes in 2002 were also reviewed. The peak month to annual share of passenger volumes in 2002 was nearly equivalent to the 11-year average (1990 through 2000). The month for the peak month activity is also consistent with historical trends (i.e., June/July/August).

For domestic passenger traffic, the peak month to annual relationship was established for each year, starting in 1990 and ending in 2000. The average share of peak month passenger to annual passenger for domestic activity is 9.4 percent for the 11-year period. This share was held constant through the 20-year demand analysis period and used to derive domestic peak month enplanement projections from 2002 through 2022.

For international passenger traffic, the average share of peak month passenger to annual passenger activity for the period beginning in 1996 and ending in 2000 was used. This five-year historical period represented less seasonal international traffic patterns and also reflected some of the more recent trends in international activity growth and traffic patterns at O'Hare. The average share of peak month to annual international passengers for this five-year period is 11.9 percent. This share was held constant through the 20-year demand analysis period and used to derive international peak month enplanement projections from 2002 through 2022.

On average, July and August have represented the peak months for domestic and international passenger activity at O'Hare since 1990. The only exception occurred in 2000, when international passenger activity peaked in June. As such, PMAD passenger activity from 2002 through 2022 was derived by dividing the peak month passenger volumes projected for those years by 31, the number of days in both July and August.

The yearly projections of peak month and PMAD domestic and international passenger enplanements are presented in Table III-3. Using this approach, peak month and PMAD domestic passenger enplanements are projected to reach 3.8 million and 123,000, respectively, in 2014. In 2022, peak month and PMAD domestic passenger enplanements are projected to reach 4.4 million and 142,300, respectively.

Similarly, peak month and PMAD international passenger enplanements are projected to reach 986,100 and 31,800, respectively, in 2014. In 2022, peak month and PMAD international passenger enplanements are projected to reach 1.3 million and 41,100, respectively.

3.4 Derivative Demand Profiles – Aircraft Operations

Table III-2 presents annual forecasts of total aircraft operations for O'Hare based on the 2001 TAF. The TAF categorize aircraft operations into the following traffic components:

- air carrier
- commuter/air taxi
- local and itinerant general aviation
- military

The segregation of air carrier and commuter/air taxi operations in the TAF is based on aircraft seating capacity. In the 2001 TAF, commercial service aircraft with a seating capacity of 60 seats or fewer are categorized as commuter/air taxi activity; however, it is noted that the FAA, as part of the TAF update in 2002, has changed its definition of commuter/air taxi activity to include aircraft with a seating capacity of 70 seats or fewer. Non-scheduled/charter operations are also included within the commuter/air taxi category. Accordingly, air carrier activity includes scheduled domestic and international operations by commercial service aircraft with a seating capacity exceeding 60 seats. In addition, the FAA allocates aircraft operations by all-cargo operators, or by commercial airlines operating flights for the sole purpose of cargo transport, to either the air carrier or the commuter/air taxi categories.

For this Demand Analysis, aircraft operations were categorized using the traditional designations commonly adopted in master planning forecasts. These designations include:

- domestic air carrier and commuter operations
- international operations
- all-cargo operations
- general aviation/miscellaneous operations
- military operations

Consistent with the segregation of domestic and international passenger traffic, aircraft operations to and from Canadian destinations were treated as domestic flights. As previously noted, a few other small adjustments to the categorization of domestic and international airline activity were made as part of this demand analysis. The 1990 through 2001 distributions of domestic and international aircraft operations, including the reallocation of Canadian traffic from international activity to domestic activity, are presented in **Tables III-8 and III-9**.

Commuter aircraft are defined for purposes of this Demand Analysis as aircraft with a seating capacity of 75 seats and fewer.² Estimates of all-cargo operations were derived using a trend analysis given recent (five-year) historical activity as discussed in a later section and separated into its own activity component. The FAA TAF includes all-cargo activity within its air carrier and commuter categories. The remaining air carrier and commuter traffic components were combined into one category for discussion purposes (within the document) and for the calibration of the future design day schedules. The re-categorized projections of aircraft operations were reviewed and considered acceptable by the FAA.

² For purposes of this Study, it is assumed that future commuter operations comprise air carrier activity using aircraft with a seating capacity of 75 seats and smaller. This designation allows for the consideration of the 70-seat regional jets, currently under production by aircraft manufacturers like Bombardier and Embraer, which are likely to be in operation during the 20-year horizon.

Table III-8**Historical Domestic Air Carrier Operations**

Year	Domestic Departures ^{1/}	Domestic Departures Adjustments				Adjusted Domestic Departures
		Add-Other ^{2/}	Add-Canadian ^{5/}	Deduct-Express One ^{4/}	Deduct-Other ^{3/}	
1990	363,585	0	7,874	0	173	371,286
1991	359,979	0	8,192	0	2	368,169
1992	370,557	9	8,892	0	108	379,350
1993	373,404	0	9,769	0	129	383,044
1994	367,965	0	10,317	0	87	378,195
1995	375,499	0	12,962	0	172	388,289
1996	376,534	1	12,742	10	143	389,124
1997	373,719	147	13,419	6	136	387,143
1998	377,070	86	13,761	3	299	390,615
1999	376,804	0	14,127	38	162	390,731
2000	381,819	0	14,943	148	142	396,472
2001	386,015	0	14,923	147	43	400,748

Notes:

- 1/ As reported in the Airport Management Records. Domestic activity includes commuters.
- 2/ Add-Other represents domestic activity reported as international activity in the Airport's Management Records.
- 3/ Deduct-Other represents international activity reported as domestic activity in the Airport's Management Records.
- 4/ Express-One is a charter operator that was not included in this data inventory.
- 5/ Canadian departures obtained from 2001 FAA TAF database.

Sources: City of Chicago Airport Activity Statistics; Official Airline Guide; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

Table III-9**Historical International Air Carrier Operations**

Year	International Departures ^{1/}	International Departures Adjustments			Adjusted International Departures
		Add-Other ^{2/}	Deduct-Other ^{3/}	Deduct-Canadian ^{4/}	
1990	19,734	173	0	7,874	12,033
1991	20,661	2	0	8,192	12,471
1992	23,114	108	9	8,892	14,321
1993	25,912	129	0	9,769	16,272
1994	26,786	87	0	10,317	16,556
1995	29,464	172	0	12,962	16,674
1996	30,816	143	1	12,742	18,216
1997	33,307	136	147	13,419	19,877
1998	36,223	299	86	13,761	22,675
1999	39,184	162	0	14,127	25,219
2000	42,589	142	0	14,943	27,788
2001	40,966	43	0	14,923	26,086

Notes:

- 1/ As reported in the Airport Management Records.
- 2/ Add-Other represents international activity reported as domestic activity in the Airport's Management Records.
- 3/ Deduct-Other represents domestic activity reported as international activity in the Airport's Management Records.
- 4/ Canadian departures obtained from 2001 FAA TAF database.

Sources: City of Chicago Airport Activity Statistics; Official Airline Guide; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

Utilization of the demand designations identified above for the O'Hare Master Plan is preferred over those provided in the published TAF since they allow for the formulation of derivative aircraft operations forecasts that can be directly correlated to the derivative passenger forecasts previously presented. These designations also facilitate the conversion of the 2001 TAF demand projections into the various airfield, terminal, support/ancillary, and ground access facility requirements.

Tables III-10 through III-12 summarize the annual, peak month, and PMAD aircraft operations, respectively, derived from the 2001 TAF.

3.4.1 Domestic Air Carrier and Commuter Activity

Commercial aircraft departures were determined using the projections for passenger enplanements as well as estimates of future growth in boarding load factors and seats per operation based on annual historical trends. This section discusses how these trends were used to develop annual departures and how the annual departures were subsequently translated into peak month and PMAD departures.

3.4.1.1 Annual Departures

Table III-13 presents the 2001 TAF derivative forecasts for annual domestic commercial departures. As shown, domestic annual aircraft departures have been projected separately for air carrier activity and commuter activity. In subsequent tables and discussions, air carrier and commuter operations have been merged together and referred to as total domestic operations.

A summary of the growth patterns for domestic air carrier and commuter departures resulting from the assumptions made and methodology used to establish the forecasts shown in Table III-13 are provided below. For comparative purposes, Table III-13 also presents the historical enplanement levels, number of aircraft departures, and average seat capacity and load factors from 1990 through 2001.

- Average seats per domestic air carrier departure are assumed to grow gradually by 1.0 to 1.5 seats per year between 2001 through 2022, with the more modest increases occurring in the early forecast years and later increasing to 1.25 average seats per year along with continued growth in load factors through 2010, when average load factors are projected to exceed 75.5 percent. Beyond 2010, average load factors are assumed to remain relatively stable, ranging between 75 and 76 percent, and seats are projected to grow 1.5 seats per year, on average, in order to accommodate the continued growth in domestic passenger demand.
- Similarly, average seats per domestic commuter departures are assumed to grow steadily from 0.5 to 1.0 seats per year from 2001 through 2022. From 2001 through 2010, the fleet size is assumed to grow an average of 0.5 seats per year, thus reflecting a shift from the turboprop aircraft (37 to 42 seats) to the small regional jet fleets (ranging from 37-50 seats in most cases, with some of the larger 70-seat aircraft being used to serve the higher demand markets). Load factors during this period are also assumed to continue growing, exceeding 69 percent by 2010. Beyond 2010, load factors are assumed to remain relatively stable, ranging between 69 and 69.5 percent, and seats are projected to grow 1.0 seats per year, on average, as an increased share of the regional markets begin to get served by larger (70-seat and larger) jets.

Based on the fleet size and load factor assumptions, future projections of annual domestic air carrier departures were derived. These projections reflect growth in domestic air carrier departures

Table III-10

Summary - Total Annual Aircraft Operations

Calendar Year	Annual Activity									
	Air Carrier (Domestic and International)		All-Cargo ^{3/}		General Aviation/Misc. ^{4/}		Military ^{4/}		Total ^{5/}	
	Operations	% of Total	Operations	% of Total	Operations	% of Total	Operations	% of Total	Operations	% of Total
1990	766,543	94.5%	14,718	1.8%	26,479	3.3%	3,125	0.4%	810,865	100.0%
1991	761,603	93.6%	15,495	1.9%	33,971	4.2%	2,827	0.3%	813,896	100.0%
1992	787,671	93.6%	16,240	1.9%	33,864	4.0%	3,418	0.4%	841,193	100.0%
1993	798,422	92.9%	15,946	1.9%	41,365	4.8%	3,475	0.4%	859,208	100.0%
1994	789,589	89.4%	17,129	1.9%	73,199	8.3%	3,145	0.4%	883,062	100.0%
1995	809,834	90.0%	18,338	2.0%	68,819	7.6%	3,288	0.4%	900,279	100.0%
1996	814,617	89.6%	19,184	2.1%	72,854	8.0%	2,938	0.3%	909,593	100.0%
1997	813,926	92.1%	20,630	2.3%	47,035	5.3%	2,170	0.2%	883,761	100.0%
1998	826,285	92.2%	24,325	2.7%	43,228	4.8%	2,266	0.3%	896,104	100.0%
1999	831,800	94.0%	23,984	2.7%	28,229	3.2%	770	0.1%	884,783	100.0%
2000	848,502	93.3%	23,952	2.6%	36,535	4.0%	0	0.0%	908,989	100.0%
2001	853,664	93.6%	21,105	2.3%	37,148	4.1%	0	0.0%	911,917	100.0%
2002	884,031	94.8%	23,846	2.6%	24,499	2.6%	167	0.0%	932,542	100.0%
2003	897,309	94.8%	24,349	2.6%	24,499	2.6%	167	0.0%	946,324	100.0%
2004	910,588	94.8%	24,853	2.6%	24,499	2.6%	167	0.0%	960,107	100.0%
2005	923,868	94.9%	25,356	2.6%	24,499	2.5%	167	0.0%	973,890	100.0%
2006	937,147	94.9%	25,859	2.6%	24,499	2.5%	167	0.0%	987,673	100.0%
2007	950,427	94.9%	26,363	2.6%	24,499	2.4%	167	0.0%	1,001,456	100.0%
2008	963,706	94.9%	26,866	2.6%	24,499	2.4%	167	0.0%	1,015,238	100.0%
2009	976,984	94.9%	27,370	2.7%	24,499	2.4%	167	0.0%	1,029,020	100.0%
2010	990,264	95.0%	27,873	2.7%	24,499	2.3%	167	0.0%	1,042,803	100.0%
2011	1,003,543	95.0%	28,377	2.7%	24,499	2.3%	167	0.0%	1,056,586	100.0%
2012	1,016,823	95.0%	28,880	2.7%	24,499	2.3%	167	0.0%	1,070,369	100.0%
2013	1,030,102	95.0%	29,383	2.7%	24,499	2.3%	167	0.0%	1,084,152	100.0%
2014	1,043,382	95.0%	29,887	2.7%	24,499	2.2%	167	0.0%	1,097,935	100.0%
2015	1,056,391	95.0%	30,390	2.7%	24,499	2.2%	167	0.0%	1,111,447	100.0%
2016	1,068,806	95.1%	30,894	2.7%	24,499	2.2%	167	0.0%	1,124,366	100.0%
2017	1,081,883	95.1%	31,397	2.8%	24,499	2.2%	167	0.0%	1,137,946	100.0%
2018	1,094,959	95.1%	31,901	2.8%	24,499	2.1%	167	0.0%	1,151,525	100.0%
2019	1,108,035	95.1%	32,404	2.8%	24,499	2.1%	167	0.0%	1,165,105	100.0%
2020	1,121,111	95.1%	32,907	2.8%	24,499	2.1%	167	0.0%	1,178,685	100.0%
2021	1,134,188	95.1%	33,411	2.8%	24,499	2.1%	167	0.0%	1,192,265	100.0%
2022	1,147,264	95.1%	33,914	2.8%	24,499	2.0%	167	0.0%	1,205,844	100.0%

Average Annual Growth Rates:

1990-2001	1.0%	3.3%	3.1%	-74.3%	1.1%
2001-2007	1.8%	3.8%	-6.7%	642.1%	1.6%
2007-2014	1.3%	1.8%	0.0%	0.0%	1.3%
2014-2022	1.2%	1.6%	0.0%	0.0%	1.2%

Notes:

- 1/ Historic Enplanements and Operations: as obtained from the City of Chicago's Department of Aviation Management Records (adjusted to reflect Canadian activity as domestic traffic) .
- 2/ Total historic aircraft operations reflect the traffic volumes shown in the Year End reports prepared by the DOA. The summation of the individual monthly reports published by the DOA.
- 3/ Projections of future all-cargo operations derived by R&A using a trend analysis for historic activity from 1996-2001.
- 4/ Future projections of general aviation and military operations were obtained from the 2001 FAA TAFs.
- 5/ Total projected aircraft operations were obtained from the 2001 FAA Terminal Area Forecasts and converted to calendar years..

Sources: 2001 FAA Terminal Area Forecasts; City of Chicago Airport Traffic Statistics; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

Table III-11

Summary - Peak Month Aircraft Operations

	Calendar Year	Peak Month									
		Air Carrier (Domestic and International)		All-Cargo		General Aviation/Misc.		Military		Total	
		Operations	% of Total	Operations	% of Annual	Operations	% of Annual	Operations	% of Annual	Operations	% of Annual
Historic ^{1/}	1990	67,310	22.5%	1,206	8.2%	2,080	7.9%	390	12.5%	70,986	8.8%
	1991	68,124	22.9%	1,413	9.1%	3,725	11.0%	254	9.0%	73,516	9.0%
	1992	69,645	22.4%	1,332	8.2%	3,328	9.8%	374	10.9%	74,679	8.9%
	1993	67,999	21.2%	1,406	8.8%	4,732	11.4%	286	8.2%	74,423	8.7%
	1994	71,240	21.2%	1,396	8.1%	6,106	8.3%	376	12.0%	79,118	9.0%
	1995	71,888	22.2%	1,704	9.3%	5,907	8.6%	448	13.6%	79,947	8.9%
	1996	71,834	20.7%	1,663	8.7%	7,431	10.2%	440	15.0%	81,368	8.9%
	1997	70,558	20.6%	1,754	8.5%	5,196	11.0%	183	8.4%	77,691	8.8%
	1998	73,173	20.4%	2,135	8.8%	3,424	7.9%	181	8.0%	78,913	8.8%
	1999	73,617	19.8%	1,940	8.1%	4,209	14.9%	0	0.0%	79,766	9.0%
	2000	76,704	18.7%	2,034	8.5%	3,366	9.2%	0	0.0%	82,104	9.0%
2001	79,953	18.0%	1,847	8.8%	2,919	7.9%	0	0.0%	84,719	9.3%	
Projected ^{2/}	2002	78,309	20.2%	2,047	8.6%	2,366	9.7%	18	11.0%	82,741	8.9%
	2003	79,551	20.2%	2,090	8.6%	2,366	9.7%	18	11.0%	84,025	8.9%
	2004	80,802	20.2%	2,133	8.6%	2,366	9.7%	18	11.0%	85,320	8.9%
	2005	82,052	20.2%	2,176	8.6%	2,366	9.7%	18	11.0%	86,613	8.9%
	2006	83,303	20.2%	2,219	8.6%	2,366	9.7%	18	11.0%	87,908	8.9%
	2007	84,556	20.2%	2,263	8.6%	2,366	9.7%	18	11.0%	89,204	8.9%
	2008	85,812	20.2%	2,306	8.6%	2,366	9.7%	18	11.0%	90,503	8.9%
	2009	87,065	20.2%	2,349	8.6%	2,366	9.7%	18	11.0%	91,799	8.9%
	2010	88,320	20.2%	2,392	8.6%	2,366	9.7%	18	11.0%	93,098	8.9%
	2011	89,577	20.2%	2,435	8.6%	2,366	9.7%	18	11.0%	94,397	8.9%
	2012	90,835	20.2%	2,479	8.6%	2,366	9.7%	18	11.0%	95,698	8.9%
	2013	92,062	20.2%	2,522	8.6%	2,366	9.7%	18	11.0%	96,968	8.9%
	2014	93,289	20.2%	2,565	8.6%	2,366	9.7%	18	11.0%	98,239	8.9%
	Projected by Extrapolating the 2001 TAFs	2015	94,493	20.2%	2,608	8.6%	2,366	9.7%	18	11.0%	99,486
2016		95,646	20.2%	2,652	8.6%	2,366	9.7%	18	11.0%	100,683	9.0%
2017		96,857	20.2%	2,695	8.6%	2,366	9.7%	18	11.0%	101,936	9.0%
2018		98,068	20.2%	2,738	8.6%	2,366	9.7%	18	11.0%	103,191	9.0%
2019		99,279	20.2%	2,781	8.6%	2,366	9.7%	18	11.0%	104,445	9.0%
2020		100,490	20.2%	2,824	8.6%	2,366	9.7%	18	11.0%	105,700	9.0%
2021		101,702	20.2%	2,868	8.6%	2,366	9.7%	18	11.0%	106,955	9.0%
2022		102,914	20.2%	2,911	8.6%	2,366	9.7%	18	11.0%	108,210	9.0%

Notes:

1/ Historic Enplanements and Operations: as obtained from the City of Chicago's Department of Aviation Management Records

2/ Non-commercial peak month projections derived using average shares of peak month to annual activity from CY1990 through CY 2001. Domestic Air Carrier and Commuter peak month projections derived using the average share of the peak month to annual activity.

Sources: 2001 FAA Terminal Area Forecasts; City of Chicago Airport Traffic Statistics; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

Table III-12

Summary - Peak Month Average Day (PMAD) Aircraft Operations

		Peak Month Average Day (PMAD)									
		Air Carrier (Domestic and International)		All-Cargo		General Aviation/Misc.		Military		Total	
Calendar Year		Operations	% of Total	Operations	Share of Peak Month	Operations	Share of Peak Month	Operations	Share of Peak Month	Operations	Share of Peak Month
Historic ^{1/}	1990	2,171	6.5%	39	1/31	67	1/31	13	1/31	2,290	1/31
	1991	2,198	6.5%	46	1/31	120	1/31	8	1/31	2,371	1/31
	1992	2,247	6.5%	43	1/31	107	1/31	12	1/31	2,409	1/31
	1993	2,194	6.5%	45	1/31	153	1/31	9	1/31	2,401	1/31
	1994	2,298	6.5%	45	1/31	197	1/31	12	1/31	2,552	1/31
	1995	2,319	6.5%	55	1/31	191	1/31	14	1/31	2,579	1/31
	1996	2,317	6.5%	54	1/31	240	1/31	14	1/31	2,625	1/31
	1997	2,276	6.5%	57	1/31	168	1/31	6	1/31	2,506	1/31
	1998	2,360	6.5%	69	1/31	110	1/31	6	1/31	2,546	1/31
	1999	2,375	6.5%	63	1/31	136	1/31	0	1/31	2,573	1/31
	2000	2,474	6.5%	66	1/31	109	1/31	0	1/31	2,649	1/31
	2001	2,578	6.5%	60	1/31	94	1/31	0	1/31	2,732	1/31
	2002	2,526	6.5%	66	1/31	76	1/31	1	1/31	2,669	1/31
	2003	2,566	6.5%	67	1/31	76	1/31	1	1/31	2,710	1/31
	2004	2,607	6.5%	69	1/31	76	1/31	1	1/31	2,752	1/31
	2005	2,647	6.5%	70	1/31	76	1/31	1	1/31	2,794	1/31
	2006	2,687	6.5%	72	1/31	76	1/31	1	1/31	2,836	1/31
	2007	2,728	6.5%	73	1/31	76	1/31	1	1/31	2,878	1/31
Projected ^{2/}	2008	2,768	6.5%	74	1/31	76	1/31	1	1/31	2,919	1/31
	2009	2,809	6.5%	76	1/31	76	1/31	1	1/31	2,961	1/31
	2010	2,849	6.5%	77	1/31	76	1/31	1	1/31	3,003	1/31
	2011	2,890	6.5%	79	1/31	76	1/31	1	1/31	3,045	1/31
	2012	2,930	6.5%	80	1/31	76	1/31	1	1/31	3,087	1/31
	2013	2,970	6.5%	81	1/31	76	1/31	1	1/31	3,128	1/31
	2014	3,009	6.5%	83	1/31	76	1/31	1	1/31	3,169	1/31
	2015	3,048	6.5%	84	1/31	76	1/31	1	1/31	3,209	1/31
	2016	3,085	6.5%	86	1/31	76	1/31	1	1/31	3,248	1/31
Projected by Extrapolating the 2001 TAFs	2017	3,124	6.5%	87	1/31	76	1/31	1	1/31	3,288	1/31
	2018	3,163	6.5%	88	1/31	76	1/31	1	1/31	3,329	1/31
	2019	3,203	6.5%	90	1/31	76	1/31	1	1/31	3,369	1/31
	2020	3,242	6.5%	91	1/31	76	1/31	1	1/31	3,410	1/31
	2021	3,281	6.5%	93	1/31	76	1/31	1	1/31	3,450	1/31
	2022	3,320	6.5%	94	1/31	76	1/31	1	1/31	3,491	1/31

Notes:

1/ Historic Annual and Operations: as obtained from the DOA Management Records (adjusted to reflect Canadian activity as domestic traffic); PMAD Operations derived by Ricondo & associates, Inc.

2/ Derived using the 2001 FAA Terminal Area Forecasts

Sources: 2001 FAA Terminal Area Forecasts; City of Chicago Airport Traffic Statistics; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

Table III-13

Domestic Activity - Annual Projections^{1/}

Calendar Year	Domestic - Air Carrier				Domestic - Commuter/Regionals				Total Domestic			
	Enplanements	Aircraft Departures	Load Factor	Seat Size	Enplanements	Aircraft Departures	Load Factor	Seat Size ^{4/}	Enplanements	Aircraft Departures	Load Factor	Seat Size
1990	26,762,818	316,808	58.5%	144.4	1,103,512	54,478	45.2%	44.8	27,866,330	371,286	57.8%	129.8
1991	25,681,831	283,769	62.5%	144.7	2,144,489	84,400	55.0%	46.2	27,826,320	368,169	61.9%	122.1
1992	27,415,966	298,371	64.3%	143.0	2,338,365	80,979	56.7%	50.9	29,754,331	379,350	63.6%	123.3
1993	27,623,384	308,385	61.7%	145.1	2,286,609	74,659	57.7%	53.1	29,909,993	383,044	61.4%	127.2
1994	28,017,557	298,991	66.5%	141.0	2,524,091	79,204	57.7%	55.2	30,541,648	378,195	65.6%	123.0
1995	28,149,029	304,078	67.3%	137.5	2,347,024	84,211	55.0%	50.7	30,496,053	388,289	66.2%	118.7
1996	28,982,090	303,659	69.3%	137.8	2,497,080	85,465	57.4%	50.9	31,479,170	389,124	68.1%	118.7
1997	29,322,431	306,484	69.5%	137.6	2,536,345	80,659	61.4%	51.2	31,858,776	387,143	68.8%	119.6
1998	29,629,918	305,373	69.5%	139.7	2,826,047	85,242	63.0%	52.6	32,455,965	390,615	68.8%	120.7
1999	29,383,237	304,717	68.5%	140.8	2,830,215	86,014	65.8%	50.0	32,213,452	390,731	68.2%	120.8
2000	28,611,661	296,144	73.5%	131.4	3,041,289	100,328	63.6%	47.7	31,652,950	396,472	72.4%	110.2
2001	25,995,242	285,879	72.5%	125.5	3,493,518	114,869	62.7%	48.5	29,488,760	400,748	71.1%	103.4
2002	27,435,186	297,003	73.0%	126.5	3,668,194	115,829	64.6%	49.0	31,103,380	412,832	71.9%	104.8
2003	28,091,471	298,849	73.6%	127.8	3,833,263	119,024	65.1%	49.5	31,924,734	417,874	72.4%	105.5
2004	28,709,485	300,513	74.1%	129.0	4,005,759	122,220	65.6%	50.0	32,715,245	422,733	72.9%	106.2
2005	29,310,587	302,214	74.5%	130.3	4,186,019	125,415	66.1%	50.5	33,496,606	427,629	73.3%	106.9
2006	29,894,426	303,883	74.8%	131.5	4,374,389	128,611	66.7%	51.0	34,268,816	432,494	73.7%	107.6
2007	30,460,639	305,521	75.1%	132.8	4,571,237	131,806	67.3%	51.5	35,031,876	437,327	74.0%	108.3
2008	31,006,552	307,114	75.3%	134.0	4,776,943	135,002	68.0%	52.0	35,783,495	442,116	74.3%	109.0
2009	31,544,926	308,745	75.5%	135.3	4,991,905	138,197	68.8%	52.5	36,536,831	446,942	74.5%	109.7
2010	32,064,912	310,350	75.7%	136.5	5,216,541	141,392	69.6%	53.0	37,281,453	451,742	74.8%	110.4
2011	32,592,157	311,928	75.7%	138.0	5,425,202	144,588	69.5%	54.0	38,017,359	456,516	74.8%	111.4
2012	33,102,340	313,481	75.7%	139.5	5,642,211	147,783	69.4%	55.0	38,744,550	461,265	74.7%	112.4
2013	33,690,207	315,587	75.7%	141.0	5,867,899	150,979	69.4%	56.0	39,558,106	466,566	74.7%	113.5
2014	34,264,690	317,687	75.7%	142.5	6,102,615	154,174	69.4%	57.0	40,367,305	471,861	74.7%	114.6
2015	34,826,583	319,660	75.7%	144.0	6,346,719	157,353	69.5%	58.0	41,173,303	477,013	74.6%	115.6
2016	35,408,602	321,365	75.7%	145.5	6,568,855	160,495	69.4%	59.0	41,977,456	481,861	74.7%	116.7
2017	35,975,669	323,358	75.7%	147.0	6,798,765	163,678	69.2%	60.0	42,774,434	487,036	74.6%	117.8
2018	36,530,328	325,345	75.6%	148.5	7,036,721	166,861	69.1%	61.0	43,567,049	492,206	74.5%	118.8
2019	37,072,296	327,327	75.5%	150.0	7,283,007	170,044	69.1%	62.0	44,355,303	497,371	74.4%	119.9
2020	37,601,283	329,305	75.4%	151.5	7,537,912	173,227	69.1%	63.0	45,139,195	502,532	74.2%	121.0
2021	38,116,987	331,277	75.2%	153.0	7,801,739	176,410	69.1%	64.0	45,918,726	507,688	74.1%	122.1
2022	38,619,096	333,246	75.0%	154.5	8,074,800	179,593	69.2%	65.0	46,693,895	512,839	73.9%	123.2

Notes:

1/ Includes Canadian activity as domestic traffic.

2/ Historic Domestic Enplanements and Operations: as obtained from the City of Chicago's Department of Aviation Management Records (adjusted to reflect Canadian activity as domestic traffic) or as included in the 2002 Draft FAA Terminal Area Forecasts. Historic Load Factors: Derived by Ricondo & Associates, Inc.

3/ Projected Load Factors and Seat Size derived by Ricondo & Associates, Inc.

4/ Historic Commuter Seat Size: as obtained from the Official Airline Guide

Sources: 2001 FAA Terminal Area Forecasts; City of Chicago Airport Traffic Statistics; U.S. DOT T100, Form 41 Database; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

reaching approximately 317,700 and 333,200 annual departures in 2014 and 2022, respectively, in comparison to the 285,879 annual departures experienced in 2001.

3.4.1.2 Peak Month and PMAD Departures

For purposes of deriving peak month and PMAD activity projections and for the subsequent development of future design day schedules, domestic air carrier and commuter activity was combined under one total domestic activity category. However, the identity of mainline (commercial fleet) carriers versus regional service/commuter carriers was maintained, and the market shares historically achieved by these carriers at O'Hare were considered in the development of the future design day schedules. Further discussion on the assumptions and methodology used to derive the future design day schedules is provided in Section 3.5.

Similar to the identification of peak month and PMAD passenger enplanements, the annual projections of domestic (commercial service) aircraft departures were converted into peak month equivalents using historical traffic statistics collected by the DOA. Historical traffic statistics for the period 1990-2000 were used to calculate the average percent of domestic peak month departures relative to total annual domestic departures. Once again, the share of peak month to annual domestic aircraft operations for 2001 was not considered given the skewed ratio resulting from the sharp decrease in fourth quarter traffic due to the September 11, 2001 terrorist attacks.

The monthly aircraft operations volumes in 2002 were also reviewed. The peak month to annual share of aircraft operation volumes in 2002 was nearly equivalent to the 11-year average (1990 through 2000). The specific month representing peak month activity is also consistent with historical trends (i.e., July/August).

Although the abolishment of the High Density Rule at O'Hare will remove a constrained operating environment that previously existed at the Airport and could affect the operating patterns previously experienced at O'Hare, it is likely that these changes may not be evident during the near-term recovery period that is anticipated to continue through 2004, and in fact are difficult to quantify from the 2002 traffic that actually materialized at O'Hare. That is, it is difficult to segregate the operational changes that have materialized due to the removal of the High Density Rule versus changes implemented by the airlines due to other factors. As such, a continuation of the historic demand patterns was deemed a preferred alternative over attempting to define relationships that could be considered to be arbitrary.

The FAA has stated in the past that the TAF projections are developed assuming an unconstrained operating environment. If the 2001 TAF indeed projects unconstrained demand, then the future annual projections of activity shown for O'Hare already account for some of the uncapped demand patterns for O'Hare.

The peak month to annual relationship associated with domestic air carrier and commuter departures was established for each year, starting in 1990 and ending in 2000. The average share of peak month to annual domestic departures is 8.7 percent for the 11-year period. This share was held constant through the 20-year demand analysis period and used to derive domestic peak month departure projections from 2002 through 2022.

Historic airline activity data obtained for O'Hare from the U.S. DOT T100, Form 41 database for the period 1990 through 2001 showed a slightly larger seat size per air carrier (excluding commuters)

operation during the peak month in comparison to the average annual seat size per air carrier operation. In the past, it has not been unusual for airlines to seasonally increase the fleet gauge for some markets in response to higher demand during the peak month(s). For long-range planning purposes, it is assumed that this trend will continue.

The annual load factor and the load factor in the peak month were kept constant, and the variation in peak month seat capacity per departure to the annual seat capacity per departure was derived. This resulted in an increase in seating capacity during the peak month (e.g., 139.3 average seats per peak month domestic departure versus 125.5 average seats per annual domestic departure in 2001 and 168.3 average seats per peak month domestic departure versus 154.5 average seats per annual domestic departure in 2022).

For the commuter activity, it is assumed that a more homogenous fleet in terms of seating capacity would be in operation throughout the year. The primary fleets anticipated to be in operation are regional jets varying, for the most part, between 50 and 70 seats. Seasonal fleet fluctuations are typically less evident in the commuter activity. Historical peak month commuter load factors have averaged less than 65 percent. As such, it was assumed that future peak month seating capacities in commuter activity would remain fairly stable relative to the annual average commuter seating capacity, with increased load factors offsetting the higher peak month passenger demand.

The approach and assumptions described above resulted in the peak month demand projections presented in **Table III-14**. As shown, peak month domestic departures are projected to grow to approximately 40,900 in 2014 and 44,500 in 2022. In 2001, O'Hare experienced 33,734 peak month domestic departures.

Table III-14 also presents the PMAD domestic departures for the 20-year demand analysis period. Future PMAD departures were derived by dividing the peak month departures by 31, the number of days in the peak month. As shown, domestic PMAD departures are projected to grow to approximately 1,320 in 2014 and 1,435 in 2022, in comparison to the 1,217 domestic PMAD departures experienced at O'Hare in 2001.

3.4.2 International Activity

Table III-15 presents the 2001 TAF derivative forecasts for international air carrier departures. Like the projections of domestic air carrier and commuter departures, international departures were developed using the annual projections for international enplanements and estimates of future growth in annual boarding load factors and seats per departure based on historic trends. The annual projections were subsequently translated into peak month and PMAD departures.

3.4.2.1 Annual Departures

It is assumed that simultaneous growth in load factors and fleet size will continue throughout the analysis period. As shown in Table III-15, average seats per international air carrier departure are assumed to grow gradually from 0.5 to 1.0 seats per year between 2001 through 2022, with the more modest increases occurring in the early forecast years and later increasing one seat per year, on average, through 2022. Load factors are also projected to grow steadily throughout the 20-year demand analysis period, reaching 72.4 percent in 2014 and 74.0 percent in 2022, compared to the 67.2 percent experienced in 2001.

Table III-14

Domestic Activity - Derivative Profiles (Annual, Peak Month, and Peak Month Average Day)^{1/}

	Annual Activity (Air Carrier and Commuter Combined)				Peak Month Activity ^{4/}				Peak Month Average Day Activity							
	Calendar Year	Enplanements	Aircraft Departures	Load Factor	Seat Size	Month	Enplanements	% of Annual	Aircraft Departures	% of Annual	Load Factor	Seat Size	Enplanements	Aircraft Departures	Load Factor	Seat Size
Historic ^{2/}	1990	27,866,330	371,286	57.8%	129.8	August	2,648,883	9.5%	31,776	8.6%	64.1%	130.1	85,448	1,025	64.1%	130.1
	1991	27,826,320	368,169	61.9%	122.1	August	2,713,241	9.8%	32,275	8.8%	64.7%	130.0	87,524	1,041	64.7%	130.0
	1992	29,754,331	379,350	63.6%	123.3	August	3,134,512	10.5%	32,875	8.7%	73.1%	130.5	101,113	1,060	73.1%	130.5
	1993	29,909,993	383,044	61.4%	127.2	August	2,797,906	9.4%	32,855	8.6%	63.8%	133.4	90,255	1,060	63.8%	133.4
	1994	30,541,648	378,195	65.6%	123.0	August	2,880,935	9.4%	33,575	8.9%	68.5%	125.2	92,933	1,083	68.5%	125.2
	1995	30,496,053	388,289	66.2%	118.7	August	2,841,352	9.3%	33,593	8.7%	68.9%	122.7	91,657	1,084	68.9%	122.7
	1996	31,479,170	389,124	68.1%	118.7	July	2,889,039	9.2%	33,021	8.5%	69.9%	125.2	93,195	1,065	69.9%	125.2
	1997	31,858,776	387,143	68.8%	119.6	July	2,928,584	9.2%	32,898	8.5%	70.7%	126.0	94,470	1,061	70.7%	126.0
	1998	32,455,965	390,615	68.8%	120.7	July	2,975,828	9.2%	33,050	8.5%	72.5%	124.2	95,994	1,066	72.5%	124.2
	1999	32,213,452	390,731	68.2%	120.8	July	3,032,159	9.4%	32,889	8.4%	72.7%	126.9	97,812	1,061	72.7%	126.9
	2000	31,652,950	396,472	72.4%	110.2	July	2,900,576	9.2%	33,483	8.4%	73.5%	117.9	93,567	1,080	73.5%	117.9
2001	29,488,760	400,748	71.1%	103.4	July	3,061,711	10.4%	37,734	9.4%	71.5%	113.5	98,765	1,217	71.5%	113.5	
Projected ^{3/}	2002	31,103,380	412,832	71.9%	104.8	-	2,937,957	9.4%	35,804	8.7%	72.7%	112.9	94,773	1,155	72.7%	112.9
	2003	31,924,734	417,874	72.4%	105.5	-	3,015,540	9.4%	36,242	8.7%	73.2%	113.6	97,275	1,169	73.2%	113.6
	2004	32,715,245	422,733	72.9%	106.2	-	3,090,210	9.4%	36,663	8.7%	73.7%	114.3	99,684	1,183	73.7%	114.3
	2005	33,496,606	427,629	73.3%	106.9	-	3,164,016	9.4%	37,088	8.7%	74.1%	115.1	102,065	1,196	74.1%	115.1
	2006	34,268,816	432,494	73.7%	107.6	-	3,236,957	9.4%	37,510	8.7%	74.5%	115.8	104,418	1,210	74.5%	115.8
	2007	35,031,876	437,327	74.0%	108.3	-	3,309,034	9.4%	37,929	8.7%	74.9%	116.5	106,743	1,224	74.9%	116.5
	2008	35,783,495	442,116	74.3%	109.0	-	3,380,030	9.4%	38,344	8.7%	75.2%	117.3	109,033	1,237	75.2%	117.3
	2009	36,536,831	446,942	74.5%	109.7	-	3,451,189	9.4%	38,763	8.7%	75.5%	118.0	111,329	1,250	75.5%	118.0
	2010	37,281,453	451,742	74.8%	110.4	-	3,521,524	9.4%	39,179	8.7%	75.7%	118.7	113,598	1,264	75.7%	118.7
	2011	38,017,359	456,516	74.8%	111.4	-	3,591,036	9.4%	39,593	8.7%	75.7%	119.8	115,840	1,277	75.7%	119.8
	2012	38,744,550	461,265	74.7%	112.4	-	3,659,725	9.4%	40,005	8.7%	75.7%	120.9	118,056	1,290	75.7%	120.9
	2013	39,558,106	466,566	74.7%	113.5	-	3,736,572	9.4%	40,465	8.7%	75.7%	122.0	120,535	1,305	75.7%	122.0
	2014	40,367,305	471,861	74.7%	114.6	-	3,813,007	9.4%	40,924	8.7%	75.7%	123.1	123,000	1,320	75.7%	123.1
	Projected by Extrapolating the 2001 TAFs	2015	41,173,303	477,013	74.6%	115.6	-	3,889,140	9.4%	41,371	8.7%	75.7%	124.2	125,456	1,335	75.7%
2016		41,977,456	481,861	74.7%	116.7	-	3,965,098	9.4%	41,791	8.7%	75.7%	125.3	127,906	1,348	75.7%	125.3
2017		42,774,434	487,036	74.6%	117.8	-	4,040,379	9.4%	42,240	8.7%	75.6%	126.5	130,335	1,363	75.6%	126.5
2018		43,567,049	492,206	74.5%	118.8	-	4,115,248	9.4%	42,688	8.7%	75.6%	127.6	132,750	1,377	75.6%	127.6
2019		44,355,303	497,371	74.4%	119.9	-	4,189,704	9.4%	43,136	8.7%	75.5%	128.7	135,152	1,391	75.5%	128.7
2020		45,139,195	502,532	74.2%	121.0	-	4,263,749	9.4%	43,584	8.7%	75.3%	129.8	137,540	1,406	75.3%	129.8
2021		45,918,726	507,688	74.1%	122.1	-	4,337,382	9.4%	44,031	8.7%	75.2%	131.0	139,916	1,420	75.2%	131.0
2022		46,693,895	512,839	73.9%	123.2	-	4,410,603	9.4%	44,478	8.7%	75.1%	132.1	142,278	1,435	75.1%	132.1

- Notes:
- 1/ Includes Canadian activity as domestic traffic.
 - 2/ Historic Domestic Enplanements and Operations: as obtained from the City of Chicago's Department of Aviation Management Records (adjusted to reflect Canadian activity as domestic traffic) or as included in the 2002 Draft FAA Terminal Area Forecasts. Historic Seat Size: as obtained from Historic Load Factors: Derived by Ricondo & Associates, Inc.
 - 3/ Projected Load Factors and Seat Size derived by Ricondo & Associates, Inc.
 - 4/ Historic Peak Month Activity derived using historic scheduled commuter seats as obtained from the Official Airline Guide and historic air carrier peak month load factors as obtained from the Form 41, T100 database. Peak Month Projected Activity derived using average peak month share of annual activity from 1990-2000; Other assumptions:
 - a) Domestic air carrier load factors in the peak month equal annual domestic air carrier load factors
 - b) Domestic commuter seats per departure in the peak month equal the average annual seats per departure for commuter/regional activity.

Sources: 2001 FAA Terminal Area Forecasts; City of Chicago Airport Traffic Statistics; U.S. DOT T100, Form 41 Database; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

Table III-15

International Activity - Derivative Profiles (Annual, Peak Month, and Peak Month Average Day)^{1/}

Calendar Year	Annual Activity				Peak Month Activity							Peak Month Average Day Activity			
	Enplanements	Aircraft Departures	Load Factor	Seat Size	Month	Enplanements	% of Annual	Aircraft Departures	% of Annual	Load Factor	Seat Size ^{4/}	Enplanements	Aircraft Departures	Load Factor	Seat Size ^{4/}
1990	1,552,672	12,033	59.9%	215.5	August	242,490	15.6%	1,673	13.9%	63.2%	229.4	7,822	54	63.2%	229.4
1991	1,550,029	12,471	59.1%	210.3	August	245,615	15.8%	1,763	14.1%	59.8%	233.1	7,923	57	59.8%	233.1
1992	1,900,743	14,321	65.5%	202.7	August	245,273	12.9%	1,967	13.7%	58.0%	214.8	7,912	63	58.0%	214.8
1993	2,074,005	16,272	61.0%	209.1	August	291,171	14.0%	2,056	12.6%	61.8%	229.1	9,393	66	61.8%	229.1
1994	2,177,077	16,556	65.2%	201.8	August	287,879	13.2%	2,041	12.3%	63.9%	220.8	9,286	66	63.9%	220.8
1995	2,365,407	16,674	68.0%	208.6	July	361,826	15.3%	2,257	13.5%	68.5%	233.9	11,672	73	68.5%	233.9
1996	2,588,715	18,216	68.5%	207.5	August	331,380	12.8%	2,230	12.2%	61.8%	240.3	10,690	72	61.8%	240.3
1997	2,915,338	19,877	69.5%	211.2	August	356,395	12.2%	2,404	12.1%	63.7%	232.8	11,497	78	63.7%	232.8
1998	3,302,845	22,675	69.0%	211.1	August	395,583	12.0%	2,718	12.0%	58.2%	250.2	12,761	88	58.2%	250.2
1999	3,733,512	25,219	67.4%	219.5	August	423,322	11.3%	2,871	11.4%	59.7%	247.0	13,656	93	59.7%	247.0
2000	4,047,575	27,788	65.9%	221.1	June	473,249	11.7%	2,839	10.2%	66.2%	251.8	15,266	92	66.2%	251.8
2001	3,821,443	26,086	67.2%	218.1	August	401,013	10.5%	2,246	8.6%	71.4%	250.1	12,936	72	71.4%	250.1
2002	4,453,349	29,183	70.0%	218.0	-	531,548	11.9%	3,350	11.5%	63.9%	248.1	17,147	108	63.9%	248.1
2003	4,721,342	30,781	70.2%	218.5	-	563,536	11.9%	3,534	11.5%	64.1%	248.6	18,179	114	64.1%	248.6
2004	5,020,178	32,561	70.4%	219.0	-	599,205	11.9%	3,738	11.5%	64.3%	249.1	19,329	121	64.3%	249.1
2005	5,328,165	34,304	70.6%	220.0	-	635,966	11.9%	3,938	11.5%	64.6%	250.1	20,515	127	64.6%	250.1
2006	5,645,302	36,080	70.8%	221.0	-	673,819	11.9%	4,142	11.5%	64.8%	251.1	21,736	134	64.8%	251.1
2007	5,971,590	37,886	71.0%	222.0	-	712,764	11.9%	4,350	11.5%	65.0%	252.1	22,992	140	65.0%	252.1
2008	6,309,319	39,737	71.2%	223.0	-	753,075	11.9%	4,562	11.5%	65.2%	253.1	24,293	147	65.2%	253.1
2009	6,645,331	41,550	71.4%	224.0	-	793,182	11.9%	4,770	11.5%	65.4%	254.1	25,587	154	65.4%	254.1
2010	6,990,057	43,390	71.6%	225.0	-	834,328	11.9%	4,981	11.5%	65.7%	255.1	26,914	161	65.7%	255.1
2011	7,343,499	45,255	71.8%	226.0	-	876,514	11.9%	5,196	11.5%	65.9%	256.1	28,275	168	65.9%	256.1
2012	7,705,655	47,147	72.0%	227.0	-	919,741	11.9%	5,413	11.5%	66.1%	257.1	29,669	175	66.1%	257.1
2013	7,981,446	48,485	72.2%	228.0	-	952,659	11.9%	5,566	11.5%	66.3%	258.1	30,731	180	66.3%	258.1
2014	8,261,595	49,830	72.4%	229.0	-	986,098	11.9%	5,721	11.5%	66.5%	259.1	31,810	185	66.5%	259.1
2015	8,546,342	51,182	72.6%	230.0	-	1,020,085	11.9%	5,876	11.5%	66.7%	260.1	32,906	190	66.7%	260.1
2016	8,835,982	52,543	72.8%	231.0	-	1,054,656	11.9%	6,032	11.5%	67.0%	261.1	34,021	195	67.0%	261.1
2017	9,129,399	53,905	73.0%	232.0	-	1,089,678	11.9%	6,189	11.5%	67.2%	262.1	35,151	200	67.2%	262.1
2018	9,427,177	55,273	73.2%	233.0	-	1,125,221	11.9%	6,346	11.5%	67.4%	263.1	36,297	205	67.4%	263.1
2019	9,729,317	56,646	73.4%	234.0	-	1,161,284	11.9%	6,503	11.5%	67.6%	264.1	37,461	210	67.6%	264.1
2020	10,035,819	58,024	73.6%	235.0	-	1,197,868	11.9%	6,661	11.5%	67.8%	265.1	38,641	215	67.8%	265.1
2021	10,346,682	59,406	73.8%	236.0	-	1,234,972	11.9%	6,820	11.5%	68.0%	266.1	39,838	220	68.0%	266.1
2022	10,661,907	60,793	74.0%	237.0	-	1,272,597	11.9%	6,979	11.5%	68.3%	267.1	41,052	225	68.3%	267.1

Notes:

1/ Excludes Canadian activity.

2/ Historic International Enplanements and Operations: as obtained from the City of Chicago's Department of Aviation Management Records (adjusted to reflect Canadian activity as domestic traffic) or as included in the 2002 Draft FAA Terminal Area Forecasts
 Historic Seat Size: as obtained from the FAA 2001 TAF database/DOT T100 Database. Historic Load Factors: Derived by Ricondo & Associates, Inc.

3/ Projected Load Factors and Seat Size derived by Ricondo & Associates, Inc.

4/ Historic Peak Month Seat Size was derived using the U.S. DOT Form 41, T100 data for peak month international traffic at ORD. Future peak month seat size projections were derived by applying the average variations in the average annual seat size to the average peak month seat size for the period CY 1996 through CY 2000.

Sources: 2001 FAA Terminal Area Forecasts; City of Chicago Airport Traffic Statistics; U.S. DOT T100, Form 41 Database; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

Based on the fleet size and load factor assumptions summarized above and presented in Table III-15, annual projections of international air carrier departures were derived. These projections reflect growth in international air carrier departures reaching approximately 49,800 and 60,800 annual departures in 2014 and 2022, respectively, in comparison to the 26,086 annual departures experienced in 2001.

3.4.2.2 Peak Month/PMAD Departures

Similar to the derivation of peak month and PMAD domestic air carrier and commuter departures, the annual projections of international air carrier departures were converted into peak month equivalents using historical traffic statistics collected by the DOA. Historical traffic statistics for the period 1996-2000 (i.e., the same historical period used to develop the ratio of peak month international enplanements to annual international enplanements) were used to derive the average percent of international peak month departures relative to annual air carrier international departures.

The average share of peak month annual international departures is 11.9 percent for the five-year period. This share was held constant through the 20-year demand analysis period and used to derive international peak month departure projections from 2002 through 2022. In addition, international air carrier activity was assumed to maintain the same rate of growth in average seats per departure during the peak month as projected for annually (i.e., a growth of 0.5 seats per year through 2004 and one seat per year from 2004 through 2022). Peak month load factors are also projected to grow steadily throughout the 20-year demand analysis period, reaching 66.5 percent in 2014 and 68.3 percent in 2022. In general, future international departures during the peak month will continue to be characterized by larger fleets and lower load factors, similar to historical trends at the Airport.

The resulting peak month international air carrier departure projections are also presented in Table III-12. As shown, peak month international air carrier departures are projected to grow to approximately 5,700 in 2014 and 6,800 in 2022. In 2001, O'Hare experienced 2,246 peak month international air carrier departures.

In addition, Table III-12 presents the PMAD international air carrier departures for the 20-year demand analysis period. Future PMAD departures were derived by dividing the peak month departures by 31. PMAD load factors and average seat size per departure for each year are assumed to be the same as those derived for the peak month of the corresponding year. As shown, international PMAD departures are projected to grow to approximately 185 in 2014 and 225 in 2020, in comparison to the 72 international PMAD departures experienced at O'Hare in 2001.

3.4.3 All-Cargo Activity

Since the TAF do not directly report all-cargo activity as an individual category (i.e., projected all-cargo operations are included within the air carrier and commuter/air taxi categories), an estimate on the proportionate share of all-cargo operations contained within these two TAF activity categories had to be developed. Future all-cargo operations were calculated using a trend analysis of annual historical all-cargo activity at O'Hare contained within the Airport Traffic Statistics prepared by the City of Chicago.

3.4.3.1 Annual Departures

The growth patterns projected for annual all-cargo operations at O'Hare represent a trend analysis from 1996-2001. This trend analysis reflected a less aggressive rate of growth in all-cargo aircraft operations in comparison to the growth patterns that result when a 10-year and 20-year historical

trend is considered. Due to the following reasons, presented in the *FAA Aerospace Forecasts for Fiscal Years 2002-2013*, the less aggressive five-year growth trend was selected for the future projections of all-cargo operations at O'Hare:

- Temporary reductions in air cargo volumes due to weakness in the world economy and temporary schedule reductions by air carriers, and
- Efforts by the U.S. Postal Service to shift the delivery of mail from air to ground for markets located within 1,000 miles.

As previously shown in the aircraft operations summary tables, all-cargo operations are projected to grow from 21,105 operations in 2001 to 29,900 operations in 2014 and 33,900 operations in 2022.

3.4.3.2 Peak Month and PMAD Departures

The annual projections of all-cargo operations were converted into peak month equivalents using historical traffic statistics for the period 1990-2000. The average share of peak month annual all-cargo operations is 8.6 percent for the 11-year period. This share was held constant through the 20-year demand analysis period and used to project all-cargo peak month operations from 2002 through 2022.

Peak month all-cargo operations are projected to grow to approximately 2,600 in 2014 and 2,900 in 2022. In 2001, O'Hare experienced 1,847 peak month all-cargo operations. Once again, future PMAD operations were established by dividing the peak month operations by 31. As such, PMAD all-cargo operations are projected to grow to approximately 83 in 2014 and 94 in 2022. In 2001, O'Hare experienced 60 PMAD all-cargo operations.

3.4.4 General Aviation/Miscellaneous and Military Activity

General aviation/miscellaneous and military activity equates to the TAF's categories of "local and itinerant GA" and "military," respectively. The following discusses the annual activity for these two categories as well as the derivation of this activity into peak month and PMAD departures.

3.4.4.1 Annual Departures

General aviation activity is projected to decrease at O'Hare, representing less than three percent of the Airport's overall traffic. Much of the general aviation activity that remains at O'Hare is made up of business jet traffic. A large percentage of the activity conducted by single-engine and twin-engine piston aircraft has relocated to other less congested airports. The continued decrease is based on the assumption that general aviation activity will relocate to less busy, non-commercial airports in the region. As such, the 2001 TAF projections of annual general aviation activity have been adopted without modification. The 2001 TAF projections assume that general aviation activity will reach a threshold of minimum activity, defined as 24,499 annual operations, and essentially remain at that level throughout the forecast horizon.

The FAA also projected a constant level of military activity, 167 annual operations, throughout the TAF forecast horizon, which has been adopted and extended through 2022 in this Demand Analysis. The actions taken by Defense Base Realignment and Closure Commission (BRACC) in 1995, which resulted in the deactivation of the 126th Air Refueling Wing, and its subsequent relocation from O'Hare to Scott Air Force Base in St. Clair County, Illinois have resulted in the significant decrease in military operations at the Airport since 1998.

3.4.4.2 Peak Month and PMAD Departures

The annual projections of general aviation/miscellaneous and military operations were converted into peak month equivalents using historical traffic statistics for the period 1990-2000. The average share of peak month to annual general aviation/miscellaneous operations is 9.7 percent for the 11-year period. The average share of peak month to annual military operations is 11.0 percent for the same period. These shares were held constant through the 20-year demand analysis period and used to derive general aviation/miscellaneous and military peak month operations from 2002 through 2022.

As shown in Table III-14, peak month general aviation/miscellaneous operations are projected to be less than 2,400 through 2022. In 2001, O'Hare experienced 2,919 peak month general aviation/miscellaneous. Peak month military operations are projected to be nearly non-existent (18 operations) through 2022. There was no recorded military activity in 2001.

As shown in Table III-15, general aviation/miscellaneous PMAD operations are projected to be approximately 76 operations from 2002 through 2022. In 2001, O'Hare experienced 94 general aviation/miscellaneous PMAD operations. Military PMAD operations are projected to be insignificant (less than one daily operation) through 2022.

3.5 Derivative Demand Profiles – Cargo Tonnage Projections

This subsection presents projections of cargo activity at O'Hare for use in estimating future cargo facility requirements. These projections supplement the information obtained from the FAA's 2001 TAF for other components of aviation activity.

The projection of future enplaned cargo at O'Hare utilizes a "top down" approach; historical enplaned cargo tonnage per departure was applied to aircraft operations forecasts developed earlier in this section. This approach evaluates historic relationships between both domestic and international enplaned cargo and the operational demand levels associated with all-cargo and air carrier operators at O'Hare.

Table III-16 provides a summary of both the historic enplaned cargo demand levels and those projected for the Airport through 2022 as a result of this analysis. The DOA is performing a thorough survey of existing cargo operations at the Airport that will become the basis of a more detailed forecast of cargo activity. Upon completion of that cargo survey and forecast, the results will be incorporated into future phases of the OMP.

Table III-16Summary of Total Cargo Tonnage Projections^{1/}

Year	Belly Cargo Tonnage			All-Cargo Tonnage			Total Cargo Tonnage
	Domestic	International	Total	Domestic	International	Total	
<i>Historical</i>							
1990	286,608	152,275	438,883	109,115	20,035	129,149	568,033
1991	262,160	167,181	429,341	114,424	19,747	134,171	563,512
1992	280,456	172,567	453,023	156,469	23,587	180,056	633,079
1993	287,103	178,847	465,950	154,520	24,736	179,256	645,206
1994	266,710	203,517	470,227	187,192	37,778	224,970	695,197
1995	258,481	214,904	473,385	178,515	48,941	227,456	700,841
1996	242,211	204,760	446,971	194,671	76,295	270,966	717,937
1997	252,528	222,121	474,649	203,498	85,585	289,083	763,732
1998	231,955	209,926	441,882	225,236	95,374	320,610	762,492
1999	258,342	229,015	487,357	207,274	92,191	299,465	786,822
2000	238,338	229,939	468,276	197,327	107,393	304,720	772,996
2001	145,585	196,372	341,956	180,596	127,701	308,298	650,254
<i>Projected^{2/}</i>							
2002	228,823	289,521	518,344	219,528	99,108	318,636	836,980
2003	230,246	305,368	535,614	224,163	101,200	325,363	860,977
2004	231,527	323,035	554,562	228,798	103,293	332,090	886,653
2005	232,838	340,328	573,166	233,432	105,385	338,817	911,983
2006	234,124	357,939	592,063	238,067	107,477	345,544	937,607
2007	235,386	375,860	611,246	242,702	109,570	352,271	963,517
2008	236,613	394,226	630,839	247,336	111,662	358,998	989,837
2009	237,870	412,209	650,079	251,971	113,754	365,725	1,015,805
2010	239,106	430,460	669,566	256,606	115,847	372,453	1,042,018
2011	240,322	448,970	689,292	261,241	117,939	379,180	1,068,472
2012	241,519	467,733	709,252	265,875	120,031	385,907	1,095,159
2013	243,141	481,013	724,154	270,510	122,124	392,634	1,116,788
2014	244,759	494,353	739,100	275,145	124,216	399,400	1,138,500
2015	246,279	507,765	754,045	279,779	126,308	406,088	1,160,132
2016	247,593	521,265	768,858	284,414	128,401	412,815	1,181,673
2017	249,128	534,784	783,912	289,049	130,493	419,542	1,203,454
2018	250,659	548,355	799,014	293,683	132,586	426,269	1,225,283
2019	252,186	561,976	814,162	298,318	134,678	432,996	1,247,158
2020	253,710	575,645	829,400	302,953	136,770	439,700	1,269,100
2021	255,230	589,359	844,589	307,587	138,863	446,450	1,291,039
2022	256,746	603,118	859,864	312,222	140,955	453,177	1,313,041
1990-2001	-6.0%	2.0%	-2.0%	4.7%	18.3%	8.2%	1.2%
2000-2014	0.2%	5.6%	3.3%	2.4%	1.0%	2.0%	2.8%
2014-2022	0.6%	2.5%	1.9%	1.6%	1.6%	1.6%	1.8%

1/ Totals may not add due to rounding.

2/ In effort to prevent the demand projections from being distorted by the events of September 11, 2001, 2000 cargo enplaned levels from the basis for belly/all-cargo enplaned projects were used.

Source: Airport Management Records, 2001; Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

3.6 Design Day Schedule

For the purposes of identifying future facility requirements, design day activity schedules were developed to represent aircraft movements and passenger traffic distribution throughout the hours of

a PMAD. These design day schedules have also been utilized for airfield analyses and simulation modeling.

The design day schedules represent the flight activity anticipated at the Airport during the PMAD and provide information relative to arrival time, departure time, equipment type, seating capacity, and origin/destination markets for each commercial flight during the design day. A representative airline and/or operator of each flight is also included. **Exhibit III-3** provides a representative sample of the format and data content associated with the design day schedules prepared as part of the Master Plan.

Exhibit III-3

Sample Design Day Schedule Format

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
ETD	ACID	Orig	Dest	ETA	AC	TAIL NUM	Seats	CY2018 LF	On-Flight	FO&D %	O&D Pax			
1	817	RYN633	KORD KSEA		747	N018RY								
3		RYN618	KIND KORD	355	747	N018RY								
4	1413	RYN733	KORD KIND		747	N019RY								
5		RYN633	KIND KORD	730	747	N019RY								
6	2325	RYN718	KORD KIND		747	N020RY								
7		RYN733	KSEA KORD	1304	747	N020RY								
8		NAO203	KEWR KORD	1725	E738	N100NA								
9	800	AAL390	KORD KLGA		738	N100AA	134	82%	110	55%	60			
10		AAL301	KLGA KORD	715	738	N100AA	134	76%	102	65%	66			
11	1550	N100KK	KORD K4R4		LJ45	N100KK								
12		N100KK	KSBM KORD	1545	LJ45	N100KK								
13	700	UAL696	KORD KLGA		320	N100UA	144	71%	102	65%	67			
14	1000	AAL382	KORD KLGA		739	N101AA	176	77%	136	44%	60			
15	845	UAL506	KORD KBOS		320	N101UA	144	77%	111	55%	61			
16		UAL1225	KATL KORD	759	320	N101UA	144	72%	104	65%	67			
17	355	FDX1022	KORD KEWR		A300	N1022FX								
18		FDX1022	KEWR KORD	117	A300	N1022FX								
19	1100	AAL378	KORD KLGA		738	N102AA	134	80%	107	44%	47			
20		AAL378	KMSY KORD	1015	738	N102AA	134	79%	106	44%	46			
21	1000	UAL690	KORD KLGA		320	N102UA	144	73%	104	44%	46			
22		UAL690	KICT KORD	912	320	N102UA	144	78%	113	55%	62			
23	1300	UAL370	KORD KLGA		738	N103AA	134	88%	118	44%	52			
24		AAL2236	KDFW KORD	1214	738	N103AA	134	92%	123	44%	54			
25	1130	UAL550	KORD KROC		320	N103UA	144	77%	110	44%	48			
26		UAL1437	KCMH KORD	1044	320	N103UA	144	75%	108	44%	47			
27	1815	AAL2533	KORD KDAL		738	N104AA	134	81%	109	44%	48			
28		AAL2544	KDAL KORD	1735	738	N104AA	134	83%	111	44%	49			
29	1315	UAL1954	KORD KPHL		320	N104UA	144	81%	117	44%	51			
30		UAL615	KDCA KORD	1201	320	N104UA	144	84%	121	44%	53			
31		AAL2532	KDAL KORD	2014	738	N105AA	134	71%	95	44%	42			
32	600	UAL698	KORD KLGA		320	N105UA	144	68%	98	65%	64			

Notes:

- ETD – Estimated time of departure
- ACID – Airline/Flight Identification Number
- ORIG – Originating Market (in ICAO designations, with U.S. markets being prefixed with a “K”)
- DEST – Destination Market (in ICAO designations, with U.S. markets being prefixed with a “K”)
- ETA – Estimated time of arrival
- AC – Aircraft Type
- SEATS – Aircraft Seating Capacity
- TOTAL PAX - Total Passengers
- O&D – Origin and Destination Passengers

Source: Ricondo & Associates, Inc.
 Prepared by: Ricondo & Associates, Inc., February 2003

A total of five design day schedules have been developed for purposes of defining facility requirements for the Master Plan, and are representative of specific points during the planning horizon. The five design day schedules include an existing PMAD schedule, using 2001 as the base

year, and four future PMAD schedules of activity (representing 2007, 2009, 2013, and 2018).³ Additional design day schedules were also developed exclusively for the initial simulation analyses and are presented and discussed in the *Airport Layout Plan Update; Airside Simulation Analysis* document dated January 2003.

This section presents the characteristics associated with the five design day schedules discussed above and the assumptions and methodology used to derive them. It is important to recognize that the design day schedules represent the activity that could be experienced during the specified PMAD in terms of hourly arriving and departing passenger and aircraft operations levels. The design day schedules also represent individual carrier activity levels and market service patterns. However, they only represent one of several viable operating characteristics, identified in terms of airline composition, aircraft fleet mix, daily passenger distribution, and passenger types (i.e., domestic versus international, O&D versus connecting).

3.6.1 Assumptions and Methodology

In order to provide the framework for the development of the design day schedules, the total level of activity for each design day, in terms of aircraft operations, arriving and departing seats, and arriving and departing passengers, must be defined. A summary of the PMAD activity associated with the five design day schedules is presented in **Tables VIII-17** and **VIII-18**.

Table III-17

Design Day Schedule Summary – Scheduled Activity Characteristics

	2001	CY2007	CY2009	CY2013	CY2018
Domestic Activity					
Enplanements	98,765	106,743	111,329	120,535	132,750
Scheduled Aircraft Departures	1,217	1,224	1,250	1,305	1,377
Seats Per Departure	113.5	116.5	118.0	122.0	127.6
Average Boarding Load Factor	71.5%	74.9%	75.5%	75.7%	75.6%
International Activity					
Enplanements	12,936	22,992	25,587	30,731	36,297
Scheduled Aircraft Departures	72	140	154	180	205
Seats Per Departure	250.1	252.1	254.1	258.1	263.1
Average Boarding Load Factor	71.4%	65.0%	65.4%	66.3%	67.4%

Sources: Existing – City of Chicago Airport Traffic Statistics, U.S. DOT T100 Form 41 Database; Design Day Schedule - Ricondo & Associates, Inc., 2003

Prepared by: Ricondo & Associates, Inc., February 2003

³ The four future PMAD schedules of activity represent the years of analysis that were defined in coordination with the FAA based on the years of analysis being considered for the Environmental Impact Statement. A preliminary commissioning schedule for various airfield and facility enhancements and expansion was developed based on the anticipated demand growth and facility development needs.

Table III-18**Passenger Enplanements - Profiles**

<u>Demand Element/Characteristics</u>	<u>Actual (2001)</u>	<u>CY2007</u>	<u>CY2009</u>	<u>CY2013</u>	<u>CY2018</u>
Domestic (Air Carrier and Commuter) Enplanements - including enplanements to Canadian destinations					
Percent of Total Annual Enplanements	86.1%				
Total Annual Domestic Enplanements	29,078,666	35,031,876	36,536,831	39,558,106	43,567,049
Total Annual Connecting Enplanements	17,122,735	18,043,195	18,672,176	19,978,852	22,003,572
Percent Connecting (Annual)	58.9% ^{1/}	51.5% ^{2/}	51.1% ^{2/}	50.5% ^{2/}	50.5% ^{2/}
Peak Month Domestic Enplanements ^{3/}	3,061,711	3,309,034	3,451,189	3,736,572	4,115,248
Peak Month (PM) Connecting Enplanements	1,561,333	1,624,000	1,688,000	1,814,000	1,980,000
Ratio of PM Connecting Enplanements to PM Enplanements	51.0% ^{4/}	49.1%	48.9%	48.5%	48.1%
International Enplanements - excluding enplanements to Canadian destinations					
Percent of Total Annual Enplanements	13.9%				
Total International Enplanements	4,229,472	5,971,590	6,645,331	7,981,446	9,427,177
Total International Connecting Enplanements	2,292,866	3,582,954	3,987,199	4,788,868	5,774,146
Percent Connecting (Annual) ^{3/}	54.2% ^{5/}	60.0%	60.0%	60.0%	61.3%
Peak Month International Enplanements	401,013	712,764	793,182	952,659	1,125,221
Peak Month (PM) International Connecting Enplanements	186,706 ^{6/}	411,000 ^{2/}	459,000 ^{2/}	554,000 ^{2/}	660,000 ^{2/}
Ratio of PM Connecting Enplanements to PM Enplanements ^{3/}	46.6%	57.7%	57.8%	58.2%	58.6%
Totals					
Total Annual Enplanements	33,308,138	41,003,466	43,182,162	47,539,553	52,994,226
Total Annual Connecting Enplanements	19,415,601	21,626,149	22,659,374	24,767,720	27,777,718
Ratio of Connecting Enplanements to Annual Enplanements	58.3%	52.7%	52.5%	52.1%	52.4%
Peak Month Enplanements	3,462,724	4,021,798	4,244,370	4,689,231	5,240,468
Peak Month Connecting Enplanements	1,748,039	2,035,000	2,147,000	2,368,000	2,640,000
Ratio of PM Connecting Enplanements to PM Enplanements	50.5% ^{1/}	50.6%	50.6%	50.5%	50.4%

Notes:

1/ Source: U.S. DOT Origin and Destination Survey (O&D originating enplanements, multiplied by 10, compared to the T100 enplaned passenger volumes).

2/ Interpolated using 2001 and 2022 demand statistics.

3/ Derived by Ricondo & Associates, Inc. (Derivative Activity Statistics)

4/ Derived by maintaining the annual to peak month relationships for total enplanements constant.

5/ Source: 1998 Chicago Airport System Forecasts; Ricondo & Associates, Inc.

6/ Total peak month connecting enplanements minus domestic peak month connecting enplanements.

Sources: City of Chicago Airport Traffic Statistics; 2001 FAA Terminal Area Forecasts; *Chicago Airport System Forecast, June 1998*, Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

The following methodology was used to develop the design day schedules and to assess the distribution of activity within each design day.

- A schedule of airline activity for August 20, 2001 was obtained from the Official Airline Guide and supplemented with actual data collected from the Airport's Automated RADAR Terminal Systems (ARTS). This day (August 20, 2001) was selected because August represents the typical peak month for aircraft operations at O'Hare. Additional research also found that August 20, 2001 was a relatively calm day, with few weather delays throughout the national airspace system. The August 20, 2001 schedule contains a total of 2,802 scheduled and non-scheduled flight operations, in comparison to the 2,732 total daily operations derived for the 2001 PMAD. However, actual activity for August 20, 2001 as reflected by Airport's ARTS indicate that only 2,745 total operations actually occurred, due to flight cancellations and other factors that led to the non-occurrence of flights scheduled for that day.
- A pre-September 11, 2001 flight schedule was selected to derive the future design day schedules following group discussions during Airside Advisory Sessions held early in the planning process and attended by members of the DOA, FAA, IDOT, airlines, and the planning team. Although several airlines have altered their daily schedules to reflect a more even distribution of traffic throughout the day, it was concluded that the pre-September 2001 daily activity profiles still represent valid daily traffic distributions and peaking patterns for long-term (10-plus years) planning purposes. As such, the compiled August 20, 2001 schedule was selected as a reasonable baseline for the development of the future activity schedules and operating profiles throughout the day.
- The future schedules of airline activity were prepared assuming that the market shares retained by airlines at O'Hare from September 2000 through August 2001 remain constant through each of four future design day schedules. Consideration was also given to those airlines that held a small percentage (i.e., less than five percent) of the market share during the 2000/2001 period, but have since ceased operations. It was assumed that market share possessed by these carriers would be absorbed by other existing or new entrant carriers. Similarly, activity conducted by airlines that have been acquired during or after the 2000/2001 period (e.g., TWA) was included within the parent company.
- Each existing airline/market pair was assessed relative to arrival and departure times, frequency levels, passenger demand, and historical load factors. Based on the overall flights in the market and the relative O&D traffic levels, additional flights were added to service "gaps" apparent in the schedule. In addition, airline's overall route structures were evaluated to identify representative, new-service markets for O'Hare by existing or new entrant carriers. Arrival and departure times from/to these markets were established based on preferred travel times in the market pair. New international air service markets were also identified for O'Hare after increase service frequencies to existing international markets were provided. New international markets were identified using information contained in the *International Air Services for Chicago, Market Opportunities and Strategies* technical report, dated April 1998. Further discussion on the approach used to increase the August 20, 2001 schedule to reflect future PMAD activity levels is provided in the following section.
- An aircraft type was assigned to each new and existing flight based on the representative airline's existing and planned fleet, market frequency, stage length, and anticipated growth in overall seats per operation. Taking into consideration stage length requirements to each market and each airline's current and future operating fleets, the PMAD average number of

seats for domestic and international activity were used to calibrate the overall fleet mix for each of the design day schedules. Airline fleet information was obtained from JP Airline Fleets International (Edition 2001/02), the Official Airline Guide (OAG) for the August 2001 airline schedules, and order/delivery records available from the Boeing and Airbus Industries web sites (as of January 2002).

- Load factors were assigned to each flight in order to derive passenger activity volumes. Future assumptions on airline load factors were made using historical data obtained from the U.S. DOT, T-100, Form 41 database, actual hourly load factors for O'Hare for August 20, 2001 obtained from some of the existing carriers, and detailed traffic statistics for August 2001 obtained from the DOA. Taking into consideration historical load factors and assumed changes or upgrades in aircraft size, load factors were applied to each flight. The resulting passenger volumes were calibrated based on the PMAD domestic and international passenger enplanements derived for each of the four years of analysis.

The following sections further address the assumptions and methodology used to derive the future demand patterns.

3.6.2 Future Domestic Flight Activity

Table III-19 provides a breakdown of the PMAD domestic departures by representative airline, derived using the average airline departures market share at O'Hare from September 2000-August 2001. These market shares were assumed to remain constant throughout the 20-year demand analysis period and used to allocate the PMAD domestic departures associated with each of the four design day schedules to various representative airlines. PMAD activity for 2001 was derived from the City of Chicago Airport Activity Statistics.

As previously described, these flight activity schedules represent individual carrier activity levels and market service patterns. However, they only represent one of several viable operating characteristics, identified in terms of airline composition, aircraft fleet mix, daily passenger distribution, and passenger types (i.e., domestic versus international, O&D versus connecting) and daily operating profiles that may ultimately materialize at O'Hare.

As shown in Table III-19, the PMAD domestic departures for 2001 total 1,217. The PMAD total domestic departures increase incrementally from 1,224 in 2007 to 1,250 in 2009. In 2013, PMAD total domestic departures grow to 1,305 and culminate at 1,377 in 2018. This represents an average annual growth of less than one percent from 2001 through 2018.

Table III-19**Design Day Schedule (2001 TAF Derivative Profiles) - Domestic Activity Flight Distribution**

Representative Air Carrier	Identifier	PMAD 2001	FY 00/01 Market Share ^{1/}	CY2007 - PMAD	CY2009 - PMAD	CY2013 - PMAD	CY2018 - PMAD
				Total Departures	Total Departures	Total Departures	Total Departures
United	UA	405	34.7%	425	434	453	477
American ^{2/}	AA	324	27.5%	336	344	358	379
United Express	ZW/DH/ZK	169	13.2%	162	166	172	181
American Eagle	MQ	164	12.7%	155	159	166	175
Northwest	NW	27	2.2%	27	27	29	30
Delta/Comair	DL	31	2.2%	27	27	29	30
U.S. Air	AL	21	1.8%	22	22	23	25
Air Canada	AC	23	1.7%	21	21	22	23
Continental/CO Express	CO	25	1.8%	22	22	23	25
Others ^{3/}	-	27	2.2%	27	28	30	32
Total ^{4/}		1,217	100.0%	1224	1250	1305	1377

Notes:

1/ Reflects scheduled and non-scheduled activity.

2/ Includes TWA share during 2000/2001.

3/ Other carriers operating in 2001 included: Alaska Airlines, America West, Canada International, Mesa Airlines, National Air, Spirit, Sun Country, Trans World Airlines, and Transmeridian.

4/ Express One not included. Totals may not add due to rounding.

Sources: City of Chicago, Airport Activity Statistics; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

To derive each of the design day schedules using the PMAD departure totals and airline traffic shares presented in Table III-19, the August 20, 2001 flight schedule obtained from the OAG was revised and amended to reflect the departure volumes and operating profiles (in terms of average seat size per departure) for each year of analysis (i.e., 2007, 2009, 2013, and 2018). New flights were added as needed on a carrier-by-carrier basis for each representative airline. All flights (existing and new) contained in the design day schedule possess a three-letter alpha-numeric identifier that correspond to the representative airline's/operator's three-letter International Civil Aviation Organization (ICAO) designation (e.g., AAL represents American, UAL represents United, MXA represents Mexicana, BAW represents British Airways, etc.). The remaining numeric codes correspond to the flight number associated with each departure or arrival.

The new domestic flights were added to each representative carrier based on existing service routes to and from O'Hare, and flight frequencies maintained to each of the existing markets during 2001 as well as those provided during 2002 (based on a review of other OAG flight schedules obtained for different periods in 2002). In addition, each representative carrier's service patterns and flight frequencies between O'Hare and their respective airport hub-network was evaluated, particularly given the representative airline's current operating trends. These trends appear to emphasize the increased utilization of existing hubs to maximize market accessibility via one-stop or multi-stop routing strategies. Providing additional flight frequencies to the existing network of hubs received first priority during the addition of flights to the design day schedules.

As such, Dallas/Fort Worth and Miami received some new American Flights, San Francisco and Denver received some new United flights, and Atlanta and Cincinnati received new Delta flights. **Table III-20** provides a summary of the domestic market frequencies and new service markets associated with the future design day schedules.

3.6.3 Future International Flight Activity

Table III-21 provides a breakdown of the PMAD international departures by representative airline, also derived using the average airline departures market share held by those carriers at O'Hare from September 2000-August 2001. These market shares were assumed to remain constant throughout the 20-year demand analysis period and used to allocate the future PMAD international departures to each of the representative airlines providing international air service.

As shown in Table III-21, the PMAD international departures for 2001 total 72. Based on the increased growth in international service at the Airport, more aggressive growth (in terms of growth percentage increases) in annual and PMAD departures is anticipated. Total international PMAD departures increase incrementally from 140 in 2007 to 154 in 2009. Total international PMAD departures grow to 180 in 2013 and reach 205 daily departures in 2018. This represents an average annual growth of 6.3 percent from 2001 through 2018.

Table III-20

O'Hare International Airport - Design Day Schedules - Summary of Domestic Markets

Domestic Markets	ICAO	Number of Flights									
		August 20, 2001		PMAD CY2007		PMAD CY2009		PMAD CY2013		PMAD CY2018	
		Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
OTTAWA ONTARIO CANADA	CYOW	8	8	8	11	8	11	7	10	9	11
MONTREAL(DORVAL) QUEBEC CANADA	CYUL	10	10	13	15	15	15	14	16	14	16
VANCOUVER(INTL) BC CANADA	CYVR	5	5	6	7	7	9	7	10	9	11
WINNIPEG MANITOBA CANADA	CYWG	4	4	4	3	4	3	4	3	4	4
CALGARY ALBERTA CANADA	CYYC	4	4	3	4	3	4	5	5	6	6
TORONTO(PEARSON INTL) ONTARIO CANADA	CYYZ	21	21	23	26	23	26	24	26	25	26
ALLENTOWN PENNSYLVANIA USA	KABE	4	3	4	3	4	3	4	3	4	3
ALBUQUERQUE NEW MEXICO USA	KABQ	2	2	3	2	3	2	2	2	2	2
ATLANTIC CITY(INTL) NJ USA	KACY	1	1	1	1	1	1	1	1	1	1
ALBANY NEW YORK USA	KALB	8	8	8	8	9	8	9	9	10	10
WATERLOO IOWA USA	KALO	5	5	4	4	4	4	4	4	4	5
ATLANTA(INTL) GEORGIA USA	KATL	28	28	28	28	28	29	29	31	30	31
APPLETON WISCONSIN USA	KATW	6	6	6	6	6	6	6	6	6	6
AUSTIN(INT'L) TEXAS USA	KAUS	8	8	8	7	9	8	9	8	9	9
WILKES-BARRE\SCRANTON PA USA	KAVP	3	3	1	2	1	2	3	2	3	2
KALAMAZOO MICHIGAN USA	KAZO	10	10	8	9	8	9	9	10	9	10
HARTFORD(BRADLEY INTL) CT USA	KBDL	12	12	12	11	12	12	13	12	14	13
BIRMINGHAM ALABAMA USA	KBHM	2	2	2	2	2	2	2	2	2	2
BLOOMINGTON ILLINOIS USA	KBMI	8	8	7	8	7	8	7	8	8	8
NASHVILLE TENNESSEE USA	KBNA	8	8	7	7	7	8	9	9	9	9
BOISE IDAHO USA	KBOI	2	2	2	2	2	2	2	2	2	2
BOSTON(INTL) MASSACHUSETTS USA	KBOS	29	28	30	28	30	28	29	29	31	30
BATON ROUGE LOUISIANA USA	KBTR	2	2	2	1	2	2	2	2	2	2
BURLINGTON VERMONT USA	KBTV	3	3	4	3	4	3	4	3	4	3
BUFFALO NEW YORK USA	KBUF	9	10	9	10	9	10	9	10	9	10
BALTIMORE(INTL) MARYLAND USA	KBWI	11	11	11	11	11	12	12	12	12	12
COLUMBIA SOUTH CAROLINA USA	KCAE	3	3	2	3	2	3	3	3	4	3
AKRON\CANTON OHIO USA	KCAK	3	3	3	3	3	3	2	3	2	3
CHATTANOOGA TENNESSEE USA	KCHA	4	3	3	2	3	2	3	3	3	3
CHARLESTON SOUTH CAROLINA USA	KCHS	2	2	2	1	2	1	2	1	2	1
CEDAR RAPIDS\IOWA CITY IOWA USA	KCID	10	10	9	10	9	10	10	10	10	10
CLEVELAND(INTL) OHIO USA	KCLE	23	23	20	20	21	20	21	22	24	25
CHARLOTTE NORTH CAROLINA USA	KCLT	19	19	19	18	20	18	21	18	21	20
COLUMBUS(INTL) OHIO USA	KCMH	19	20	18	20	18	20	14	15	14	16
CHAMPAIGN ILLINOIS USA	KCMI	5	5	4	4	4	5	4	5	5	5
COLORADO SPRINGS COLORADO USA	KCOS	2	2	2	2	2	2	2	2	2	2
CHARLESTON WEST VIRGINIA USA	KCRW	3	3	3	3	3	3	3	3	3	3
CINCINNATI(INTL) OHIO USA	KCVG	19	19	15	16	16	17	16	17	19	19
WAUSAU WISCONSIN USA	KCWA	6	6	5	4	5	4	6	5	6	5
DALLAS(LOVE FLD) TEXAS USA	KDAL	4	4	4	4	4	4	4	4	4	4
DAYTON(INTL) OHIO USA	KDAY	10	10	8	10	8	10	8	10	9	10
DBQ-DUBUQUE IOWA USA	KDBQ	7	7	5	6	5	6	5	6	7	7
WASHINGTON (REAGAN NAT'L) DC USA	KDCA	26	26	29	26	29	26	28	28	29	28

(Table continued on next page)

Table III-20 (Continued)

O'Hare International Airport - Design Day Schedules - Summary of Domestic Markets

Domestic Markets	ICAO	Number of Flights									
		August 20, 2001		PMAD CY2007		PMAD CY2009		PMAD CY2013		PMAD CY2018	
		Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
DENVER(INTL) COLORADO USA	KDEN	27	23	25	23	25	24	27	24	29	26
DALLAS\FT. WORTH(INTL) TEXAS USA	KDFW	33	33	33	34	34	36	33	37	36	37
DULUTH MN\SUPERIOR WI USA	KDLH	3	3	2	3	2	3	2	3	2	3
DES MOINES IOWA USA	KDSM	11	12	10	10	10	11	10	11	10	11
DETROIT(METRO WAYNE) MICHIGAN USA	KDTW	24	25	22	24	23	24	25	24	26	26
EL PASO TEXAS USA	KELP	3	3	2	3	2	3	3	3	3	3
EVANSVILLE INDIANA USA	KEVV	5	5	4	4	4	4	5	4	5	4
NEW YORK(NEWARK NJ) NY USA	KEWR	40	38	38	36	38	36	40	39	41	39
FARGO NORTH DAKOTA USA	KFAR	3	3	2	3	3	3	3	3	3	3
FT. LAUDERDALE(INTL) FLORIDA USA	KFLL	9	9	8	9	8	9	9	9	9	10
SIoux FALLS SOUTH DAKOTA USA	KFSD	5	5	3	4	3	4	3	4	3	4
FORT WAYNE INDIANA USA	KFWA	10	10	7	6	7	6	9	7	10	9
SPOKANE(INTL) WASH. USA	KGEG	2	2	2	2	2	2	2	2	2	2
GREEN BAY WISCONSIN USA	KGRB	11	10	10	9	10	9	10	9	11	10
GRR-GRAND RAPIDS MICHIGAN USA	KGRR	15	15	15	14	15	14	15	14	16	16
GREENSBORO\H.PT\WIN-SALEM NC USA	KGSO	6	6	6	6	6	6	6	6	6	6
GREENVILLE\SPARTANBURG SC USA	KGSP	7	7	7	5	7	5	7	7	7	7
WESTCHESTER COUNTY NEW YORK USA	KHPN	12	12	11	11	11	12	12	12	12	12
HUNTSVILLE (INTL) ALABAMA USA	KHSV	3	3	2		3		3	1	3	3
WASHINGTON(DULLES INTL) DC USA	KIAD	9	9	8	9	8	10	11	12	12	12
HOUSTON(INTL) TEXAS USA	KIAH	20	20	20	20	20	20	20	20	20	20
WICHITA KANSAS USA	KICT	3	3	3	3	3	3	3	3	3	3
WILMINGTON OHIO USA	KILN	0	0							3	3
IRON MOUNTAIN MICHIGAN USA	KIMT	3	3	2	3	3	3	3	3	17	16
INDIANAPOLIS INDIANA USA	KIND	16	16	16	16	16	16	17	16		
JACKSONVILLE(INTL) FLORIDA USA	KJAX	3	3	2	3	2	3	2	3	2	3
NEW YORK(KENNEDY) NY USA	KJFK	1	2	1	1	1	1	1	1	1	2
LANSING MICHIGAN USA	KLAN	8	8	6	6	6	6	6	7	6	7
LAS VEGAS(INTL) NEVADA USA	KLAS	14	14	16	14	16	14	16	16	18	18
LOS ANGELES(INTL) CALIFORNIA USA	KLAX	34	33	35	34	36	35	40	38	41	38
LEXINGTON KENTUCKY USA	KLEX	3	3	3	3	3	3	3	3	3	3
NEW YORK(LAGUARDIA) NY USA	KLGA	38	37	37	36	38	36	39	38	39	40
LITTLE ROCK ARKANSAS USA	KLIT	3	3	3	3	3	3	3	3	3	3
LINCOLN NEBRASKA USA	KLNK	3	3	3	3	3	3	3	3	3	3
LA CROSSE WI\WINONA MN USA	KLSE	4	4	4	4	4	4	4	4	4	4
SAGINAW MICHIGAN USA	KMBS	5	5	5	4	5	4	5	5	5	5
KANSAS CITY(INTL) MISSOURI USA	KMCI	13	14	13	14	13	14	13	14	14	15
ORLANDO(INTL) FLORIDA USA	KMCO	13	14	13	11	11	9	15	13	17	17
HARRISBURG PENNSYLVANIA USA	KMDT	7	8	7	7	7	7	7	8	7	8
MEMPHIS TENNESSEE USA	KMEM	13	13	12	12	12	13	12	14	12	14
MANCHESTER NEW HAMPSHIRE USA	KMHT	4	3	6	3	6	3	5	3	5	3
MIAMI(INTL) FLORIDA USA	KMIA	12	12	12	12	12	13	16	15	16	17
MILWAUKEE WISCONSIN USA	KMKE	15	16	13	16	15	16	15	16	15	16
MUSKEGON MICHIGAN USA	KMKG	4	4	3	3	3	4	3	4	4	4

(Table continued on next page)

Table III-20 (Continued)

O'Hare International Airport - Design Day Schedules - Summary of Domestic Markets

Domestic Markets	ICAO	Number of Flights									
		August 20, 2001		PMAD CY2007		PMAD CY2009		PMAD CY2013		PMAD CY2018	
		Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
MOLINE ILLINOIS USA	KMLI	5	5	4	4	4	5	4	5	4	5
MOBILE AL/PASCAGOULA MS USA	KMOB	2	2	2	2	2	2	1	2	1	2
MARQUETTE MICHIGAN USA	KMQT	1	1	1	1	1	1	1	1	1	1
MADISON(DANE COUNTY) WISCONSIN USA	KMSN	15	15	11	13	12	14	14	14	15	14
MINNEAPOLIS\ST. PAUL(INTL) MN USA	KMSP	42	42	39	40	41	41	43	43	44	44
NEW ORLEANS(INTL) LOUISIANA USA	KMSY	5	5	5	5	5	5	5	5	6	5
MYRTLE BEACH SOUTH CAROLINA USA	KMYR	1	1		1		1		1	1	1
OAKLAND CALIFORNIA USA	KOAK	4	4	4	4	5	4	5	4	6	4
OKLAHOMA CITY(ROGERS) OKLAHAMA USA	KOKC	6	6	5	6	5	6	6	6	6	6
OMAHA NEBRASKA USA	KOMA	10	11	10	11	10	11	10	10	10	11
ONTARIO CALIFORNIA USA	KONT	2	2	2	2	2	2	2	2	3	2
NORFOLK\VA. BEACH\WMBG VA USA	KORF	6	6	6	5	6	5	7	5	8	6
WORCESTER MASSACHUSETTS USA	KORH	2	2	2	2	2	2	2	2	2	2
OSHKOSH WISCONSIN USA	KOSH	2	2	2	1	2	1	2	1	2	1
WEST PALM BEACH(INTL) FLORIDA USA	KPBI	1	1	2	1	2	1	3	1	4	2
PORTLAND OREGON USA	KPDX	9	8	10	8	10	8	10	8	11	10
PHILADELPHIA(INTL) PA USA	KPHL	30	31	30	29	31	30	31	30	32	31
PHOENIX(INTL) ARIZONA	KPHX	17	16	16	15	17	16	16	16	21	20
PEORIA ILLINOIS USA	KPIA	9	9	9	8	9	8	9	8	9	9
PITTSBURGH(INTL) PENN USA	KPIT	19	19	17	18	17	19	17	19	20	20
PALM SPRINGS CALIFORNIA	KPSP	0		1		1		1	1	1	1
PROVIDENCE RHODE ISLAND USA	KPVD	8	8	7	7	8	7	8	8	9	9
PORTLAND MAINE USA	KPWM	4	5	4	4	4	4	4	5	4	5
RALEIGH\DURHAM NORTH CAROLINA USA	KRDU	11	11	11	11	11	11	11	11	12	11
ROCKFORD ILLINOIS USA	KRFD	0	0								
RICHMOND\WMBG VIRGINIA USA	KRIC	7	7	7	7	7	7	7	7	7	7
RENO NEVADA USA	KRNO	3	3	3	3	3	3	3	3	4	4
ROANOKE VIRGINIA USA	KROA	3	3	3	2	3	2	3	3	3	3
ROCHESTER NEW YORK USA	KROC	11	10	11	10	11	10	11	10	11	10
ROCHESTER MINNESOTA USA	KRST	4	4	4	3	4	3	4	4	4	4
FORT MYERS FLORIDA USA	KRSW	2	2	4	1	4	1	3	1	3	3
SAN DIEGO(INT'L) CALIFORNIA USA	KSAN	11	11	11	10	11	10	12	11	12	12
SAN ANTONIO TEXAS USA	KSAT	6	6	6	6	6	6	6	6	6	6
SAVANNAH GEORGIA USA	KSAV	3	3	3	3	3	3	3	3	3	3
SOUTH BEND(REGIONAL) INDIANA USA	KSBN	8	9	7	8	7	8	7	9	7	9
LOUISVILLE KENTUCKY USA	KSDF	4	4	4	4	4	4	4	4	4	4
SEATTLE/TACOMA(INTL) WA USA	KSEA	17	17	16	17	16	17	20	19	20	19
SAN FRANCISCO(INTL) CALIFORNIA USA	KSFO	22	25	21	25	23	25	23	27	24	28
SPRINGFIELD MISSOURI USA	KSGF	4	4	4	2	4	2	3	3	4	3
SAN JOSE CALIFORNIA USA	KSJC	14	13	14	12	14	12	15	13	15	14
SALT LAKE CITY UTAH USA	KSLC	8	8	7	7	7	7	7	7	9	9
SACRAMENTO(METRO) CA. USA	KSMF	4	5	4	5	4	5	4	5	4	5
ORANGE CTY.(J.WAYNE APT) CA. USA	KSNA	11	11	9	9	9	10	11	11	11	11
SPRINGFIELD ILLINOIS USA	KSPI	6	6	3	2	3	2	4	3	6	5

(Table continued on next page)

Table III-20 (Continued)

O'Hare International Airport - Design Day Schedules - Summary of Domestic Markets

Domestic Markets	ICAO	Number of Flights									
		August 20, 2001		PMAD CY2007		PMAD CY2009		PMAD CY2013		PMAD CY2018	
		Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
ST. LOUIS(INTL) MISSOURI USA	KSTL	21	21	19	20	19	20	20	20	25	23
NEWBURGH NEW YORK USA	KSWF	4	4	4	2	4	3	4	4	4	4
SYRACUSE NEW YORK USA	KSYR	7	7	7	7	7	7	7	7	7	7
TOLEDO OHIO USA	KTOL	6	6	5	5	5	5	5	6	6	6
TAMPA(INTL) FLORIDA USA	KTPA	7	7	6	7	7	7	7	7	9	8
TRI-CITY AIRPORT TENNESSEE USA	KTRI	3	3	3	2	3	2	3	2	3	3
TULSA OKLAHOMA USA	KTUL	9	9	9	9	9	9	9	9	9	9
TUCSON ARIZONA USA	KTUS	3	3	3	3	3	3	3	3	3	3
TRAVERSE CITY MICHIGAN USA	KTVC	11	11	9	9	9	9	11	9	11	10
KNOXVILLE TENNESSEE USA	KTYS	3	3	3	3	3	3	3	3	3	3
QUINCY ILLINOIS USA	KUIN	2	2	2	1	2	1	2	2	2	2
FAYETTEVILLE ARKANSAS USA	KXNA	5	5	5	5	5	5	5	5	5	5
Total		1,295	1,295	1,233	1,224	1,258	1,250	1,305	1,305	1,382	1,377

Sources: Official Airline Guide; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

Table III-21**Design Day Schedule (2001 TAF Derivative Profiles) - International Activity Flight Distribution**

Representative Air Carrier	Identifier	Alliance	PMAD 2001	FY 00/01 Market Share ^{1/}	CY2007 - PMAD	CY2009 - PMAD	CY2013 - PMAD	CY2018 - PMAD
					Total Departures	Total Departures	Total Departures	Total Departures
American	AA	One World	19	27.7%	39	43	50	57
United	UA	Star	12	23.7%	33	36	43	49
Mexicana	MX	None	8	9.4%	13	14	17	19
Lufthansa	LH	Star	3	3.1%	4	5	6	6
Korean	KE	None	2	2.9%	4	4	5	6
Japan Airlines	JL	One World	2	2.8%	4	4	5	6
Air France	AF	None	2	2.6%	4	4	5	5
British Airways	BA	One World	2	2.4%	3	4	4	5
Scandinavian	SK	Star	2	2.4%	3	4	4	5
Others ^{2/}	-	-	19	14.4%	33	36	41	47
Total ^{3/}			72	100.0%	140	154	180	205

Notes:

1/ Reflects scheduled and non-scheduled activity

2/ Other carriers operating in 2001 included: Turkish Airlines, Air India, Aeroflot, Allegro Air, Royal Jordanian, Aeromexico, Kuwait Airways, El Al, Taron, British Midland, Airplus Comet, Singapore Passenger Airlines, All Nippon Airways, KLM, Air Jamaica, Sabena, Iberia, Virgin Atlantic, American Trans Air, Swissair and Austrian Air

3/ Totals may not add due to rounding.

Sources: City of Chicago, Airport Activity Statistics; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

New international flights were added to each representative carrier based on existing service routes to and from O'Hare and flight frequencies maintained to each of the existing international markets during 2001 as well as those provided during 2002 based on a review of other OAG flight schedules obtained for different periods in 2002. In addition, international markets that could support new service from O'Hare were identified based on the international air service priorities outlined in the *International Air Services for Chicago, Market Priorities and Strategies* study completed in April 1998. The study assessed air service patterns and opportunities for European, Asian, and Latin America/Caribbean markets. The European markets included Belgium, France, Germany, Greece, Ireland, Italy, Netherlands, Poland, Scandinavia, Spain, Portugal, Switzerland, the United Kingdom, Eastern Europe, and the Middle East. The Asian markets included Japan, Korea, China, the Philippines, Hong Kong, Taiwan, Singapore/Malaysia, and other Pacific Rim markets. The Latin America/Caribbean markets included cities in South and Central America, Mexico, and the Caribbean islands.

The study concluded that future growth opportunities for international air service to/from O'Hare existed primarily within the European and Asian markets, with some additional opportunities available for a few select cities in Latin America. A summary of the specific markets outlined in the study is provided in **Table III-22**.

Table III-22

International Market Priorities

Hong Kong	Singapore
Taipei	Nagoya
Rome	Japanese markets (in general)
Reykjavik	London
San Jose, Costa Rica	Amsterdam
Athens	Beijing/Shanghai
Belgrade	Berlin
Brussels	Budapest
Caracas	Caribbean markets (non-specific)
Kuala Lumpur	Luxembourg
Madrid	Manila
Santiago, Chile	Seoul

Source: *International Air Services for Chicago, Market Priorities and Strategies*, Technical Report dated April 1998
Prepared by: Ricondo & Associates, Inc., February 2003

Several of these priority international markets were considered and included as new service markets within the future design day schedules. Additional flight frequencies to some of the existing international markets already being served from O'Hare were also provided.

Table III-23 provides a summary of the international market frequencies and new service markets associated with each of the five PMAD design day schedules. Similarly, **Exhibit III-4** provides a graphical depiction of the future distribution of international service among the primary world regions discussed above. As shown, Europe is currently the world region that received the majority of the international traffic to/from O'Hare. This pattern is assumed to continue in the future, along with significant growth in air service to the Asian markets.

Table III-23

O'Hare International Airport - Design Day Schedules - Summary of International Markets

International Markets	ICAO	Number of Flights									
		August 20, 2001		PMAD CY2007		PMAD CY2009		PMAD CY2013		PMAD CY2018	
		Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
SYDNEY AUSTRALIA	ASSY	0	0	1	1	1	1	1	1	1	1
REYKYAVIK ICELAND	BIRK	0	0							1	1
BRUSSELS BELGIUM	EBBR	2	2	4	4	4	5	5	5	6	6
BERLIN GERMANY	EDBT	0	0					1	1	1	1
FRANKFURT GERMANY	EDDF	5	5	8	10	10	10	10	10	10	10
DUSSELDORF GERMANY	EDDL	1	1	2	2	2	2	2	2	2	2
MUNICH GERMANY	EDDM	1	1	2	2	3	3	4	4	4	4
STUTTGART GERMANY	EDDS	0	0						1	1	1
HENSINKI JAPAN	EFHK	0	0			1	1	1	1	1	1
BIRMINGHAM UK	EGBB	1	1	1	2	1	2	1	2	2	2
MANCHESTER UK	EGCC	2	2	3	3	3	3	3	3	3	3
LONDON (GATWICK) ENGLAND	EGKK	0	0	1	1	2	2	2	2	2	2
HEATHROW UK	EGLL	11	11	13	13	15	15	15	16	15	16
GLASGOW UK	EGPF	1	1	1	2	2	2	2	2	2	2
AMSTERDAM NETHERLANDS	EHAM	3	3	7	9	7	9	8	9	9	9
IRISH REPUBLIC	EIDW	1	1	2	2	2	2	3	3	3	3
SHANNON IRISH REPUBLIC	EINN	1	1	2	2	2	2	2	2	2	2
COPENHAGEN DENMARK	EKCH	1	1	2	2	2	2	2	2	2	2
OSLO	ENFB	0	0							1	1
WARSHAW POLAN	EPWA	1	1	2	2	2	2	3	3	3	3
STOCKHOLM (ARLANDA) SWEDEN	ESSA	2	2	3	3	3	3	3	3	3	3
NAIROBE KENYA	HKNA	0	0							1	1
BARCELONA SPAIN	LEBL	0	0								
MADRID SPAIN	LEMD	1	1	2	2	2	3	3	3	4	4
LYON FRANCE	LFLL	0	0								
NICE FRANCE	LFMN	0	0	1	1	1	1	2	1	2	2
PARIS FRANCE	LFPG	4	4	8	7	8	7	9	9	10	9
PARIS (ORLY) FRANCE	LFPO	0	0						1		1
BUDAPEST HUNGARY	LHBP	0	0							1	1
MILAN ITALY	LIMC	2	2	4	4	4	4	4	4	4	4
ROME ITALY	LIRF	1	1	4	3	5	3	5	5	5	5
TEL AVIV ISRAEL	LLBG	0	0	1	1	1	1	1	1	1	1
VIENNA AUSTRIA	LOWW	1	1	1	1	1	1	1	1	1	1
GENEVA SWITZERLAND	LSGG	0	0					1		1	1
ZURICH SWITZERLAND	LSZH	2	2	3	3	3	3	3	3	4	4
ISTANBUL TURKEY	LTBA	1	1	1	1	1	1	1	1	1	1
BELGRADE YUGOSLAVIA	LVBE	0	0							1	1
GUATEMALA CITY GUATEMALA	MGGT	0	0								
MONTEGO BAY JAMAICA	MKJS	1	1	2	2	2	2	2	2	2	2
MEXICO MARKET (DGO)	MMDO	0	1		3		3	1	3	2	3
GUADALAJARA MEXICO	MMGL	1	2	1	2	1	3	2	3	2	3
MOREIA MEXICO	MMMM	1	1	2	3	2	3	3	3	3	3
MEXICO CITY MEXICO	MMMX	5	6	5	7	6	8	8	8	9	10
MONTEREY MEXICO	MMMY	2	2	3	2	3	2	4	3	4	4
PUERTO VALLARTA MEXICO	MMPR	1	0	3		3		3	2	3	2

(Table continued on next page)

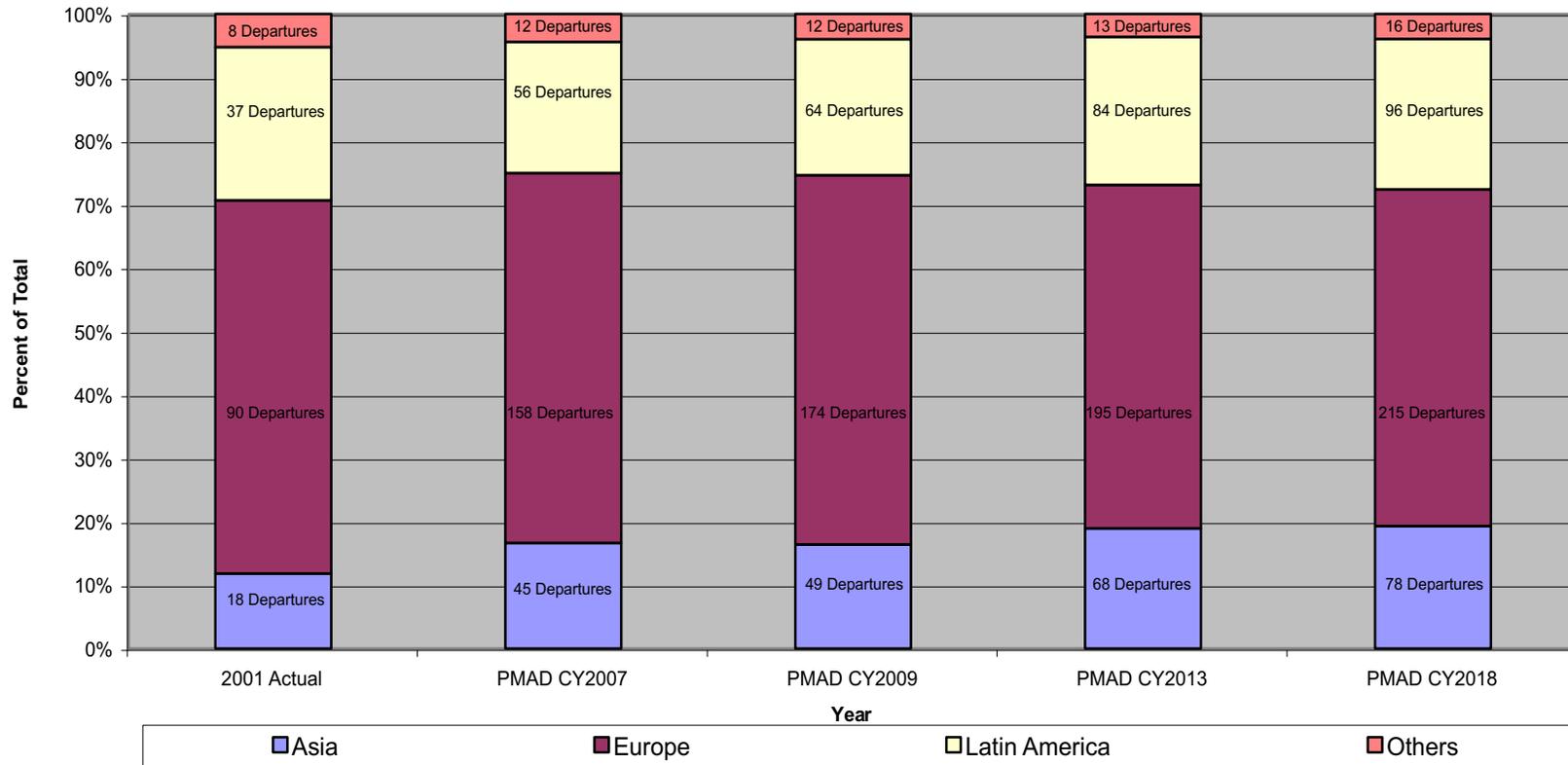
Table III-23 (Continued)

O'Hare International Airport - Design Day Schedules - Summary of International Markets

International Markets	ICAO	Number of Flights									
		August 20, 2001		PMAD CY2007		PMAD CY2009		PMAD CY2013		PMAD CY2018	
		Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
CANCUN MEXICO	MMUN	0	0							1	1
MEXICO MARKET (ZCL)	MMZC	1	0	1		1		3	1	3	1
SAN JOSE COSTA RICA	MROC	0	0	1		1	1	2	2	2	3
FREPORT BAHAMAS	MYGF	0	0					1		1	1
ANCHORAGE ALASKA	PANC	3	3	3	4	3	4	4	4	4	4
HONOLULU HAWAII	PHNL	1	1	2	1	2	1	2	1	2	2
TAIPEI TAIWAN	RCTP	0	0	1	1	1	1	1	2	1	2
TOKYO JAPAN	RJAA	5	5	8	10	9	10	10	11	10	11
OSAKA JAPAN	RJBB	1	1	3	3	3	3	4	4	5	5
FUKUOKA JAPAN	RJFF	0	0					1		1	1
NAGOYA JAPAN	RJNN	0	0							2	2
SEOUL SOUTH KOREA	RKSI	1	1	2	2	2	2	3	3	3	3
SEOUL REPUBLIC OF KOREA	RKSS	0	0	1	1	1	1	1	1	1	1
MANILA PHILIPPINES	RPMM	0	0			1	1	1	1	1	1
BUENOS AIRES ARGENTINA	SAEZ	1	1	1	1	2	2	2	2	2	2
SAO PAULO BRAZIL	SBGR	1	1	1	2	1	2	2	2	2	2
RIO DE JANEIRO BRAZIL	SBRJ	0	0	2	1	2	2	2	2	2	2
SANTIAGO CHILE	SCEL	0	0	1				1	1	1	2
CARACAS VENEZUELA	SVMI	0	0			1	1	2	1	2	2
ANTIGUA	TAPA	0	0				6				
SAN JUAN PUERTO RICO	TJSJ	4	4	4	6	4		5	6	6	6
HONG KONG	VHHH	1	1	2	2	2	2	4	4	4	5
KUALA LUMPUR MALAYSIA	WMKK	0	0					1	1	1	1
SINGAPORE SINGAPORE	WSSS	0	0	1	1	1	1	1	1	1	1
BEIJING CHINA	ZBAA	1	1	2	3	3	3	5	5	5	5
SHANGHAI CHINA	ZSSS	0	0					1		2	1
Total		76	77	131	140	145	154	180	180	200	205

Sources: Official Airline Guide; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003



Representative Markets:

Asia: Tai Pei, Taiwan; Tokyo, Japan; Seoul, South Korea; Bei Jing, China

Europe: Brussels, Belgium; Frankfurt, Germany; Madrid, Spain; Paris France

Latin America: Buenos Aires, Argentina; San Juan, Puerto Rico; Guadalajara, Mexico; Mexico City, Mexico

Others: Nairobi, Kenya; Tel Aviv, Israel

Sources: Official Airline Guide; Ricondo & Associates, Inc.
 Prepared by: Ricondo & Associates Inc.

Exhibit III-4

International Departures by Region

3.6.4 Calibration Of The Design Day Schedules

Domestic and international design day schedules were developed for each of the years of analysis and calibrated using the average aircraft seat capacity for the PMAD in each given year as well as the PMAD departures, enplaned passengers, and connecting passenger percentages identified for each year.

Market stage lengths, airline fleet inventories, and aircraft purchase patterns unique to each representative airline were considered and aircraft upgrades/substitutions were made to achieve an average aircraft seat size for the overall schedule that equaled the derived PMAD average aircraft seating capacity.

Passenger volumes for each of the design day schedules were also calculated and calibrated using the PMAD domestic and international passenger enplanements. To derive these passenger volumes, hourly load factors for departures and arrivals (associated with August 20, 2001 and July 22, 2002) were obtained from one of O'Hare's hubbing carriers. The August 2001 historical load factor information showed significant variations throughout the day, ranging from 45 percent in the late evening hours (between 10:00 p.m. and 11:00 p.m.) to slightly lower than 94 percent in the mid afternoon hours (between 3:00 p.m. and 4:00 p.m.). Average daily load factors for arriving flights were also greater than the average daily load factors for departure flights (79 percent versus 77.5 percent).

The July 2002 historical load factor information also showed significant variations throughout the day, ranging from 30 percent in the mid evening hours (between 9:00 p.m. and 10:00 p.m.) to slightly lower than 87 percent in the mid afternoon hours (between 3:00 p.m. and 4:00 p.m.). However, average daily load factors for arriving and departing flights were nearly equal in 2002 (both averaging slightly higher than 76 percent). For purposes of the design day schedule development, the August 2001 data was used, since it was more compatible with the OAG schedule used to derive each of the future activity schedules and the operating characteristics that support the 2001 TAF.

The hourly load factors were chosen in lieu of average daily load factors by market in order to maintain the daily peaking patterns that were typical for O'Hare during the PMAD in 2001. While the average daily load factors by market would have provided daily passenger characteristics applicable to that given service market, they could have resulted in significantly different daily passenger distributions than that resulting from the application of the hourly load factors.

In addition, it was assumed that the daily load factors obtained from one of the Airport's hubbing carriers are representative of the load factor percentages and daily distributions associated with O'Hare's hubbing carriers. For the non-hubbing carriers, load factors for August 2001 were established using historical operations, passengers, and aircraft types reported to the City by each airline. Using JP Airline Fleets International and the OAG, the average seat size for each carrier's fleet was established and average daily load factors were calculated accordingly. The derived load factors were compared against data available from the U.S. DOT T-100 database. For the non-hubbing carriers, the average load factor identified for an average day in August 2001 was held constant for all hours within the day.

The resulting load factors were allocated to each flight in the future design day schedules and adjusted to reflect growth in passenger demand and/or increased fleet sizes. The adjustment of load

factors was also used to calibrate the passenger enplanements included in the design day schedules with the PMAD passenger enplanements derived for each corresponding year.

Based on carrier input regarding historic activity, it is assumed that average daily connecting patterns at O'Hare will continue to reflect a proportionally greater volume of originating passengers in the early to mid morning hours (i.e., from 6:00 a.m. through 10:00 a.m.), with local (O&D) traffic ranging from 50 to 65 percent. The remainder of the day is assumed to experience a significantly larger volume of connecting activity, ranging from 55 to 70 percent. These general patterns were adopted for the design day schedules and adjusted within the historical ranges to calibrate the O&D percentage share associated with each of the design day schedules with the derived PMAD O&D percentage for each corresponding year.

Similarly, based on historical O&D data obtained for the Airport's hubbing commuter airlines, it was assumed that the representative commuter/regional carriers would continue to possess a slightly lower O&D percentage (i.e., serving more connecting traffic) than their mainline partners. Thus, the O&D share maintained for the representative hubbing commuter/regional carriers in the future design day schedules ranges from 30 to 40 percent. Other representative carriers are assumed to predominantly serve O&D traffic; therefore, the O&D share for these other carriers ranged from 80 percent to 100 percent.

3.6.5 Peaking Characteristics

Appendix B graphically depicts the rolling hour trends associated with the 2001 PMAD schedule and those related to each of the four future design day schedules. The future schedules generally follow the daily peaking and traffic distribution trends characterized by the 2001 PMAD except in a few instances in which some additional activity is shown to occur during the non-peak periods. These trends are more prevalent in the international activity graphs and result from increased frequencies to existing international markets and the addition of new service to different markets/regions. **Table III-24** summarizes the peak hour activity levels for each design day.

3.6.6 Non-Commercial Activity

In addition to the design day schedule of commercial (airline) activity, future schedules of non-commercial activity were also developed. The non-commercial activity components include all-cargo, general aviation/miscellaneous, and military. Once again, the PMAD derivative projections were used to calibrate the future non-commercial activity schedules.

An inventory of historical activity for August 20, 2001 was used to create the future non-commercial activity schedules. Information from the OAG and the Airport's ARTS database was used to generate the historical activity database.

Table III-24**Peaking Summaries**

	2001	2007	2009	2013	2018
Aircraft Operations (Air Carrier and Commuter Activity only)					
Peak Hour Arrivals ^{1/}	114	115	119	128	133
Time of Day - Peak Hour Arrivals ^{1/}	2050-2059	2020-2029	2020-2029	2050-2059	2050-2059
Percent of PMAD Arrivals ^{1/}	8.8%	8.4%	8.5%	8.6%	8.4%
Total PMAD Arrivals ^{1/}	1,289	1,364	1,405	1,485	1,581
Nighttime PMAD Arrivals ^{2/}	101	98	99	107	118
Dayime PMAD Arrivals ^{2/}	1,188	1,266	1,306	1,378	1,463
Peak Hour Departures ^{1/}	118	121	122	127	133
Time of Day - Peak Hour Departures ^{1/}	740-749	850-859	850-859	1720-1729	1720-1729
Percent of PMAD Departures ^{1/}	9.2%	8.9%	8.7%	8.6%	8.4%
Total PMAD Departures ^{1/}	1,289	1,364	1,404	1,485	1,582
Nighttime PMAD Departures ^{2/}	82	83	87	96	105
Dayime PMAD Departures ^{2/}	1,207	1,281	1,317	1,389	1,477
Total Peak Hour Operations ^{1/}	191	207	212	222	235
Time of Day - Peak Hour Operations ^{1/}	1910-1919	1410-1419	1410-1419	1410-1419	1900-1909
Percent of Total PMAD Operations ^{1/}	7.4%	7.6%	7.5%	7.5%	7.4%
Total PMAD Operations ^{1/}	2,578	2,728	2,809	2,970	3,163
Nighttime PMAD Operations ^{2/}	183	183	186	203	223
Dayime PMAD Operations ^{2/}	2,395	2,545	2,623	2,767	2,940
Domestic Passengers (Air Carrier and Commuter)^{3/}					
Peak Hour - Domestic Passengers	15,397	17,098	17,189	18,724	21,195
Time of Day - Peak Hour Domestic Passengers	1900-1909	1900-1909	1900-1909	1900-1909	1900-1909
Percent of PMAD Domestic Passengers	7.8%	7.9%	7.6%	7.7%	7.9%
Total PMAD Domestic Passengers	198,436	216,981	225,387	243,275	268,411
Peak Hour - O&D Domestic Passengers	8,398	9,494	9,762	10,145	10,698
Time of Day - Peak Hour O&D Domestic Passengers	830-839	850-859	850-859	850-859	830-839
International Passengers^{3/}					
Peak Hour - International Passengers	4,563	6,013	6,729	8,350	9,126
Time of Day - Peak Hour International Passengers	1640-1649	1750-1759	1750-1759	1720-1729	1720-1729
Percent of PMAD International Passengers	17.4%	13.4%	13.3%	13.2%	12.5%
Total PMAD International Passengers	26,233	44,964	50,455	63,353	72,977
Peak Hour - O&D International Passengers	1,875	2,437	2,773	3,318	3,665
Time of Day - Peak Hour O&D International Passengers	1750-1759	1750-1759	1750-1759	1720-1729	1720-1729

Notes:

1/ Includes domestic and international activity

2/ Daytime = 0700-2159; Nighttime - 2200-659

3/ Includes arriving and departing passengers

Sources: Official Airline Guide; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

As discussed earlier, non-commercial activity represents a small percentage of O'Hare's overall traffic (i.e., approximately five to six percent). This trend is expected to continue in the future, with additional growth projected for the all-cargo activity concurrent with a continued decrease in the general aviation/miscellaneous activity occurring at the Airport. As such, additional growth in all-cargo operations was assumed for some of the existing cargo operators, which are denoted as representative carriers. New service by other domestic all-cargo operators was assumed, as well. Foreign flag carriers were also shown to add future international all-cargo service (this assumption was made for the outer year schedules, 2013 and 2018). Additional flights for the all-cargo carriers included increased frequencies to each representative carrier's primary hubs and new service to some of the smaller regional hubs.

General aviation activity and other miscellaneous operations are assumed to relocate to the less congested airports in the region. It is assumed that most of the remaining general aviation activity at O'Hare would correspond to corporate traffic. Military activity, as previously stated, is currently insignificant at O'Hare and assumed to remain that way throughout the demand analysis period. As such, based on these assumptions and the decrease in activity projected for O'Hare in the 2001 TAF from 2002 through the remainder of the demand horizon, no additional general aviation or military flights were added to the future design day schedules.

3.6.7 Fleet Mix

Table III-25 presents a summary of the 2001 PMAD fleet mix and the projected fleet composition for each of the four future design day schedules previously discussed. The fleet mix information shown in Table III-25 was reconciled from each of the design day schedules. Fleet types were assigned to each flight in the schedule based on the stage length for the markets being served, the airline's existing and planned fleets, and historic fleet types used by each airline to serve the subject markets or, in the case of new service patterns, comparable markets (in terms of stage length) within the airline's service network. The seating capacity for each airline's aircraft type was obtained from the OAG or JP Airline Fleets International. The overall schedule was then calibrated to equate the average seats per domestic operation and average seats per international operation to those derived for each respective year in the TAF derivative demand profiles. As such, the average seats per operation in the design day schedules tie back to the derivative demand profiles, which in turn tie back to the 2001 TAF projections.

The fleet mix shown in Table III-25 reflects scheduled airline activity only. As shown, growth in the large narrow-body and regional jet fleets is anticipated, influenced predominantly by the domestic air service activity. It is assumed that all commuter turbo props will be replaced with regional jets by 2007, with continued growth in the number of large regional jets (i.e., 70-seats or larger) operating at O'Hare occurring between 2007 and 2018.

The decrease shown in the 50-99 seat aircraft from 2001 to 2007 is primarily due to the phase-out of the F100 fleet. In addition, the 2000/2001 market share used to derive future activity by representative carrier appears to be lower than the market share held by American Eagle and United Express in August 2001, thus indicating that the trend towards increased utilization of the regional partners by American and United had in fact begun.

Table III-25**Design Day Fleet Mix Summary - Scheduled Air Carrier Service^{1/}**

Seats Range	Representative Aircraft	PMAD CY2001		CY2007		CY2009		CY2013		CY2018	
		Aircraft Count	% of Total								
350+ Seats	B-744, B74M, A380	29	1.1%	39	1.4%	42	1.5%	52	1.8%	70	2.2%
250-349 Seats	MD-11, A340, B777, A310, A330	73	2.8%	148	5.4%	171	6.1%	253	8.5%	351	11.1%
150-249 Seats	B738, B72S, MD-90, B762, B767, A321, B739, B757, B764, B763	563	21.8%	935	34.3%	993	35.4%	1,114	37.5%	1,223	38.7%
100-149 Seats	DC-9, B735, B73S, A319, MD-80, B733, B737, B73G, A320, B734, B717	1,088	42.2%	942	34.5%	925	32.9%	855	28.8%	783	24.7%
51-99 Seats	CRJ700, CRJ900, F100	148	5.7%	24	0.9%	30	1.1%	64	2.2%	95	3.0%
Up to 50 Seats	CRJ, E145, ERJ, E146, BE1900, D328, E135, E140	677	26.3%	640	23.5%	648	23.1%	632	21.3%	642	20.3%
Total		2,578	100.0%	2,728	100.0%	2,809	100.0%	2,970	100.0%	3,164	100.0%

Notes:

1/ Excludes all-cargo, general aviation, military, and other miscellaneous activity.

Sources: Official Airline Guide; Ricondo & Associates, Inc.

Prepared by: Ricondo & Associates, Inc., February 2003

The large narrow-body fleets are assumed to be dominated by the newer generation and larger B-737s (e.g., B-737-800 and B-737-900) and the A321. Similarly, the small narrow-body fleet category is assumed to be dominated by the smaller B-737s (e.g. B737-500), and the A320 and A319. Steadily increasing phase-outs of the DC-9 and MD80 fleets are assumed to continue through 2013.

The wide-body fleets are assumed to be characterized by an increasing number of the larger B-767-400 aircraft, continued use of the B-767-300 fleets, and a gradual phase-out of the older and smaller B-767-200.

Some transcontinental markets (such as west coast cities like San Francisco, Los Angeles, and Seattle and east coast cities like Boston, Washington D.C., and Miami) would continue to be served by the large narrow-body and some wide-body fleets. The jumbo-body fleets are assumed to be utilized primarily to connecting hub cities and international markets. Aircraft like the B-777, A330, and A340 are projected to join the B-747 for service to the international markets. As such, given the increased international growth projected for O'Hare, the future fleet mix reflects an increase share of jumbo-body aircraft operating to and from O'Hare. In addition, New Large Aircraft, like the A380, are assumed to begin operating at O'Hare by 2009 particularly as deliveries of these aircraft materialize to carriers like Lufthansa, Singapore Airlines, Air France, and Virgin Atlantic, all of which are assumed to represent some of O'Hare's international growth in the future.

It is assumed that the B-727 and DC-8 aircraft will be nearly, if not completely, phased out of all-cargo operations by 2013. As such, it is assumed that aircraft like the A300, B-757, and B-767 will become more prevalent among all-cargo carriers for domestic flights. For international all-cargo operations, it is assumed that the B-747 and B-777 will be typical fleets transporting cargo to and from transpacific and transatlantic markets.

General aviation operations remaining at O'Hare are anticipated to be associated with corporate activity that use O'Hare for location relative to Chicago's downtown business district and metropolitan areas surrounding the Airport. As such, it is assumed that the newer corporate fleets, such as Learjets and newer generation Gulfstream aircraft, will comprise most of the general aviation activity operating at O'Hare in CY2007 through CY2018.