International Civil Aviation Organization

FOURTEENTH MEETING OF THE ASIA/PACIFIC AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP (APANPIRG/14)

Bangkok, Thailand, 4 – 8 August 2003

Agenda Item 2: Asia/PAC Air Navigation System and Related Activities
2.4: Other Air Navigation Matters

TRAFFIC FORECASTS FOR TRANS-PACIFIC AND INTRA-ASIA/PACIFIC REGION

(Presented by the Secretariat)

SUMMARY

This paper presents a brief report and the forecasts of passengers and aircraft movements for the traffic flows within or through the Asia/Pacific region for the period up to 2015, as well as forecasts of passenger traffic for top 41 city pairs of Intra-Asia/Pacific and Trans-Pacific for the year 2005. The paper comments on the significance of recent events on the validity of the forecasts for the purposes of planning and implementing improvements to air navigation systems. In the light of this information, the paper emphasizes the continuing need for States to devote adequate resources to traffic forecasting.

1. INTRODUCTION

1.1 The Asia Pacific Area Traffic Forecasting Group (APA TFG) held its Tenth Meeting in June 2001 to review and update the traffic forecasts developed in 1999 for the Trans-Pacific and Intra-Asia/Pacific. These forecasts were presented in APANPIRG/12 - WP/10. The Eleventh Meeting of APA-TFG was held between 30 September and 4 October 2002 to review the projections after the terrorist attacks in the United States of America on 11 September 2001.

1.2 Subsequent to the Meeting, conditions in the air transport market deteriorated again in unexpected ways. The bombings in Bali, Indonesia took place on 12 October 2002, world economic conditions began to show signs of a slow-down, the war in Iraq commenced, and the extent of the public health crisis resulting from the outbreak of Severe Acute Respiratory Syndrome (SARS) became apparent in March 2003. The APA-TFG's forecasts characterise long-term trends and are not intended to predict short-term fluctuations. But the combined impact of these negative factors appears at this stage to be at least comparable to the events of 11 September 2001. The lessons learned in revising the forecasts provide useful insights in the current circumstances.

1.3 It will be necessary for the APA-TFG to keep the situation under review and to revise its projections at an appropriate time. It is important in that context to recall Council's view that a strategy should be aimed at for the long-term whereby all of the TFGs are largely self-reliant as regards development of forecasts and business cases, with the Secretariat support limited to that of providing coordination. APANPIRG/13 Conclusion 13/7 "Need for Adequate Resources for Traffic Forecasting Groups" urged States to provide adequate resources for the TFG, which should include the designation of suitable experts to participate in the development of forecasts and regularly attend

TFG meetings along with the provision of data and other information required for the development of forecasts. This paper reaffirms the need expressed at APANPIRG/13.

2. DISCUSSION

2.1 The APA-TFG developed passenger traffic forecasts and air traffic movement forecasts for both the Trans-Pacific and Intra-Asia/Pacific markets based on the best evidence of the economic outlook for the future available at the time. The Group noted that there were significant risk factors, especially the potential for increases in fuel prices as a result of any conflict in the Middle East, consumer aversion to flying to/from North America, and possible major restructuring within the airline industry. At the same time, it was acknowledged that stiff competition and vigorous promotion by tourism authorities as well as airlines may stimulate air traffic growth as yields were expected to decline. Tables 1 and 2 provide the passenger traffic and aircraft movement forecasts respectively for Trans-Pacific up to 2015 and Tables 3 and 4 provide these forecasts for Intra-Asia/Pacific.

2.2 In 2000, the number of passengers travelling on Trans-Pacific flights increased by 8.1 per cent, about the average growth experienced in the decade prior to the financial downturn in Asia in 1997. In 2001, traffic fell by just over 10 per cent, primarily due to the events of 11 September. The APA-TFG examined likely trends in the key drivers of traffic demand into the future and concluded that passenger numbers would most likely increase by only 1.0 per cent per annum between 2001 and 2005, but would then resume stronger growth rates of 6.5 per cent per annum between 2005 and 2010 and thereafter by 6.1 per cent each year to 2015. In summary, the events of 11 September 2001 wiped out several years of growth and it was predicted that the level of traffic achieved in 2000 would not be reached again until 2004.

2.3 The Trans-Pacific passenger aircraft movements for the period 2001-2015 are projected to increase at an average annual growth rate of 4.5 per cent, ranging from a low of 3.0 per cent to a high of 6.3 per cent (Table 2). This marks a significant reduction in the forecasts produced at the Tenth Meeting of the APA-TFG. Whereas the previous prediction was for slightly less than 254 thousand Trans-Pacific passenger aircraft movements in the year 2015, the new forecast has been revised downwards by 22 per cent to 198 thousand.

2.4 The Intra-Asia/Pacific travel market was particularly strong in 2000 and this continued into 2001 until September. The result was that the number of Intra-Asia/Pacific passengers did not decline in 2001 despite the negative factors at work towards the end of the year. The APA-TFG predicted that the passenger traffic would increase by 4.6 per cent a year to 2005 and at an average annual rate of 5.5 per cent between 2001 and 2015. Based on this analysis, the Intra-Asia/Pacific passenger aircraft movements for the period 2000-2015 were expected to increase at an annual average growth rate of 4.7 per cent, slightly higher than Trans-Pacific, and expected to exceed 1.2 million aircraft movements (Table 4), slightly more than the forecast of the Tenth APA-TFG Meeting.

2.5 Turning to the city pair forecasts on the busiest city pairs in Trans-Pacific and Intra-Asia/Pacific, Table 5 sets out the top 41 city pairs with the forecasts of numbers of passengers and expected growth rates to 2005. Some city pairs will achieve lower growth rates up to 2005 than what was forecast earlier while others are predicted to have stronger growth than previously expected.

2.6 It is not possible yet to discern the long-term impact of the current set of negative influences on Asia and Pacific passenger and aircraft traffic levels. But if the post-11 September 2001 experience is taken as a guide the possibility arises that several years of growth have been wiped from the market again and it will take up to five years to re-establish robust growth rates. Whereas the events of 11 September 2001 mainly affected Trans-Pacific flows, the current adverse conditions are affecting all Asia and Pacific markets. The implications for planning and implementing improvements to the air transport system are significant with perhaps a 20 per cent reduction in the number of aircraft movements predicted for 2015.

2.7 It is difficult in the current environment to produce forecasts that remain reliable, but this in no way reduces the need for such projections for the cost-effective implementation of CNS/ATM system components. The traffic forecasts serve an important function in anticipating facilities and services which are necessary in determining where and when airspace or airport congestion may occur. There is a need to review the forecasts once it is possible to discern long-term trends.

2.8 In that context, it is important to recall that APANPIRG/13 WP/10 discussed the role of TFGs and emphasized their importance for PIRGs. Having considered the matters raised therein, APANPIRG/13's Conclusion 13/37, "Need for Adequate Resources for Traffic Forecasting Groups", urged States to provide adequate resources for the APA TFG, which should include the designation of suitable experts to participate in the development of forecasts and regularly attend TFG meetings along with the provision of data and other information required for the development of forecasts. The importance of that Conclusion is even greater as a result of the volatile conditions.

3. ACTION BY APANPIRG

3.1 The meeting is invited to:

a) note the passenger traffic and air traffic movement forecasts for the Trans-Pacific and Intra-Asia/Pacific region to 2015;
b) consider the predicted, long-term impacts of the terrorist attacks in the United States on 11 September 2001;
c) note the current adverse conditions that occurred subsequent to the production of the forecasts presented in this paper; and
d) reaffirm the need for States to provide adequate resources for the TFGs, which should include the designation of suitable experts to participate in the development of forecasts and regularly attend TFG meetings along with the provision of data and other information required for the development of forecasts.

Table 1
TRANS-PACIFIC PASSENGER FORECAST

(Thousands of one-way journeys)

Passengers Forecasts

	Passengers Low	Passengers Base	Passengers High
1980		6,403	
1981		6,845	
1982		7,036	
1983		7,058	
1984		8,296	
1985		8,889	
1986		10,044	
1987		11,517	
1988		13,363	
1989		14,729	
1990		16,033	
1991		16,363	
1992		18,121	
1993		18,967	
1994		20,266	
1995		22,567	
1996		24,816	
1997		26,779	
1998		25,184	
1999		26,682	
2000		28,847	
2001		25,946	
Forecasts			
2002	23,815	**24,279**	24,847
2003	25,436	**26,281**	27,359
2004	27,066	**28,338**	30,009
2005	28,611	**30,357**	32,703
2006	30,098	**32,361**	35,467
2007	31,644	**34,478**	38,444
2008	33,233	**36,693**	41,627
2009	34,865	**39,008**	45,025
2010	36,733	**41,643**	48,907
2011	38,361	**44,067**	52,661
2012	40,104	**46,679**	56,761
2013	42,009	**49,843**	61,303
2014	44.008	**52,586**	66,215
2015	46,186	**55,916**	71,651
Average Annual Percentage Growth Rates			
2000-2005	-0.2	**1.0**	2.5
2005-2010	5.1	**6.5**	8.4
2010-2015	4.7	**6.1**	7.9
2000-2015	4.2	**5.6**	7.5

Table 2

TRANS-PACIFIC AIRCRAFT MOVEMENTS FORECAST

Year	Passenger Aircraft Movements			Cargo	Other	Total Movement Forecast		
	Low	Most Likely	High			Low	Most Likely	High
Historical								
2000		112,283		24,810	8,000		145,093	
2001		107,692		22,857	8,000		138,550	
Forecast								
2002	93,421	**95,242**	97,469	21,630	8,000	123,051	**124,872**	127,099
2003	100,613	**103,953**	108,218	23,608	8,000	132,221	**135,561**	139,826
2004	106,536	**111,545**	118,122	25,332	8,000	139,868	**144,877**	151,454
2005	112,449	**119,311**	128,531	27,096	8,000	147,545	**154,407**	163,627
2006	118,407	**127,313**	139,531	28,373	8,000	154,780	**163,686**	175,904
2007	123,031	**134,051**	149,470	29,875	8,000	160,906	**171,926**	187,345
2008	128,050	**141,380**	160,389	31,508	8,000	167,558	**180,888**	199,896
2009	131,367	**146,973**	19,645	32,754	8,000	172,121	**187,728**	210,399
2010	137,180	**155,518**	182,648	34,659	8,000	179,839	**198,177**	225,306
2011	142,010	**163,131**	194,945	36,355	8,000	186,365	**207,486**	239,300
2012	147,172	**171301**	208,302	38,176	8,000	193,348	**217,477**	254,478
2013	153,071	**180,524**	223,376	40,231	8,000	201,302	**228,755**	271,607
2014	157,131	**187,760**	236,421	41,844	8,000	206,975	**237,604**	286,266
2015	163,756	**198,255**	254,041	44,183	8,000	215,939	**250,438**	306,224
Average Annual Percentage Growth Rates								
2000-2005	0.0	**1.2**	2.7	1.8	0.0	0.3	**1.3**	2.4
2005-2010	4.1	**5.4**	7.3	5.0	0.0	4.0	**5.1**	6.6
2010-2015	3.6	**5.0**	6.8	5.0	0.0	3.7	**4.8**	6.3
2000-2015	3.0	**4.5**	6.3	4.8	0.0	3.2	**4.3**	5.8

Table 3
INTRA – ASIA/PACIFIC PASSENGER TRAFFIC FORECAST
(Thousands of one-way journeys)

Year	Low	Base	High
Historical			
1982		26,716	
1983		26,486	
1984		31,000	
1985		29,858	
1986		31,305	
1987		36,910	
1988		41,476	
1989		46,642	
1990		44,627	
1991		45,660	
1992		51,142	
1993		55,230	
1994		59,096	
1995		63,646	
1996		67,100	
1997		68,100	
1998		67,480	
1999		73,891	
2000		78,197	
2001		78,259	
Forecasts			
2002	79,631	**80,467**	81,544
2003	84,369	**85,976**	88,108
2004	89,982	**92,465**	95,822
2005	94,562	**97,986**	102,685
2006	99,236	**103,692**	109,887
2007	103,851	**109,424**	117,270
2008	108,676	**115,467**	125,144
2009	113,555	**121,662**	133,350
2010	118,858	**128,411**	142,340
2011	124,044	**135,135**	151,490
2012	129,499	**142,256**	161,282
2013	135,281	**149,849**	171,819
2014	141,324	**157,848**	183,048
2015	147,723	**166,371**	195,125
Average Annual Percentage Growth Rates			
2000-2005	3.9	**4.6**	5.6
2005-2010	4.7	**5.6**	6.7
2010-2015	4.4	**5.3**	6.5
2000-2015	4.6	**5.5**	6.7

Table 4

INTRA-ASIA/PACIFIC AIRCRAFT MOVEMENTS FORECAST

Year	Passenger Aircraft Movements		
Historical			
1994	418,772		
1995	464,241		
1996	509,709		
1997	528,604		
1998	547,499		
1999	543,296		
2000	577,819		
2001	633,020		
	Low	Most Likely	High
Forecast			
2002	652,394	**659,249**	668,069
2003	681,655	**694,632**	711,862
2004	713,820	**733,515**	760,149
2005	746,612	**773,645**	810,744
2006	781,303	**816,380**	865,156
2007	805,456	**848,678**	909,532
2008	843,096	**895,784**	970,855
2009	872,193	**934,466**	1,024,235
2010	898,645	**970,868**	1,076,181
2011	929,209	**1,012,286**	1,134,807
2012	953,216	**1,047,119**	1,187,168
2013	991,719	**1,098,512**	1,259,572
2014	1,031,808	**1,152,453**	1,336,434
2015	1,074,168	**1,209,767**	1,418,852
Average Annual Percentage Growth Rates			
2000-2005	5.3	**6.0**	7.0
2005-2010	3.8	**4.6**	5.8
2010-2015	3.6	**4.5**	5.7
2000-2015	3.8	**4.7**	5.9

Table 5

TOP 41 CITY – PAIRS
INTRA – ASIA/PACIFIC AND TRANSPACIFIC

CITY - PAIRS	(NUMBER OF PASSENGERS PER CALENDAR YEAR)											Annual Growth (%)	Annual Growth (%)	Passengers Forecasts	growth rates
	1984	1990	1993	1994	1995	1996	1997	1998	1999	2000	2001	1984-01	1990-01	2005	2001-05
LONG HAUL CITY-PAIRS															
Tokyo-Singapore	328,380	1,010,094	1,063,964	1,106,410	1,163,384	1,208,699	1,188,228	1,035,429	1,400,114	1,437,893	1,255,482	8.2	2.0	1,511,240	4.7
Tokyo-Bangkok	264,891	950,250	812,873	881,147	1,049,392	1,172,964	1,227,528	1,254,049	1,435,434	1,607,319	1,512,283	10.8	4.3	1,863,323	5.4
Tokyo-Manila	494,323	671,975	633,876	680,963	655,574	684,605	668,399	729,057	865,523	883,831	859,492	3.3	2.3	1,049,714	5.1
Seoul-Hong Kong	270,530	620,529	914,248	979,681	1,027,093	1,077,145	1,040,657	1,115,635	1,256,849	1,326,504				1,629,473	4.2*
Tokyo-Sydney	144,609	513,540	456,970	484,036	449,489	459,760	444,943	416,230	424,800	435,884	426,670	6.60	-1.70	525,240	5.3
Singapore-Osaka	166,046	345,882	335,921	396,170	522,481	565,173	550,937	476,218	480,181	504,965	431,091	5.8	2.0	456,448	1.4
Singapore-Sydney	225,185	370,012	389,164	449,662	473,706	497,062	549,169	622,026	702,500	855,525	1,003,607	9.29	9.5	1,328,452	7.3
Hong Kong-Sydney	179,077	290,347	327,145	395,433	468,561	507,044	513,448	562,716	584,048	485,792	607,290	7.4	6.9	818,588	7.8
Singapore-Perth	162,811	338,686	384,399	431,925	439,395	417,339	470,573	524,125	549,846	635,704	745,961	9.4	7.4	978,109	7.0
Singapore-Melbourne	147,848	249,852	289,505	311,462	334,714	335,520	363,138	453,635	519,168	569,924	689,049	9.5	9.7	876,899	6.2
Singapore-Melbourne															
MEDIUM HAUL CITY PAIRS															
Hong Kong-Tokyo	1,242,588	1,984,081	1,798,536	1,881,383	2,042,946	2,323,710	1,880,078	1,660,858	1,851,299	2,037,093	1,868,033	2.4	-0.5	2,304,784	5.4
Hong Kong-Bangkok	903,472	1,679,278	1,779,376	1,796,119	1,845,993	2,142,767	1,965,020	1,977,001	2,131,137	2,036,646				2,550,198	4.6*
Tokyo-Taipei	780,554	1,073,384	948,666	1,033,441	965,328	966,169	990,073	976,126	1,042,776	1,148,199	1,449,833	3.7	2.8	1,934,782	7.5
Hong Kong-Singapore	705,752	951,954	1,340,048	1,382,533	1,355,247	1,552,893	1,439,631	1,449,774	1,476,200	1,699,685	1,859,566	5.9	6.3	2,190,015	4.2
Singapore-Bangkok	665,235	1,156,108	1,477,355	1,490,357	1,498,115	1,617,474	1,596,352	1,734,973	1,880,183	2,131,251	2,265,875	7.5	6.3	2,879,103	6.2
Hong Kong-Osaka	440,932	698,226	642,738	667,753	707,908	958,548	723,938	658,533	613,998	717,036			.	839,343	3.2*
Seoul-Taipei	238,573	582,326	476,656	595,425	522,925	459,411	411,553	350,846	380,444	418,119				473,063	2.5*
Hong Kong-Kuala Lumpur	133,173	272,887	377,179	399,708	410,977	426,233	455,590	449,260	514,642	569,717			.	817,902	7.5*
Bangkok-Taipei	56,483	487,925	469,440	371,854	418,009	398,001	395,085	429,414	472,341	530,173				683,119	5.2*
Singapore-Taipei	113,227	362,373	345,402	325,002	339,766	351,957	340,637	528,127	342,085	343,959	620,669	10.5	5.0	855,880	8.4
Tokyo-Beijing	132,947	150,085	416,744	502,946	546,482	718,095	718,671	640,479	744,193	722,943	796,773	11.1	16.4	1,023,477	6.5
SHORT HAUL CITY PAIRS															
Hong Kong-Taipei	863,896	1,815,156	2,388,264	2,462,816	2,556,230	2,406,237	2,343,355	2,383,717	2,486,867	2,759,426				3,606,459	5.5*
Singapore-Kuala Lumpur	1,316,148	1,866,492	2,269,876	2,318,779	2,304,079	2,541,516	2,607,266	2,131,268	2,055,162	2,180,393	2,190,116	3.0	1.5	2,407,330	2.4
Tokyo-Seoul	836,515	1,965,907	1,944,438	2,189,387	1,909,888	1,897,946	2,037,653	2,048,135	2,274,812	2,498,117	2,601,310	6.9	2.6	3,342,743	6.5
Singapore-Jakarta	584,457	1,357,297	1,523,687	1,615,182	2,043,076	2,154,859	2,205,236	1,141,702	1,353,264	1.509,493	1,887,706	7.1	3.0	2,376,302	5.9
Hong Kong-Manila	584,855	885,552	1,058,420	1,206,597	1,344,489	1,460,368	1,402,990	1,426,405	1,430,977	977,181				1,121,865	2.8*
Singapore-Penang	331,379	515,888	562,764	650,528	611,463	657,403	643,718	543,682	580,267	620,614	615,343	3.7	1.6	685,208	2.7
Sydney-Auckland	479,470	644,953	632,198	661,807	720,899	781,023	749,137	738,759	780,370	937,056	1,011,430	45	4.2	1,314,270	6.8
Seoul-Osaka	380,634	798,968	682,343	545,528	837,812	922,536	1,090,874	1,113,023	11,308,409	1,522,414	1,447,360	8.2	5.6	1,782,097	5.3
Tokyo-Saipan	115,902	419,680	427,001	505,732	526,470	539,673	496,394	413,235	479,252	487,904	411,735	7.7	-0.2	487,904	4.3
TRANSPACIFIC CITY PAIRS															
Tokyo-Honolulu	970,715	2,062,698	1,894,890	2,149,091	2,264,427	2,292,100	2,207,826	1,912,596	1,973,918	1,776,873	1,538,565	2.7	-2.6	1,821,741	4.3
Tokyo-Los Angeles	677,653	1,220,350	1,050,799	1,023,983	1,112,387	1,282,204	1,339,942	1,200,879	1,603,928	1,659,023	1,393,749	4.3	1.2	1,743,650	5.8
Tokyo-Guam	382,042	861,641	520,962	857,834	859,986	828,222	949,940	912,310	892,998	990,499	781,023	4.3	-0.9	941,955	4.8
Tokyo-San Francisco	418,864	814,494	715,971	744,389	789,694	842,579	824,339	743,696	900,265	905,590	859,598	4.3	0.5	999,845	3.9
Honolulu-Osaka	458,839	759,222	714,023	810,346	915,818	1,071,866	1,059,377	948,292	753,771	846,995	640,386	2.0	-1.5	727,343	3.2
Tokyo-New York	400,831	688,064	679,768	698,230	752,085	714,745	742,693	714,435	886,823	937,721	841,236	4.5	1.8	985,554	4.0
Hong kong-San Francisco	183,433	416,167	407,663	424,746	524,953	574,435	514,000	362,481	452,254	493,199				518,357	1.0*
Tokyo-Chicago	215,801	264,905	421,547	439,782	445,446	467,894	462,607	549,146	679,347	759,332	669,677	6.9	8.8	830,177	5.5
Los Angeles-Seoul	205,828	477,875	582,291	675,521	667,126	693,658	782,979	700,390	0	888,988				981,515	2.0*
Los Angeles-Sydney	125,778	289,961	463,976	564,416	584,170	635,657	703,281	702,705	763,731	604,572	719,970	10.8	8.6	930,209	6.6
Hong Kong-Vancouver	113,579	250,371	355,681	423,387	308,038	471,402	520,829	512,799	488,658	525,675				615,341	3.2*
TOTAL ALL ROUTES	17,132,596	32,546,897	34,302,863	36,788,104	38,541,912	41,324,033	40,784,373	38,627,489		44,979,227				55,809,017	4.4*

* Growth for the years 2000 to 2005