Appendix R-B

Aviation Demand Forecasts and Gated Schedules

R-B1 – Aviation Activity Forecast



FINAL TECHNICAL MEMORANDUM

AVIATION ACTIVITY FORECAST UPDATE

San Diego International Airport

Prepared for

San Diego County Regional Airport Authority San Diego, California

April 2019





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1.0 INTRODUCTION

The Airport Development Plan (ADP) forecasts for San Diego International Airport (SDIA or the Airport) were prepared in 2012 using 2011 as the base year. Since then, actual passenger traffic at SDIA has exceeded the 2012 ADP forecasts, reflecting strong economic growth, decreases in domestic airfares, the use of larger capacity aircraft (in terms of the number of seats), higher load factors, and strong growth in both origin-destination (O&D) and connecting passengers. Given faster than forecast economic and passenger traffic growth, the San Diego County Regional Airport Authority (the Authority) asked LeighFisher to review the key industry issues and trends that drive aviation activity at SDIA and prepare updated aviation activity forecasts using 2018 as the base year.

The objective of this technical memorandum is to:

- Review recent aviation trends at SDIA for the period since the ADP forecasts were prepared (between 2011 and 2018) and the factors contributing to faster than forecast growth
- Refresh the methodology used in the 2012 ADP forecasts and update the key drivers of SDIA aviation demand*
- Prepare updated unconstrained forecasts of enplaned passengers, air cargo, and aircraft operations through 2050**
- Prepare a constrained demand scenario based on SDIA's single runway capacity
- Compare the updated unconstrained forecasts with the 2012 ADP forecasts, the FAA's published 2018 Terminal Area Forecast (TAF), the constrained demand scenario, and as required by the FAA, prepare forecast comparisons for FAA review and approval

The unconstrained forecasts presented in this memorandum do not include specific assumptions about physical, regulatory, environmental or other impediments to aviation activity growth. The constrained demand scenario was prepared based on the unconstrained forecasts and reflects the real-world limitations of SDIA's single runway on unconstrained forecast growth. This well-known and substantial limitation on the operational and passenger capacity of the airport must be considered in planning airport improvements and analyzing their reasonably foreseeable impacts. The constrained demand scenario presented in this memorandum analyses and anticipates these limitations and therefore the constrained demand scenario represents the "preferred" forecasts recommended for FAA approval and for airport planning.

Forecasts and demand scenarios are presented for enplaned passengers, air cargo, and aircraft operations, including operations for passenger and all-cargo airlines and general aviation and military aircraft. Using calendar year 2018 as the base year, annual forecasts and demand scenarios were prepared for four future demand years—2023, 2028, 2033, and 2050. In addition, high and low forecast scenarios were developed and are summarized in Appendix B. For reference, Appendix C includes the FAA Approval Letter of the draft Unconstrained Forecasts and the 2012 ADP forecast report.

^{*} San Diego International Airport, Airport Development Plan, Aviation Activity Forecasts, November 2012. Approved by the FAA in a letter dated May 7, 2013.

^{**} The draft unconstrained forecasts were reviewed and approved by the FAA in a letter dated December 20, 2018. See Appendix C. The draft unconstrained forecasts reviewed by the FAA were based on the 10 months of actual 2018 activity statistics available at that time. This memorandum was updated to include the full year of actual 2018 activity statistics and the addition of the Constrained Demand Scenario for consideration by the FAA.

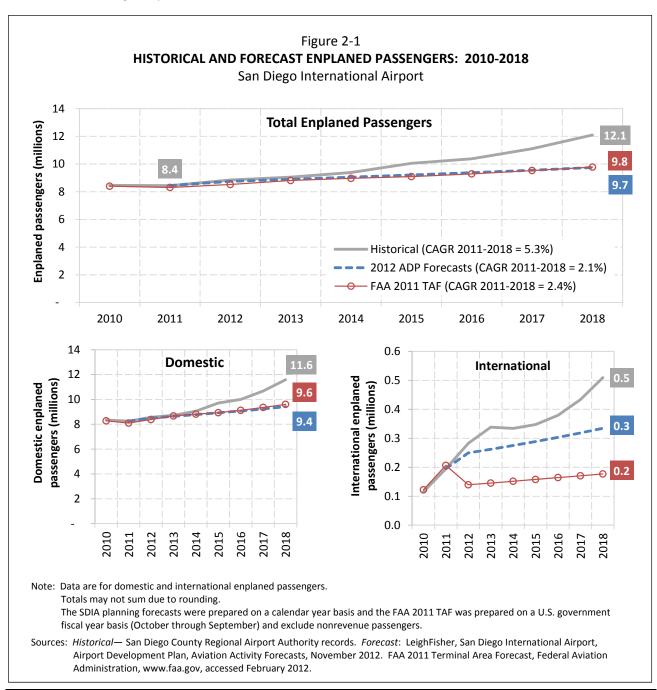


2.0 REVIEW OF RECENT AVIATION TRENDS

This section presents a review of actual and forecast aviation activity between 2011 and 2018 using the 2012 ADP forecasts and the FAA 2011 TAF as a basis for comparison. A summary of the factors contributing to faster than forecast growth since 2011 is also presented.

2.1 Enplaned Passengers

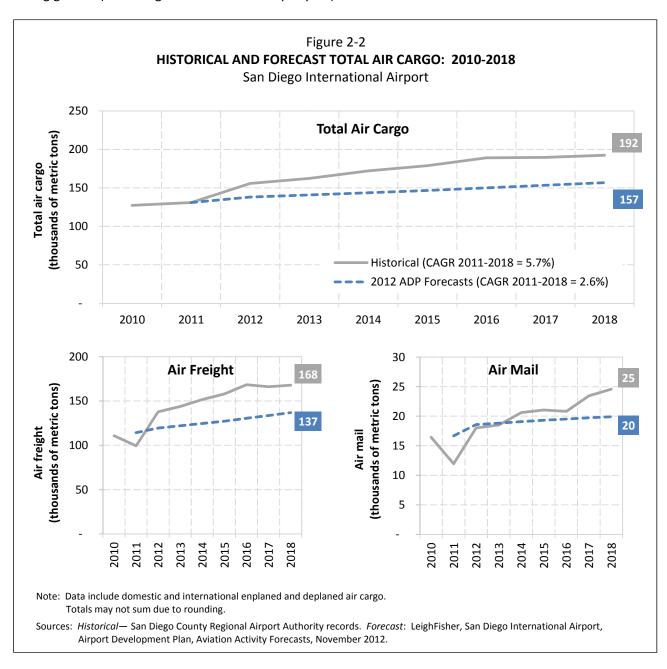
In 2018, the number of enplaned passengers totaled 12.1 million, approximately 2.4 million greater than the 2012 ADP forecast of 9.7 million (a difference of 24%), as shown on Figure 2-1. Domestic passengers at SDIA accounted for most of the increase between 2011 and 2018, although international passenger traffic more than doubled during this period.





2.2 Air Cargo

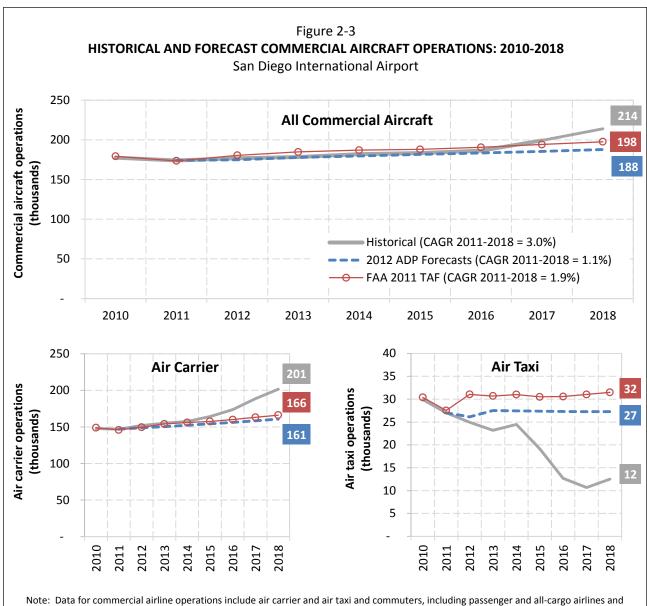
In 2018, total air cargo (freight and mail) totaled 192,351 metric tons, approximately 35,000 metric tons greater than the 2012 ADP forecast of 157,000 (a difference of 23%), as shown on Figure 2-2. Air freight at SDIA accounted for most of the increase between 2011 and 2018, although air mail tonnage experienced strong growth (an average increase of 10.8% per year).





2.3 Aircraft Operations

In 2018, the number of commercial aircraft operations totaled 213,963, approximately 26,000 operations greater than the 2012 ADP forecast of 188,000 (a difference of 14%), as shown on Figure 2-3. Air carrier operations at SDIA accounted for all of the increase between 2011 and 2018 and also offset the decrease in air taxi operations during this period.



Note: Data for commercial airline operations include air carrier and air taxi and commuters, including passenger and all-cargo airlines and unscheduled air taxis.

Totals may not sum due to rounding.

Sources: Historical— San Diego County Regional Airport Authority records. Forecast: LeighFisher, San Diego International Airport, Airport Development Plan, Aviation Activity Forecasts, November 2012. FAA 2011 Terminal Area Forecast, Federal Aviation Administration, www.faa.gov, accessed February 2012.

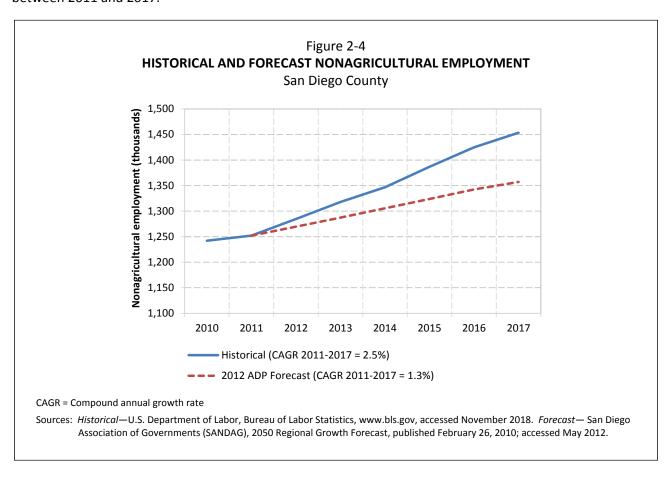


2.4 Factors Contributing to Faster than Forecast Aviation Activity Growth

A number of factors contributed to faster than forecast growth between 2011 and 2018, including strong economic growth, decreases in domestic airfares, the use of larger capacity aircraft (in terms of the number of seats), higher load factors, and strong growth in both origin-destination (O&D) and connecting passengers.

2.4.1 Economic Growth

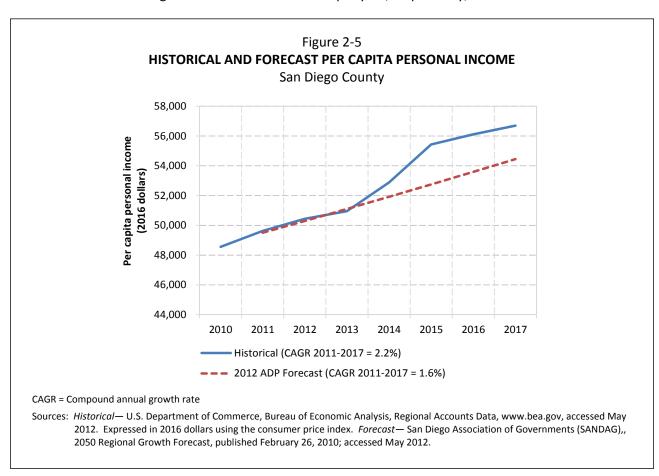
Strong economic growth in San Diego County between 2011 and 2017 (the latest year available) is reflected in the data for nonagricultural employment and per capita personal income. As shown on Figure 2-4, nonagricultural employment in San Diego County increased an average of 2.5% per year between 2011 and 2017, faster than the 1.3% per year growth forecast by the San Diego Association of Governments (SANDAG) in its 2010 report used as a basis for the 2012 ADP forecasts. In comparison, nonagricultural employment in California and the United States increased an average increase of 2.6% and 1.8% per year, respectively, between 2011 and 2017.



Unemployment rates* in San Diego County also reflect strong economic growth since 2011, decreasing from 10.3% in 2011 to 4.0% in 2017. Unemployment rates in California and the United States also decreased considerably between 2011 and 2017—from 11.7% to 4.8% in California and from 8.9% to 4.4% in the nation as a whole.

^{*}U.S. Department of Labor, Bureau of La Labor Statistics, www.bls.gov, accessed November 2018. Unemployment rates are not seasonally adjusted.

Per capita personal income in San Diego County, in 2016 dollars, increased an average of 2.2% per year between 2011 and 2017, faster than the 1.6% per year growth forecast by SANDAG in its 2010 report, as shown on Figure 2-5. Per capita personal income was one of the two variables used in the econometric analysis of domestic O&D passengers used as a basis for the 2012 ADP forecasts and is typically a key driver of passenger traffic at airports. In comparison, per capita personal income in California and the United States increased an average increase of 2.6% and 1.7% per year, respectively, between 2011 and 2017.

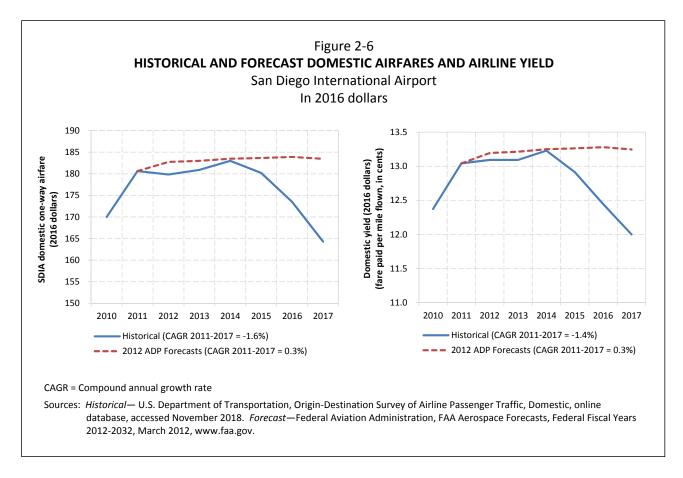


2.4.2 **Airfares and Airline Yield**

The cost of travel for a passenger is typically represented by airfare and airline yield data published by the U.S. Department of Transportation from its Origin-Destination Survey of Airline Passenger Traffic.* The cost of travel at SDIA is represented by domestic one-way airfares and domestic airline yield, in 2016 dollars, for the Airport. As shown on Figure 2-6, SDIA domestic airfares and airline yield, in 2016 dollars, decreased an average of 1.6% and 1.4% per year, respectively, between 2011 and 2017, compared with a forecast increase of 0.3% per year based on the FAA's forecast increase in airline yield in its 2012 National Aerospace report. Passenger traffic and the cost of travel are inversely related; that is, passenger traffic typically decreases in response to an increase in airfares. The assumption that SDIA domestic airfares and yield would increase slightly between 2011 and 2017 dampened the growth in passengers forecast for the 2012 ADP.

^{*}Represents a 10% sample of all tickets issued by U.S. airlines.





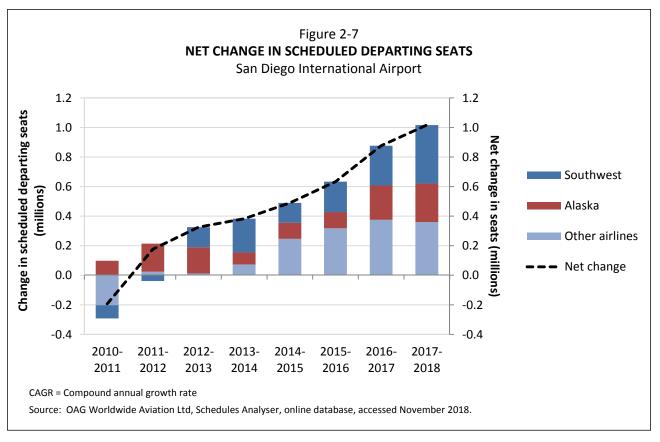
2.4.3 Seat Capacity

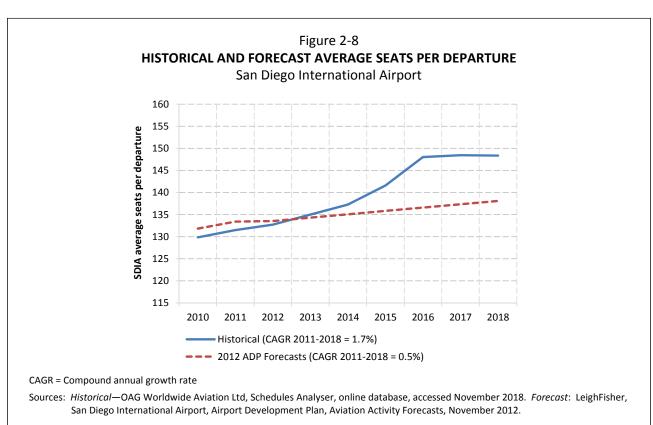
Between 2011 and 2018, total scheduled departing seats at the Airport increased an average of 4.7% per year, reflecting the development of SDIA as a focus city in Alaska Airlines' network and the competitive response by Southwest and the other existing airlines. As shown on Figure 2-7, the net change in seats at SDIA has increased steadily since 2011, with more than 1 million seats added in 2018. Between 2011 and 2018, Alaska's scheduled departing seats at the Airport increased an average of 13.8% per year, compared with an average increase of 3.8% per year in Southwest's seats. Strong growth in seat capacity at SDIA since 2011 contributed to faster than forecast growth in passenger traffic.

2.4.4 Aircraft Gauge

The average aircraft gauge at SDIA, the size of an aircraft in terms of the number of seats, increased an average of 1.7% per year between 2011 and 2018, compared with the 2012 ADP forecast growth of 0.5% per year, as shown on Figure 2-8. The increase in aircraft gauge since 2011 reflects the retirement of 50-seat regional jets, the densification of aircraft, and the delivery of new higher capacity fuel efficient aircraft.



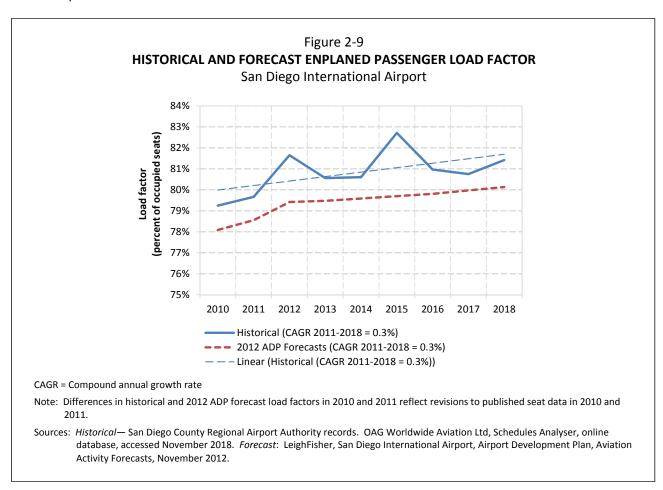






2.4.5 Load Factor

Enplaned passenger load factors at SDIA, the percent of occupied seats on an aircraft, increased an average of 0.4% per year between 2011 and 2018, nearly equal to the 2012 ADP forecast growth rate of 0.3%, as shown on Figure 2-9. Differences in historical and 2012 ADP forecast load factors in 2010 and 2011 reflect revisions to published seat data for 2010 and 2011. Load factors at SDIA increased considerably in 2012 and 2015, preceding the addition of more seat capacity which resulted in decreased load factors in 2013 and 2016 compared with a linear trend line.



2.4.6 O&D and Connecting Passengers

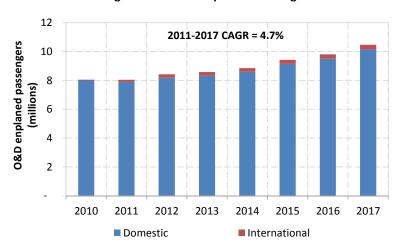
SDIA is primarily an O&D airport with nearly 95% of its passengers originating from or destined for San Diego. O&D passenger demand is affected by the demographics and economy of the region served by the airport as well as airline service and airfares. From 2011 to 2017, the number of domestic O&D passengers at SDIA increased an average of 4.7% per year, more than double the long-term historical rate of 2.2% per year between 1990 and 2011, as shown on Figure 2-10. Although connecting passengers at SDIA account for about 5% of total passengers, connecting passenger experience strong growth between 2011 and 2017—an average increase of 8.1% per year.



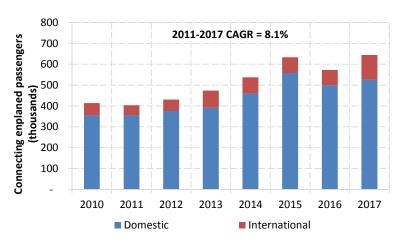
Figure 2-10 **O&D AND CONNECTING PASSENGERS**

San Diego International Airport

Origin-Destination Enplaned Passengers



Connecting Enplaned Passengers



CAGR = Compound annual growth rate

Source: U.S. Department of Transportation, Origin-Destination Survey of Airline Passenger Traffic, Domestic, online database, accessed November 2018

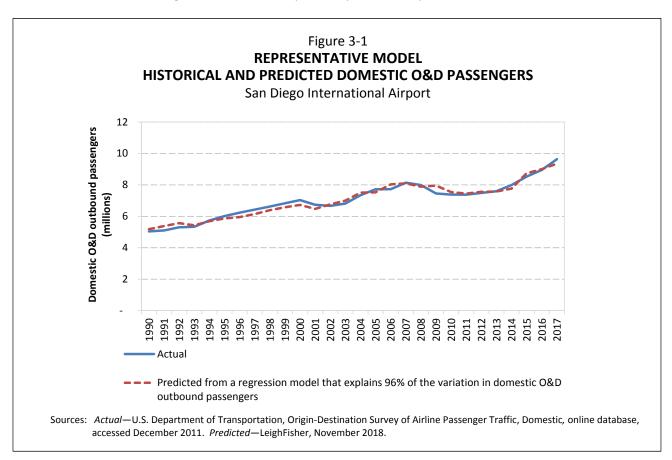


3.0 KEY DRIVERS OF AVIATION ACTIVITY

The 2012 ADP unconstrained forecasts were developed based on an analysis of the key drivers of aviation activity at SDIA. An updated analysis of the key drivers of aviation activity shows that:

- The historical trend in domestic O&D passengers at SDIA continues to be strongly related to per capita personal income in San Diego County, adjusted for inflation, and the cost of travel, represented by domestic airfares, adjusted for inflation, consistent with the 2012 ADP forecast analysis.
- As shown in Figure 3-1, a regression model including San Diego County per capita personal income and domestic airfares explained 96% of the historical variation in domestic originating passengers between 1990 and 2017. See Appendix A for regression statistics.

The forecasts of per capita personal income and domestic airfares were based on the analysis of historical trends discussed in Section 2 and available independent forecasts prepared by the California Department of Transportation, Woods & Poole, a national economic forecasting firm, and the Federal Aviation Administration.* SANDAG's most recent economic forecasts were prepared in 2013 and do not reflect the recent trends in economic growth. SANDAG expects to publish an updated economic forecast in 2019.



^{*}California Department of Transportation, *California County-Level Economic Forecast 2018-2050, The California Economic Forecast*, September 2018. Woods & Poole Economics Inc., 2018 MSA Profile, Metropolitan Area Projections to 2050, 2018. Federal Aviation Administration, *FAA Aerospace Forecasts, Fiscal Years 2018–2038*, March 2018, www.faa.gov.



4.0 UPDATED UNCONSTRAINED AVIATION ACTIVITY FORECASTS

This section presents updated unconstrained forecasts of aviation activity at SDIA for 2023, 2028, 2033, 2038, 2043, and 2050, including enplaned passengers, air cargo, and aircraft operations and a summary of the underlying forecast assumptions. As discussed earlier, the unconstrained forecasts presented in this memorandum do not include specific assumptions about physical, regulatory, environmental, or other impediments to aviation activity growth. The constrained demand scenario in Section 5 of this memorandum addresses the real-world limitations of SDIA's runway on unconstrained forecast growth. This well-known and substantial limitation on the operational and passenger capacity of the airport must be considered in planning airport improvements and analyzing their reasonably foreseeable impacts. The constrained demand scenario presented in this memorandum analyses and anticipates these limitations and therefore the constrained demand scenario represents the "preferred" forecasts recommended for FAA approval and for airport planning.

4.1 Enplaned Passengers

As shown on Figure 4-1 and in Table 4-1, the number of passengers at the Airport is forecast to increase from 12.1 million passengers in 2018 to 26.7 million in 2050 in the unconstrained forecast, an average increase of 2.5% per year. The number of domestic passengers at the Airport is forecast to increase an average of 2.3% per year between 2018 and 2050, compared with an average increase of 5.5% per year in international passenger traffic.

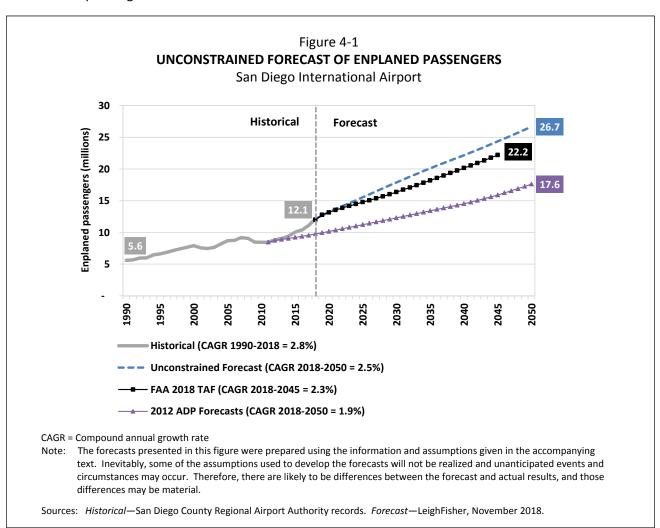




Table 4-1
UNCONSTRAINED FORECAST OF ENPLANED PASSENGERS

San Diego International Airport

	His	storical			Unconstrair	ned Forecast		
	2017	2018	2023	2028	2033	2038	2043	2050
Domestic								
Mainline airline	4,752,261	5,244,306	6,255,600	7,174,800	8,030,800	8,771,400	9,472,600	10,505,900
Regional airline	712,939	853,232	1,074,700	1,293,800	1,520,300	1,743,700	1,977,700	2,349,300
Low cost carrier	5,208,403	5,515,739	6,541,600	7,502,900	8,398,000	9,172,500	9,905,800	10,986,300
Domestic total	10,673,603	11,613,277	13,871,900	15,971,500	17,949,100	19,687,600	21,356,100	23,841,500
International	433,475	512,661	733,900	979,600	1,288,100	1,662,100	2,104,200	2,834,900
Total Airport	11,107,078	12,125,938	14,605,800	16,951,100	19,237,200	21,349,700	23,460,300	26,676,400
O&D and connecting enplaned								
passengers								
O&D	10,462,985	11,422,762	13,758,800	15,968,000	18,121,800	20,111,700	22,099,800	25,129,300
Connecting	644,093	<u>703,176</u>	847,000	983,100	1,115,400	1,238,000	1,360,500	1,547,100
Total Airport	11,107,078	12,125,938	14,605,800	16,951,100	19,237,200	21,349,700	23,460,300	26,676,400
Percent of total Airport								
O&D	94.2%	94.2%	94.2%	94.2%	94.2%	94.2%	94.2%	94.2%
Connecting	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
		Percent change		Comp	ound annual perd			
		2017-2018	2018-2023	2023-2028	2028-2033	2033-2038	2038-2043	2043-2050
Domestic								
Mainline airline		10.4%	4.5%	2.8%	2.3%	1.8%	1.6%	1.5%
Regional airline		19.7	5.9	3.8	3.3	2.8	2.6	2.5
Low cost carrier		5.9	4.4	2.8	2.3	1.8	1.6	1.5
Domestic total		8.8	4.5	2.9	2.4	1.9	1.6	1.6
International		18.3	9.4	5.9	5.6	5.2	4.8	4.4
Total Airport		9.2	4.8	3.0	2.6	2.1	1.9	1.9

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Sources: Historical—San Diego County Regional Airport Authority records. Forecast—LeighFisher, November 2018.



4.2 Air Cargo

As shown on Figure 4-2 and in Table 4-2, total air cargo at the Airport is forecast to increase from 192,351 metric tons in 2018 to 372,700 metric tons in 2050 in the unconstrained forecast, an average increase of 2.1% per year. Air freight and air mail at the Airport are forecast to increase an average of 2.1% per year between 2018 and 2050.

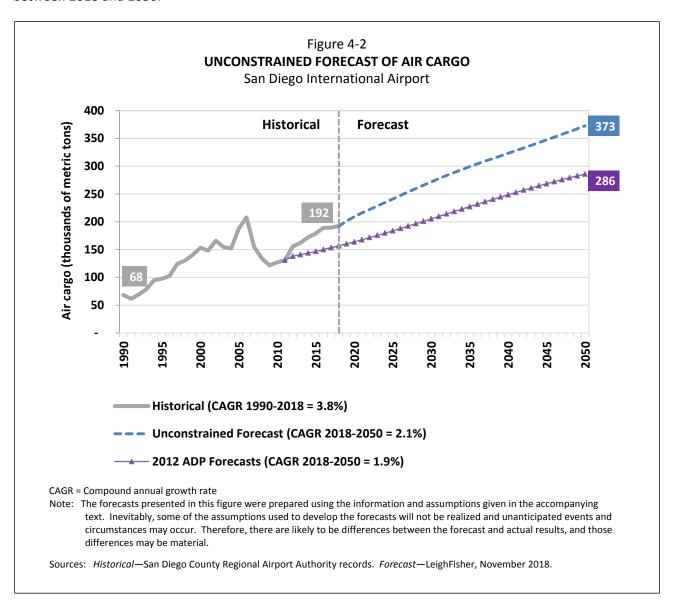




Table 4-2
UNCONSTRAINED FORECAST OF AIR CARGO

San Diego International Airport
In metric tons

	Histo	orical		Unconstrained Forecast						
	2017	2018	2023	2028	2033	2038	2043	2050		
Air freight			·	·						
Enplaned	75,097	72,960	86,030	97,800	108,690	118,070	126,980	140,090		
Deplaned	91,038	94,826	113,040	128,530	142,880	<u>155,270</u>	<u> 167,050</u>	184,400		
Air freight total	166,135	167,786	199,070	226,330	251,570	273,340	294,030	324,490		
Mail										
Enplaned	17,691	17,987	21,330	24,280	27,020	29,410	31,680	35,050		
Deplaned	<u>5,741</u>	6,578	8,070	9,180	10,200	11,080	<u>11,930</u>	13,160		
Mail total	23,432	24,566	29,400	33,460	37,220	40,490	43,610	48,210		
Air cargo										
Enplaned	92,788	90,947	107,360	122,080	135,710	147,480	158,660	175,140		
Deplaned	96,779	<u>101,404</u>	<u>121,110</u>	<u>137,710</u>	<u>153,080</u>	<u>166,350</u>	<u>178,980</u>	197,560		
Total air cargo	189,567	192,351	228,470	259,790	288,790	313,830	337,640	372,700		
Percent of total										
Enplaned	48.9%	47.3%	47.0%	47.0%	47.0%	47.0%	47.0%	47.0%		
Deplaned	51.1%	52.7%	53.0%	53.0%	53.0%	53.0%	53.0%	53.0%		
Enplaned air freight										
Domestic										
Cargo airline	67,240	64,446	75,880	85,680	94,420	101,550	108,010	117,290		
Passenger airline	<u>5,738</u>	<u>5,763</u>	6,480	7,310	8,060	8,670	9,220	10,010		
Domestic total	72,979	70,209	82,360	92,990	102,480	110,220	117,230	127,300		
International	2,118	2,751	3,670	4,810	6,200	7,850	9,750	12,790		
Air freight total	75,097	72,960	86,030	97,800	108,680	118,070	126,980	140,090		
Enplaned mail										
Cargo airline	15,115	15,027	17,770	20,220	22,510	24,490	26,390	29,190		
Passenger airline	<u>2,575</u>	2,961	3,560	4,050	4,510	4,910	5,290	5,850		
Mail total	<u> 17,691</u>	<u> 17,987</u>	21,330	24,270	27,020	29,400	31,680	35,040		
Total enplaned air cargo	92,788	90,947	107,360	122,070	135,700	147,470	158,660	175,130		



Table 4-2 (page 2 of 2)

UNCONSTRAINED FORECAST OF AIR CARGO
San Diego International Airport
In metric tons

	Percent	Compound annual percent increase (decrease) Unconstrained Forecast							
	change								
	2017-2018	2018-2023	2023-2028	2028-2033	2033-2038	2038-2043	2043-2050		
Total air cargo (enplaned and									
deplaned)									
Air freight	1.0%	4.4%	2.6%	2.1%	1.7%	1.5%	1.4%		
Mail	4.8	4.6	2.6	2.2	1.7	1.5	1.4		
Total	1.5	4.4	2.6	2.1	1.7	1.5	1.4		
Enplaned air freight									
Domestic	(3.8)	4.1	2.5	2.0	1.5	1.2	1.2		
International	29.9	7.5	5.6	5.2	4.8	4.4	4.0		

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Sources: Historical—San Diego County Regional Airport Authority records. Forecast—LeighFisher, November 2018.



4.3 Aircraft Operations

This section summarizes the forecasts of total aircraft operations, including passenger airline, all-cargo airline, general aviation, and military operations.

4.3.1 Unconstrained Forecast Approach and Methodology

The forecasts of total aircraft operations are derived from the forecasts of passenger and cargo demand described previously and an evaluation of general aviation and military operations. In particular:

- The forecasts of passenger airline aircraft departures are based on the enplaned passenger forecasts and assumptions regarding average aircraft size and enplaned passenger load factor.
- The forecasts of all-cargo airline aircraft departures are based on the air cargo forecasts and assumptions regarding average cargo tonnage per operation and type of all-cargo service (integrated carrier or regional feeder).
- The forecasts of general aviation aircraft operations are based on historical trends, the number of aircraft based at the Airport, the average daily utilization of those aircraft, assumptions regarding aircraft utilization in the future, and industry forecasts of general aviation activity such as those prepared by the FAA.
- The forecasts of military aircraft operations are based on data for the base year of the forecasts and carried forward through the forecast period. Military operations typically increase and decrease with geopolitical trends and therefore this activity may vary in a given year.

4.3.2 Unconstrained Forecast Assumptions

Table 4-3 presents the forecast assumptions for passenger and cargo airline aircraft operations, including assumptions for the average enplaned passenger load factor, the average number of seats per departure, and average cargo tonnage per cargo airline operation.

4.3.3 Passenger Airline Aircraft Operations Forecasts

Passenger aircraft operations include total departures and arrivals performed by mainline and regional affiliate aircraft in the service of transporting passengers, as shown in Table 4-4. Passenger airline aircraft operations were calculated by dividing the enplaned passenger forecasts by sector (e.g., domestic and International) and category (e.g., mainline and regional affiliate carrier) by the estimated number of passengers enplaned per departure. In 2018, the average number of passengers enplaned per departure for the Airport as a whole was 121.1, derived by multiplying the load factor by the average seats per departure (e.g., 81.6% x 148.3 = 121.1). This number is expected to increase slowly over the forecast period based on an estimated increase in the average number of seats per aircraft and an estimated load factor, or percent of available seats filled with passengers. The average number of passengers enplaned per departure is expected to reach approximately 125.9 in 2050 in the unconstrained forecast. Dividing the enplaned passenger forecasts by the forecast number of passengers enplaned per departure yields passenger airline aircraft departures. The forecast departures were then multiplied by two to yield passenger airline aircraft operations for each category of activity.

Passenger airline air carrier aircraft operations at SDIA are forecast to increase from 197,244 in 2018 to 423,670 operations in 2050 in the unconstrained forecast, an average increase of 2.4% per year, as shown in Table 4-4.



Table 4-3
ASSUMPTIONS FOR AIRCRAFT OPERATIONS UNCONSTRAINED FORECAST

San Diego International Airport

	Historical Unconstrained Forecast							
	2017	2018	2023	2028	2033	2038	2043	2050
Enplaned passengers per departure								
Domestic								
Mainline airline	146.8	145.5	146.4	146.4	146.4	146.4	146.4	146.4
Regional airline	55.7	56.9	58.5	59.9	61.2	62.6	64.0	66.0
Low cost carrier	118.1	122.2	122.8	124.2	125.6	127.0	128.5	130.5
Domestic total	119.5	120.7	121.3	121.9	122.5	123.1	123.7	124.5
International	128.7	130.2	131.4	132.9	134.4	135.9	137.4	139.6
Total Airport	119.9	121.1	121.8	122.5	123.2	124.0	124.8	125.9
Enplaned passenger load factor								
Domestic								
Mainline airline	85.8%	85.7%	86.0%	86.0%	86.0%	86.0%	86.0%	86.0%
Regional airline	74.5%	76.7%	78.2%	79.2%	80.2%	81.2%	82.2%	83.6%
Low cost carrier	77.8%	79.0%	79.0%	79.5%	80.0%	80.5%	81.0%	81.7%
Domestic total	80.9%	81.7%	82.0%	82.3%	82.6%	83.0%	83.3%	83.8%
International	77.2%	79.7%	79.7%	80.2%	80.7%	81.2%	81.7%	82.4%
Total Airport	80.8%	81.6%	81.8%	82.2%	82.5%	82.8%	83.1%	83.6%
Average seats per departure								
Domestic								
Mainline airline	171.1	169.7	170.2	170.2	170.2	170.2	170.2	170.2
Regional airline	74.8	74.1	74.9	75.6	76.4	77.2	77.9	79.0
Low cost carrier	151.8	154.6	155.4	156.1	156.9	157.7	158.5	159.6
Domestic total	147.8	147.7	148.0	148.1	148.3	148.4	148.5	148.6
International	166.6	163.4	164.9	165.8	166.6	167.4	168.3	169.5
Total Airport	148.4	148.3	148.8	149.1	149.4	149.7	150.1	150.6
Enplaned freight per operation (tons)								
All-cargo airlines	19.8	20.2	19.9	20.0	20.1	20.2	20.3	20.3

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Sources: Historical—San Diego County Regional Airport Authority records. Forecast—LeighFisher, November 2018.



4.3.4 All-Cargo Airline Aircraft Operations Forecasts

Cargo airline operations at SDIA include the flight activity by airlines dedicated exclusively to the transportation of freight such as FedEx and by commuter/regional size aircraft. Air carrier size aircraft that perform all-cargo operations at the airport include widebody (e.g., Airbus A-300, Boeing 767, and MD-11) and narrowbody (e.g., Boeing 757) aircraft. Commuter or regional aircraft that perform all-cargo operations at the airport include small piston and turboprop aircraft such as the Beechcraft 99 and Swearingen Metroliner aircraft. In 2018, there were 6,380 cargo airline operations performed at the Airport.

The forecast of all-cargo operations was developed by first estimating the share of future cargo tonnage expected to be carried by air carrier and commuter aircraft. The cargo tonnage expected to be carried by all-cargo carriers was then divided by an estimated cargo tons per departure ratio to yield total air carrier cargo operations. The ratio of tons per operation is expected to average 20,000 pounds over the forecast period.*

Cargo airline aircraft operations at SDIA (air carrier and commuter) are forecast to increase an average of 1.9% per year from 6,380 in 2018 to 11,540 in 2050, as shown in Table 4-4.

4.3.5 General Aviation Aircraft Operations Forecasts

General aviation (GA) activity includes all flight operations by aircraft other than scheduled or charter passenger and cargo aircraft and military aircraft. GA includes not only pilot training and recreational flights on small single engine or multi-engine propeller driven aircraft, but also operations on large business jet aircraft.

On a nationwide basis, the number of general aviation aircraft operations has been in slow decline due to factors such as increases in aircraft, fuel, and insurance costs, as well as increased avionic instrument requirements. The 2008-2009 economic recession and the financial credit crisis further reduced general aviation activity nationwide. In the future, the FAA expects general aviation traffic to recover slowly.

The flight operations of GA aircraft are categorized as local or itinerant operations. Local operations are flights that operate within visual range or close proximity of the airport. Itinerant operations typically include those flights that leave the airport destined for another airport and require the filing of flight plans with the local air traffic control authorities. Historically, itinerant operations have accounted for nearly all GA operations at the Airport. In 2018, a total of 10,337 itinerant GA operations were performed at the Airport (100% of GA operations), as shown in Table 4-4.

GA operations in the future are forecast to continue to be comprised of itinerant operations only. The total number of general aviation operations is forecast to increase an average of 0.5% per year from 2018 through 2050, compared with a forecast growth rate of 0.3% per between 2018 and 2038 for the nation as a whole.**

In 2018, a total of 9 jet aircraft were based at the Airport. The total number of based aircraft at the Airport is forecast to increase to 11 in 2050.

4.3.6 Military Aircraft Operations Forecasts

The number of military operations at the Airport averaged approximately 700 operations per year between 2010 and 2018. In 2018, military operations totaled 758, slightly above the 9-year average. Military

^{*}Includes air carrier and commuter operations. Air cargo data are not reported separately for commuters.

^{**}U.S. Department of Transportation, Federal Aviation Administration, FAA National Aerospace Forecasts, Fiscal Years 2018-2038, www.faa.gov.



operations are expected remain at a level of about 700 operations from 2018 through 2050, as shown in Table 4-4.

4.3.7 Total Aircraft Operations Forecasts

As shown on Figure 4-3 and in Table 4-4, total aircraft operations at the Airport are forecast to increase from 225,058 in 2018 to 458,700 in 2050 in the unconstrained forecast, an average increase of 2.3% per year. Commercial aircraft operations at the Airport are forecast to increase an average of 2.3% per year between 2018 and 2050, while general aviation operations are forecast to increase an average of 0.5% per year and military operations are forecast to remain relatively unchanged.

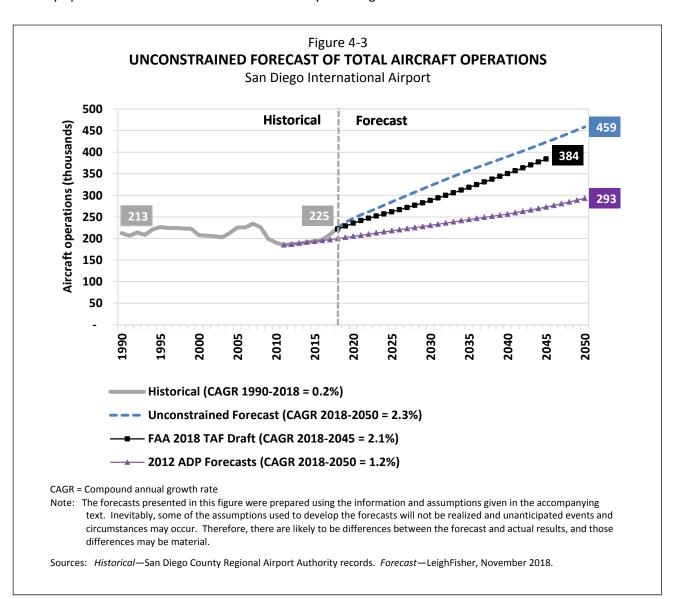




Table 4-4
UNCONSTRAINED FORECAST OF TOTAL AIRCRAFT OPERATIONS

San Diego International Airport

	Histo	orical	Unconstrained Forecast					
	2017	2018	2023	2028	2033	2038	2043	2050
Air Carrier								
Passenger airlines	182,712	197,244	239,870	276,770	312,230	344,370	376,010	423,670
Cargo airlines	4,082	3,850	4,640	5,220	5,720	6,130	6,490	7,020
Other	1,787	372	800	800	810	810	820	820
Air Carrier total	188,581	201,466	245,310	282,790	318,760	351,310	383,320	431,510
Air Taxi								
Cargo airlines	2,716	2,530	2,980	3,360	3,680	3,940	4,170	4,520
Other	<u>7,946</u>	9,967	10,000	10,000	10,000	10,000	10,000	10,000
Air Taxi total	10,662	12,497	12,980	13,360	13,680	13,940	14,170	14,520
General Aviation								
Itinerant	9,613	10,337	10,470	10,730	11,000	11,280	11,560	11,970
Local								
General Aviation total	9,613	10,337	10,470	10,730	11,000	11,280	11,560	11,970
Military	707	<u>758</u>	700	700	700	700	700	700
Total Airport	209,563	225,058	269,460	307,580	344,140	377,230	409,750	458,700
		Percent						
		change	Compound annual percent increase (decrease)					
		2017-2018	2018-2023	2023-2028	2028-2033	2033-2038	2038-2043	2043-2050
Air Carrier								
Passenger airlines		8.1%	5.0%	2.9%	2.4%	2.0%	1.8%	1.7%
Cargo airlines		(5.7)	4.8	2.4	1.8	1.4	1.1	1.1
Other		(82.1)	21.1	0.0	0.2	0.0	0.2	0.0
Air Carrier total		6.8	5.0	2.9	2.4	2.0	1.8	1.7
Air Taxi								
Cargo airlines		(6.8)	4.2	2.4	1.8	1.4	1.1	1.2
Other		25.4	0.1	0.0	0.0	0.0	0.0	0.0
Air Taxi total		17.2	1.0	0.6	0.5	0.4	0.3	0.3
General Aviation		7.5	0.3	0.5	0.5	0.5	0.5	0.5
Military		7.2	(2.0)	0.0	0.0	0.0	0.0	0.0
Total Airport		7.4	4.6	2.7	2.3	1.9	1.7	1.6

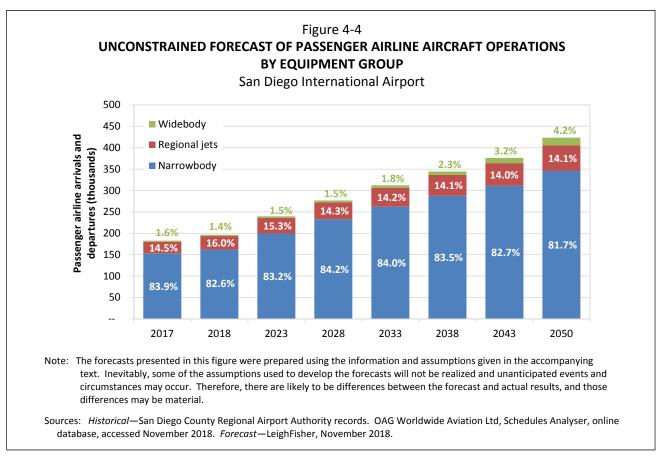
Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Sources: Historical—San Diego County Regional Airport Authority records. Forecast—LeighFisher, November 2018.



4.4 Aircraft Fleet

Figure 4-4 and Table 4-5 present the passenger airline fleet mix at SDIA for 2017, 2018, and for the forecast years (2023, 2028, 2033, 2038, 2043, and 2050) in terms of the number and percentage of annual passenger airline aircraft operations.



4.5 Critical Aircraft

In SDIA's Airport Development Plan, the B777 (D-V) was designated as the critical (or design) aircraft for activity levels of approximately 12 million enplaned passengers reached in 2018 and the B787-9 was designated as the future critical aircraft for activity levels of more than 12 million enplaned passengers.

Table 4-5 identifies the forecast fleet mix for the 2018 unconstrained forecast. Of the aircraft identified in the future fleet mix, the B787-9 is the most demanding (i.e., the aircraft with the largest tail heights, wingspans, approach speeds, and runway length requirements) and continues to be the critical aircraft used for airport planning based on the following:

- The choice of the B787-9 as the critical aircraft is consistent with FAA guidance for the 2012 ADP forecast as it continues to be the largest aircraft with more than 500 operations
- Table 4-5 presents a summary of annual operations by aircraft type for the 2018 unconstrained forecast and shows that the B787-9 remains the largest aircraft with 500 or more operations.
 (Although the A330-200 also has more than 500 operations and a slightly larger wingspan, the B787-9 has larger length, tail height, and Maximum Takeoff Weight or MTOW.)



Table 4-5
UNCONSTRAINED FORECAST OF PASSENGER AIRLINE AIRCRAFT OPERATIONS BY AIRCRAFT TYPE

San Diego International Airport

ALLIVAIS ALIU UEDALLULE	Arriva	s and	departure
-------------------------	--------	-------	-----------

	Histo	rical			Unconstrain	ed Forecast		
Aircraft type	2017	2018	2023	2028	2033	2038	2043	2050
Domestic								
Narrowbody								
A318	499	3,020						
A319	6,328	4,801	4,879	4,522	3,852			
A320	15,161	14,132	18,145	22,321	26,742	31,216	34,084	37,981
A320neo			2,399	4,152	6,245	9,298	16,920	30,081
A321	12,354	17,699	22,484	27,326	32,389	38,133	43,517	51,151
B717-200	406	1,531						
B737-300/400/500/600	312							
B737-700	57,680	57,471	65,094	65,420	62,250	53,161	39,245	23,035
B737-800	33,660	37,950	50,948	64,321	75,685	86,919	87,385	89,987
B737-900	17,799	16,996	21,868	26,616	31,588	36,561	43,680	44,980
B737 MAX	329	1,493	3,015	4,863	7,047	10,527	18,263	31,593
B757-200/300	3,733	3,680	2,796	1,842	, 	,	, 	,
CS100		, 	1,919	3,598	5,620	7,921	10,528	13,981
MD-80	381	24		· 				
MD-90	1,053	260	316					
Subtotal narrowbody	149,695	159,056	193,863	224,982	251,416	273,736	293,622	322,790
Regional jets	,	,	,	,	,	,	,	,
CRJ-100/200	523	1,351						
CRJ-700	2,355	3,146	3,346	2,754	2,482	2,049	1,485	826
CRJ-900	1,175	388	1,192	1,652	2,175	2,744	3,372	4,223
ERJ-175	19,408	23,975	29,157	32,258	36,391	40,137	43,825	49,380
Subtotalregional jets	23,461	28,861	33,694	36,663	41,048	44,930	48,682	54,428
Turboprop	-, -	-,	,	,	,	,	-,	,
Q400	1,769	699	371					
Widebody	,							
A330-200	720	713	867	1,001	1,129	1,245	1,359	1,532
B767-200/300	532	146			-,			
B787-8			240	277	937	2,755	5,264	<u>8,473</u>
Subtotalwidebody	1,252	859	1,107	1,277	2,065	4,000	6,624	10,005
Subtotal Domestic	176,176	189,475	229,035	262,923	294,530	322,666	348,927	387,223

Table 4-5 (page 2 of 4)

UNCONSTRAINED FORECAST OF PASSENGER AIRLINE AIRCRAFT OPERATIONS BY AIRCRAFT TYPE

San Diego International Airport

Arrivals and departures

_	Historical Unconstrained Forecast							
Aircraft type	2017	2018	2023	2028	2033	2038	2043	2050
International								
Narrowbody								
A319	122	49						
A320neo			240	830	1,561	2,411	3,384	5,084
A320	185	223	271	312	352	389	424	478
A321	619	662	1,285	1,759	2,609	3,566	4,646	6,082
B737-700	889	1,095	1,332	1,537	1,734	1,912	2,088	2,353
B737-800	566	812	987	1,139	1,285	1,417	1,547	1,743
B737-900	1,232	859	1,044	1,205	1,360	1,500	1,637	1,845
B737 MAX			480	1,107	<u>1,873</u>	2,755	3,760	5,508
Subtotal narrowbody	3,615	3,699	5,638	7,890	10,774	13,949	17,487	23,093
Regional jets								
CRJ-700	1,229	118						
CRJ-900		1,694	2,060	1,824	1,433	892	221	
ERJ-175	<u>110</u>	274	<u>573</u>	<u>1,215</u>	<u>1,995</u>	2,889	<u>3,906</u>	5,249
Subtotalregional jets	1,339	2,086	2,633	3,038	3,427	3,780	4,127	5,249
Widebody								
A340-300	59	487	592	683	770			
B747-400	282	286						
B767-200/300	112							
B777	426	431	525	329	58	64	70	79
B787-8	720	719	1,354	1,562	2,075	2,633	3,251	4,086
B787-9		<u>=</u>		<u>277</u>	624	1,377	2,256	3,813
Subtotal widebody	<u>1,599</u>	1,923	<u>2,470</u>	2,851	3,528	4,075	<u>5,577</u>	7,979
Subtotal International	<u>6,553</u>	<u>7,708</u>	10,742	13,778	<u>17,729</u>	21,804	<u>27,191</u>	36,320
TotalPassenger Airlines	182,712	197,244	239,870	276,770	312,230	344,370	376,010	423,670

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Totals may not add due to rounding.

Sources: Historical—San Diego County Regional Airport Authority records. Forecast—LeighFisher, November 2018.

Table 4-5 (page 3 of 4)

UNCONSTRAINED FORECAST OF PASSENGER AIRLINE AIRCRAFT OPERATIONS BY AIRCRAFT TYPE
San Diego International Airport

		Percent of total									
	Histo	rical			Unconstrain	ed Forecast					
Aircraft type	2017	2018	2023	2028	2033	2038	2043	2050			
Domestic											
Narrowbody											
A318	0.3%	1.5%	%	%	%	%	%	%			
A319	3.5	2.4%	2.0	1.6	1.2						
A320	8.3	7.2%	7.6	8.1	8.6	9.1	9.1	9.0			
A320neo	0.0	0.0%	1.0	1.5	2.0	2.7	4.5	7.1			
A321	6.8	9.0%	9.4	9.9	10.4	11.1	11.6	12.1			
B717-200	0.2	0.8%									
B737-300/400/500/600	0.2	0.0%									
B737-700	31.6	29.1%	27.1	23.6	19.9	15.4	10.4	5.4			
B737-800	18.4	19.2%	21.2	23.2	24.2	25.2	23.2	21.2			
B737-900	9.7	8.6%	9.1	9.6	10.1	10.6	11.6	10.6			
B737 MAX	0.2	0.8%	1.3	1.8	2.3	3.1	4.9	7.5			
B757-200/300	2.0	1.9%	1.2	0.7							
CS100		0.0%	0.8	1.3	1.8	2.3	2.8	3.3			
MD-80	0.2	0.0%									
MD-90	0.6	0.1%	0.1								
Subtotal narrowbody	81.9%	80.6%	80.8%	81.3%	80.5%	79.5%	78.1%	76.2%			
Regional jets											
CRJ-100/200	0.3%	0.7%	%	%	%	%	%	%			
CRJ-700	1.3	1.6%	1.4	1.0	0.8	0.6	0.4	0.2			
CRJ-900	0.6	0.2%	0.5	0.6	0.7	0.8	0.9	1.0			
ERJ-175	<u>10.6</u>	12.2%	12.2	<u>11.7</u>	11.7	<u>11.7</u>	11.7	11.7			
Subtotalregional jets	12.8%	14.7%	14.0%	13.2%	13.1%	13.0%	12.9%	12.8%			
Turboprop											
Q400	1.0%	0.4%	0.2%	%	%	%	%	%			
Widebody											
A330-200	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%			
B767-200/300	0.3	0.1									
B787-8	0.0	0.0	0.1	0.1	0.3	0.8	<u>1.4</u>	2.0			
Subtotalwidebody	0.7	0.4	0.5	0.5	0.7	1.2	1.8	2.4			

95.5%

95.0%

94.3%

93.7%

Subtotal-- Domestic

96.4%

96.1%

91.4%

92.8%

Table 4-5 (page 4 of 4)

UNCONSTRAINED FORECAST OF PASSENGER AIRLINE AIRCRAFT OPERATIONS BY AIRCRAFT TYPE
San Diego International Airport

	Percent of total										
	Histo	orical			Unconstrain	ed Forecast					
Aircraft type	2017	2018	2023	2028	2033	2038	2043	2050			
International								•			
Narrowbody											
A319	0.1%	%	%	%	%	%	%	%			
A320neo	0.0	0.0	0.1	0.3	0.5	0.7	0.9	1.2			
A320	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1			
A321	0.3	0.3	0.5	0.6	0.8	1.0	1.2	1.4			
B737-700	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6			
B737-800	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4			
B737-900	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4			
B737 MAX	<u></u>		0.2	0.4	0.6	0.8	1.0	1.3			
Subtotal narrowbody	2.0%	1.9%	2.4%	2.9%	3.5%	4.1%	4.7%	5.5%			
Regional jets											
CRJ-700	0.7%	0.1%	%	%	%	%	%	%			
CRJ-900		0.9	0.9	0.7	0.5	0.3	0.1	0.0			
ERJ-175	0.1	0.1	0.2	0.4	0.6	0.8	1.0	1.2			
Subtotalregional jets	0.7%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.2%			
Widebody											
A340-300	%	0.2%	0.2%	0.2%	0.2%	%	%	%			
B747-400	0.2	0.1									
B767-200/300	0.1	0.0									
B777	0.2	0.2	0.2	0.1							
B787-8	0.4	0.4	0.6	0.6	0.7	0.8	0.9	1.0			
B787-9				0.1	0.2	0.4	0.6	0.9			
Subtotal widebody	0.9	0.9	1.0	1.0%	1.1%	1.2%	1.5%	1.9%			
Subtotal International	3.6%	3.9%	4.5%	5.0%	5.7%	6.3%	7.2%	8.6%			
TotalPassenger Airlines	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Totals may not add due to rounding.

Sources: Historical—San Diego County Regional Airport Authority records. Forecast—LeighFisher, November 2018.



Table 4-6 summarizes the number of forecast operations for the B787-9, B777, and B747-400 aircraft in the 2018 unconstrained forecast.

Table 4-6								
UNCONSTRAINED FORECAST OF CRITICAL AIRCRAFT OPERATIONS								
San Diego International Airport								

Parameter	Historical		Unconstrained Forecast						
	2017	2018	2023	2028	2033	2038	2043	2050	
Enplaned passengers (millions)	11.1	12.1	14.6	17.0	19.2	21.3	23.5	26.7	
3747 operations	282	286							
3777 operations	426	431	525	329	58	64	70	79	
3787-9 operations				277	624	1,377	2,256	3,813	
Aircraft Approach Category (AAC)	D	D	D	D	D	D	D	D	
Airplane Design Group (ADG)	V	V	V	V	V	V	V	V	

For the determination of the existing critical aircraft, it is noteworthy that the volume of B777 (D-V) operations alone do not surpass the 500 operations threshold. B777 aircraft are used by British Airways during the summer months and are replaced with B747-400 during the winter months. As the B747-400 and B777 have similar demands on airport infrastructure (wingspan, length, tail height, and MTOW), they may be viewed as a group for the purposes of defining the existing design aircraft. Together, the operations of this group exceed the 500 operations threshold. Therefore, the 2018 unconstrained forecast is consistent with defining the current critical aircraft as a group defined by the B777 (D-V) and B747-400.



5.0 CONSTRAINED DEMAND SCENARIO

This section presents a constrained demand scenario of SDIA aviation activity that was developed to evaluate the potential for a single runway to meet unconstrained forecast demand. In contrast to the unconstrained forecast presented in Section 4.0, the constrained demand scenario is defined by specific assumptions about the hourly capacity of a single runway and the ability of the airlines serving SDIA to operate efficiently in a constrained environment. The constrained demand scenario addresses the real-world limitations of SDIA's single runway on unconstrained forecast growth. This well-known and substantial limitation on the operational and passenger capacity of the airport must be considered in planning airport improvements and analyzing their reasonably foreseeable impacts. The constrained demand scenario presented in this memorandum analyses and anticipates these limitations and therefore the constrained demand scenario and represents the "preferred" forecasts recommended for FAA approval and for airport planning.

5.1 Approach

The constrained demand scenario was developed using a bottom-up approach based on the Design Day Flight Schedules (DDFSs) developed for the unconstrained forecast, as shown on Figure 5-1. The DDFSs include detailed data for an average day in the peak month (ADPM), including:

- Arrivals and departures
- Origin and destination
- Published carrier and operator
- · Time of day
- · Equipment type
- Seat configuration
- Scheduled arrival and departure date
- Stand time
- Estimated passenger load factors by origin and destination

5.1.1 Operation Constraints

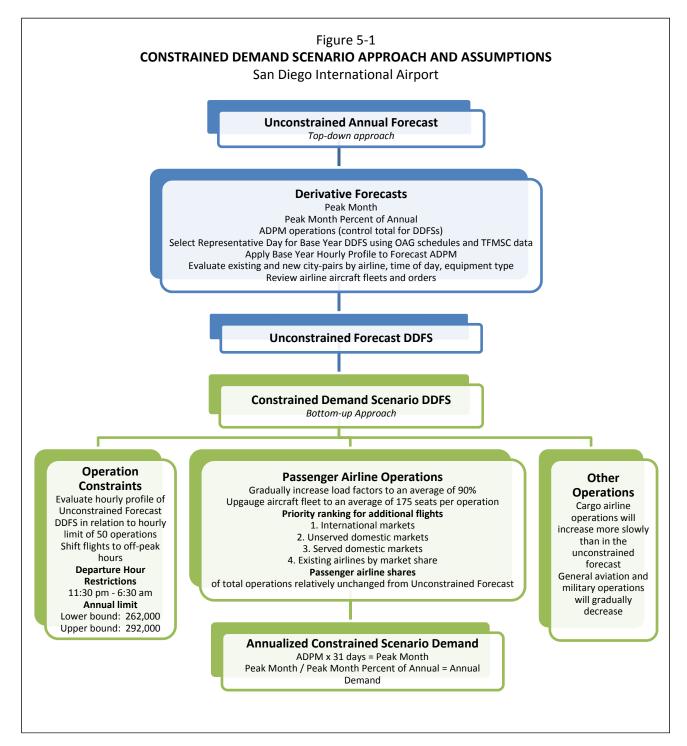
To develop DDFSs for the constrained demand scenario, the unconstrained forecast DDFSs were evaluated in relation to operation constraints at SDIA, including:

- **Hourly Limit of 50 Operations.** The hourly profiles of the unconstrained forecast DDFS were evaluated in relation to a limit of 50 operations per hour, which was exceeded in certain hours starting in 2024, as shown on Figure 5-2. For the constrained demand scenario DDFS, selected flights in hours which exceeded the limit were shifted to other hours with fewer than 50 operations, provided that shifting the flight didn't duplicate a flight to the same market by the same airline. Appendix D presents information on the establishment of the limit.
- **Departure Hour Restrictions.** SDIA's Airport Use Regulation restricts departures by any aircraft between the hours of 11:30 pm and 6:30 am and gate departures between the hours of 11:15 pm and 6:15 am. There is no restriction on arrivals.* For the constrained demand scenario DDFS, the departure hour restrictions limit the ability of airlines to reschedule flights during a 16.5 hour period per day.
- **Annual Limit.** SDIA's annual limit on total aircraft operations (including passenger and cargo airlines, general aviation, military, and other unscheduled) is defined by an upper bound of 292,000

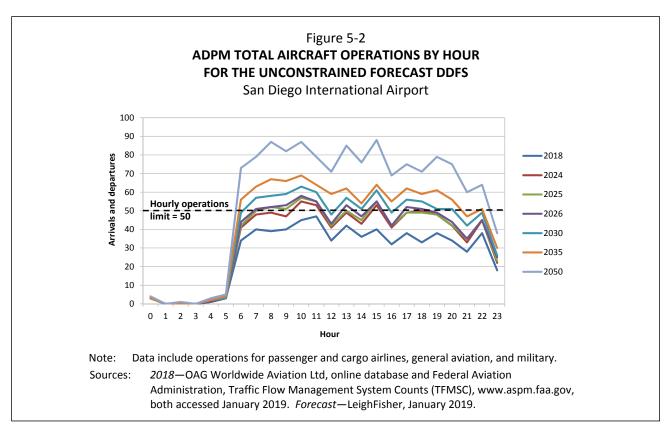
^{*} San Diego County Regional Airport Codes, Section 9.40, Airport Use Regulation at San Diego International Airport, www.san.org.



operations and a lower bound of 262,000 operations and reflects the potential Annual Service Volume (ASV) for the Airport.







5.1.2 Passenger Airline Operations

In addition to the operation constraints, the constrained demand scenario DDFS was developed based on assumptions regarding the ability of the airlines serving SDIA to operate efficiently in a constrained environment. These assumptions included:

- Load Factor. In a constrained environment, it was assumed that passenger airlines would increase load factors (i.e., the percent of occupied seats on flights) to accommodate as much of the unconstrained forecast demand as possible. For the constrained demand scenario DDFSs, an average load factor of 90% was assumed, compared with an average of 86% in the unconstrained forecast.
- Aircraft Gauge. SDIA's aircraft gauge, or the average number of seats per operation, was assumed to
 reach an average of 175 seats per operation in the constrained demand scenario, compared with an
 average of 155 in the unconstrained forecast. It was assumed that passenger airlines would increase
 the average gauge of the primarily narrowbody fleet serving the Airport and that the gauge would be
 limited by the airlines' existing aircraft fleets and orders.
- Priority Ranking for Additional Flights. In the development of DDFSs, flights were added to the base
 year schedule in order to accommodate the unconstrained forecast demand. For the constrained
 demand scenario DDFSs, a priority ranking for the addition of flights was developed with guidance
 from SDIA's Airline Service Department. As shown in Figure 5-1, international markets were given
 first priority when deciding between flights to remain in the constrained demand scenario DDFS,
 followed by unserved domestic markets and served domestic markets. Existing airlines were given
 preference depending on their share of a certain market.



Passenger Airline Shares. In the constrained demand scenario, it was assumed that the passenger
airline shares of total operations would remain relatively unchanged from Unconstrained Forecast
(subject to the priority ranking outlined above).

5.1.3 Other Operations

In the constrained demand scenario, the operations of cargo airlines are assumed to increase more slowly than in the unconstrained forecast, reflecting an increase in the average tonnage per operation. In 2018, general aviation and military operations accounted for 5% of total aircraft operations at the Airport, down from 8% in 2000. It was assumed that the number of operations by general aviation and military aircraft at the Airport would gradually decrease to 3% of total operations in a constrained environment.

5.1.4 Annualized Constrained Scenario Demand

ADPM operations and passengers represented in the constrained demand scenario DDFS were annualized based on derived values for the peak month (i.e., ADPM operations multiplied by 31 days = peak month operations) and the assumed peak month percent of annual operations (i.e., peak month operations divided by the peak month percent of annual = annual operations). It was assumed that the peak month percent of annual operations would continue to account for 9.1% of total aircraft operations through 2050. Similarly, it was assumed that the peak month percent of annual passengers would continue to account for 9.6% of total passengers through 2050. For example, in 2033:

- ADPM total aircraft operations from the constrained scenario DDFS totaled 816 which translates into 25,310 peak month operations (816 ADPM operations multiplied by 31 days = 25,310 peak month operations)
- The 25,310 peak month operations translates into 277,200 annual operations (25,310 peak month operations divided by 9.1% = annual operations)

5.2 Enplaned Passengers

As shown in Table 5-1 and on Figure 5-3, the number of enplaned passengers at the Airport is forecast to increase from 12.1 million enplaned passengers in 2018 to 20.3 million in 2050 in the constrained demand scenario, an average increase of 1.6% per year. The number of air carrier enplaned passengers at the Airport is forecast to increase an average of 1.8% per year between 2018 and 2050, compared with an average decrease of 3.4% per year in commuter passenger traffic.

5.3 Air Cargo

As shown in Table 5-1 and on Figure 5-4, total air cargo at the Airport is forecast to increase from 192,351 metric tons in 2018 to 335,400 metric tons in 2050 in the constrained demand scenario, an average increase of 1.8% per year.

5.4 Total Aircraft Operations

As shown in Table 5-1 and on Figure 5-5, total aircraft operations at the Airport are forecast to increase from 225,058 in 2018 to 290,100 in 2050 in the constrained demand scenario, an average increase of 0.8% per year. Commercial aircraft operations at the Airport are forecast to increase an average of 0.9% per year between 2018 and 2050, while general aviation and military operations are forecast to decrease an average of 2.1% and 1.7% per year, respectively.



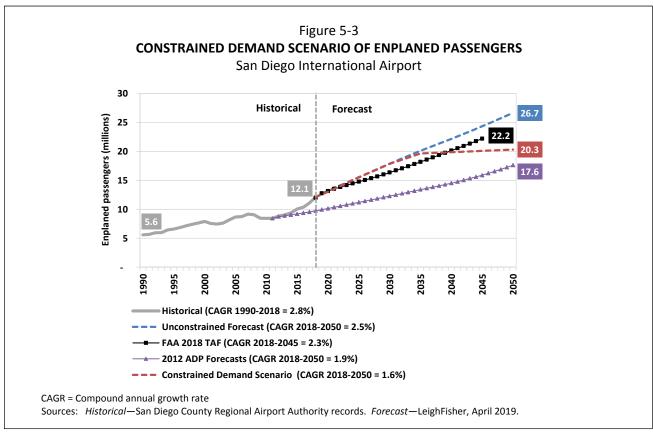
Table 5-1
CONSTRAINED DEMAND SCENARIO OF AVIATION ACTIVITY

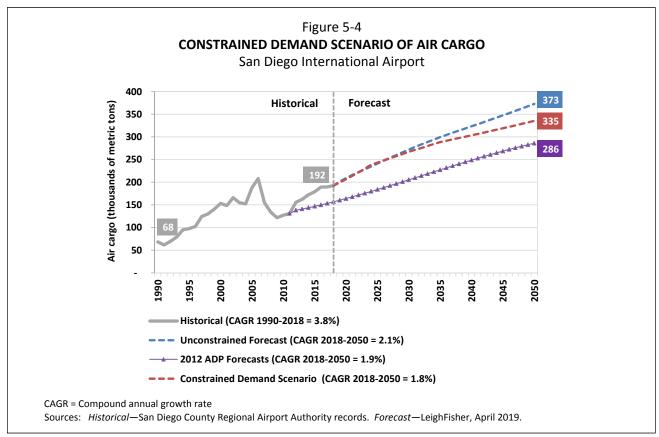
San Diego International Airport

	Historical	Constrained Demand Scenario					
	2018	2023	2028	2033	2050		
Enplaned passengers							
Air carrier	11,272,706	13,798,000	16,576,000	18,618,000	20,036,232		
Commuter	<u>853,232</u>	738,000	343,000	309,000	284,768		
Total enplaned passengers	12,125,938	14,536,000	16,919,000	18,927,000	20,321,000		
Total air cargo	192,351	230,000	257,400	279,800	335,400		
Total aircraft operations							
Commercial aircraft operations							
Air carrier							
Passenger airlines	197,244	227,800	244,500	257,700	271,800		
Cargo airlines	3,850	4,440	5,100	5,700	7,610		
Other	<u>372</u>		<u>510</u>	<u>670</u>	380		
Total air carrier	201,466	232,240	250,110	264,070	279,790		
Air taxi							
Passenger airlines							
Cargo airlines	2,530	2,760	3,000	3,100	3,290		
Other	9,967	10,210	3,850	1,650	1,400		
Total air taxi	12,497	12,970	6,850	4,750	4,690		
Total commercial aircraft operations	213,963	245,210	256,960	268,820	284,480		
General aviation	10,337	9,020	8,390	7,750	5,180		
Military	<u>758</u>	630	<u>650</u>	<u>660</u>	440		
Total aircraft operations	225,058	254,860	266,000	277,230	290,100		
Forecast assumptions							
Load factor	85.4%	87.0%	89.1%	89.9%	90.0%		
Average seats per operation	151.0	153.3	163.6	172.2	175		

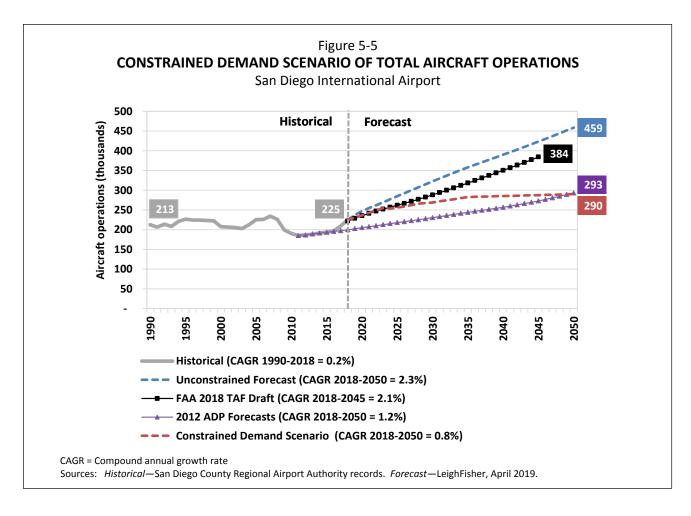
Sources: Historical—San Diego County Regional Airport Authority records. Forecast—LeighFisher, April 2019.











5.5 Aircraft Fleet

Table 5-2 and Figure 5-6 present the passenger airline fleet mix at SDIA for 2017, 2018, and for the constrained demand scenario years (2023, 2028, 2033, and 2050) in terms of the number and percentage of annual passenger airline aircraft operations.

5.6 Critical Aircraft

As discussed in Section 4.5, of the aircraft identified in the future fleet mix, the B787-9 is the most demanding (i.e., the aircraft with the largest tail heights, wingspans, approach speeds, and runway length requirements) and continues to be the critical aircraft used for airport planning based on the following:

- The choice of the B787-9 as the critical aircraft is consistent with FAA guidance for the 2012 ADP forecast as it continues to be the largest aircraft with more than 500 operations
- Table 5-2 presents a summary of annual operations by aircraft type for the constrained demand scenario and shows that the B787-9 remains the largest aircraft with 500 or more operations.
 (Although the A330-200 also has more than 500 operations and a slightly larger wingspan, the B787-9 has larger length, tail height, and MTOW.)



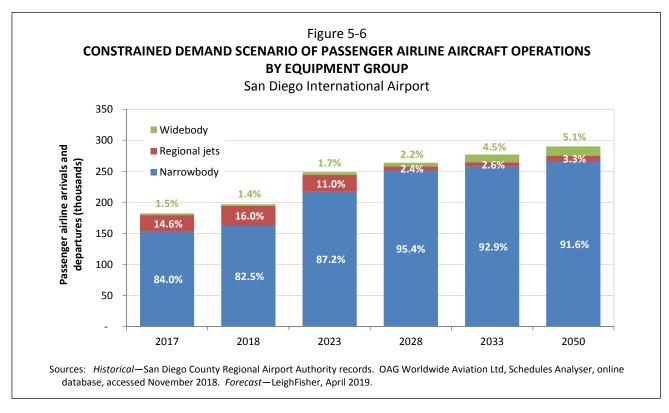


Table 5-3 summarizes the number of critical aircraft forecast operations for the B787-9, B777, and B747-400 aircraft in the constrained demand scenario.

CONSTRAINED DEMAN			_		PERATIC	NS	
	Historical Constrained Demand Scenario						
Parameter	2017	2018	2023	2028	2033	2050	
Enplaned passengers (millions)	11.1	12.1	14.5	16.9	18.9	20.3	
B747 operations	282	286					
B777 operations	426	431	720	717	716	725	
B787-9 operations			720	1,434	1,433	2,176	
Aircraft Approach Category (AAC)	D	D	D	D	D	D	
Airplane Design Group (ADG)	V	V	V	V	V	V	

Table 5-2

CONSTRAINED DEMAND SCENARIO OF PASSENGER AIRLINE AIRCRAFT OPERATIONS BY AIRCRAFT TYPE

San Diego International Airport

Arrivals and departures

	, and departures							
	Histo	rical		Constrained De	mand Scenario			
Aircraft type	2017	2018	2023	2028	2033	2050		
Domestic								
Narrowbody								
A318	499	3,020						
A319	6,328	4,801	1,441	6,452	1,433	1,451		
A320	15,161	14,132	2,161	2,867	7,879	7,253		
A320neo			3,601					
A321	12,354	17,699	18,728	16,488	12,177	12,329		
B717-200	406	1,531	3,601	4,301	4,298	4,352		
B737-300/400/500/600	312		19,448	31,541	31,874	31,548		
B737-700	57,680	57,471	11,525	18,996	29,726	30,823		
B737-800	33,660	37,950	1,441					
B737-900	17,799	16,996	70,228	48,029	12,535	11,967		
B737 MAX	329	1,493	47,539	54,480	80,940	83,404		
B757-200/300	3,733	3,680	22,689	45,520	46,558	47,867		
CS100		·		7,168	12,177	15,230		
MD-80	381	24	1,441	4,301	7,163	7,978		
MD-90	1,053	260	5,042	,434				
Subtotal narrowbody	149,695	159,056	208,884	241,578	246,758	254,200		
Regional jets								
CRJ-100/200	523	1,351						
CRJ-700	2,355	3,146	720					
CRJ-900	1,175	388						
ERJ-175	19,408	23,975	23,770	3,584	3,581	5,802		
Subtotalregional jets	23,461	28,861	24,490	3,584	3,581	5,802		
Turboprop	,	,	,	,	,	,		
Q400	1,769	699						
Widebody	,							
A330-200	720	713	720	717	716	725		
B767-200/300	532	146						
B787-8				717	7,521	8,340		
Subtotalwidebody	1,252	859	720	1,434	8,237	9,066		
Subtotal Domestic	176,176	189,475	234,094	246,596	258,577	269,068		

Table 5-2 (page 2 of 4)

CONSTRAINED DEMAND SCENARIO OF PASSENGER AIRLINE AIRCRAFT OPERATIONS BY AIRCRAFT TYPE

San Diego International Airport

			Arrivals and	departures		
	Histo	orical		Constrained De	emand Scenario	
Aircraft type	2017	2018	2023	2028	2033	2050
International						-
Narrowbody						
A319	122	49	720	717	716	725
A320neo						
A320	185	223	720	717	716	725
B737-800	566	812	1,441	1,075	716	725
B737-900	1,232	859	2,521	3,226	2,865	2,901
B737 MAX				<u>717</u>	1,433	<u>1,451</u>
Subtotal narrowbody	3,615	3,699	7,923	10,036	10,744	11,604
Regional jets						
CRJ-700	1,229	118				
CRJ-900		1,694	2,161	717		
ERJ-175	110	274	720	2,151	3,581	3,626
Subtotalregional jets	1,339	2,086	2,881	2,867	3,581	3,626
Widebody						
A340-300	59	487	720	717	716	2,176
B747-400	282	286				
B767-200/300	112					
B777	426	431	1,441	1,434	1,433	1,451
B787-8	720	719	1,441	2,151	2,149	2,176
B787-9						
Subtotal widebody	1,599	1,923	3,601	4,301	4,298	5,802
Subtotal International	6,553	7,708	14,406	17,204	18,623	21,032
TotalPassenger Airlines	182,712	197,244	248,500	263,800	277,200	290,100

Table 5-2 (page 3 of 4)

CONSTRAINED DEMAND SCENARIO OF PASSENGER AIRLINE AIRCRAFT OPERATIONS BY AIRCRAFT TYPE

San Diego International Airport

	Arrivals and departures									
	Histo	rical		Constrained De	mand Scenario					
Aircraft type	2017	2018	2023	2028	2033	2050				
Domestic										
Narrowbody										
A318	0.3%	1.5%	%	%	%	%				
A319	3.5	2.4	0.6	2.4	0.5	0.5				
A320	8.3	7.2	0.9	1.1	2.8	2.5				
A320neo	0.0	0.0	1.4							
A321	6.8	9.0	7.5	6.3	4.4	4.3				
B717-200	0.2	0.8	1.4	1.6	1.6	1.5				
B737-300/400/500/600	0.2	0.0	7.8	12.0	11.5	10.9				
B737-700	31.6	29.1	4.6	7.2	10.7	10.6				
B737-800	18.4	19.2	0.6							
B737-900	9.7	8.6	28.3	18.2	4.5	4.1				
B737 MAX	0.2	0.8	19.1	20.7	29.2	28.8				
B757-200/300	2.0	1.9	9.1	17.3	16.8	16.5				
CS100		0.0		2.7	4.4	5.3				
MD-80	0.2	0.0	0.6	1.6	2.6	2.8				
MD-90	0.6	0.1	2.0	0.5						
Subtotal narrowbody	81.9%	80.6%	84.1%	91.6%	89.0%	87.6%				
Regional jets										
CRJ-100/200	0.3%	0.7%	%	%	%	%				
CRJ-700	1.3	1.6	0.3							
CRJ-900	0.6	0.2								
ERJ-175	<u>10.6</u>	<u>12.2</u>	<u>9.6</u>	<u>1.4</u>	<u>1.3</u>	<u>2.0</u>				
Subtotalregional jets	12.8%	14.7%	9.9%	1.4%	1.3%	2.0%				
Turboprop										
Q400	1.0%	0.4%	%	%	%	%				
Widebody										
A330-200	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%				
B767-200/300	0.3	0.1	<u>==</u>							
B787-8	0.0	0.0	<u>=</u>	<u>0.3</u>	<u>2.7</u>	<u>2.9</u>				
Subtotalwidebody	0.7	0.4	0.3	0.5	3.0	3.1				
Subtotal Domestic	96.4%	96.1%	94.2%	93.5%	93.3%	92.8%				

Table 5-2 (page 4 of 4)

CONSTRAINED DEMAND SCENARIO OF PASSENGER AIRLINE AIRCRAFT OPERATIONS BY AIRCRAFT TYPE

San Diego International Airport

			Arrivals and	departures		
	Histo	orical		Constrained De	emand Scenario	
Aircraft type	2017	2018	2023	2028	2033	2050
International						
Narrowbody						
A319	0.1%	%	0.3%	0.3%	0.3%	0.3%
A320neo	0.0	0.0				
A320	0.1	0.1	0.3	0.3	0.3	0.3
A321	0.3	0.3	0.6	0.4	0.3	0.3
B737-700	0.5	0.6	1.0	1.2	1.0	1.0
B737-800	0.3	0.4	1.0	1.4	1.6	1.8
B737-900	0.7	0.4			0.3	0.3
B737 MAX			0.3	0.3	0.6	0.6
Subtotal narrowbody	2.0%	1.9%	3.2%	3.8%	3.9%	4.0%
Regional jets						
CRJ-700	0.7%	0.1%	%	%	%	%
CRJ-900		0.9	0.9	0.3		
ERJ-175	0.1	0.1	0.3	0.8	<u>1.3</u>	<u>1.3</u>
Subtotalregional jets	0.7%	1.1%	1.2%	1.1%	1.3%	1.3%
Widebody						
A340-300	%	0.2%	0.3%	0.3%	0.3%	0.8%
B747-400	0.2	0.1				
B767-200/300	0.1	0.0				
B777	0.2	0.2	0.6	0.5	0.5	0.5
B787-8	0.4	0.4	0.6	0.8	0.8	0.8
B787-9			<u></u>		<u></u>	
Subtotal widebody	0.9	0.9	1.4%	1.6%	1.6%	2.0%
Subtotal International	3.6%	3.9%	<u>5.8%</u>	<u>6.5%</u>	6.7%	<u>7.3%</u>
TotalPassenger Airlines	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%



6.0 COMPARISON WITH THE FAA 2018 TAF

Table 6-1 presents a comparison of the unconstrained aviation demand forecasts and the constrained demand scenario prepared for San Diego International Airport with the FAA 2018 TAF for the Airport. The constrained demand scenario is the "preferred" forecasts recommended for FAA approval and is compared for the components of total enplaned passengers, commercial aircraft operations, and total aircraft operations.

The format of Table 6-1 is based on the template provided by the FAA for the comparison of airport planning forecasts and the FAA TAF.* As required, the results are presented for the base year of 2018 and forecast horizons years, which are equal to the base year plus 1, 5, 10, and 15 years (2019, 2023, 2028, and 2033). The SDIA unconstrained forecasts and constrained aviation demand scenario have been compared graphically with the FAA 2018 TAF in the figures presented in Sections 4 and 5 of this report.

The key findings of the comparison of the SDIA updated unconstrained aviation demand forecasts and the constrained demand scenario with the FAA 2018 TAF are summarized below:

- The unconstrained forecast and constrained demand scenario for enplaned passengers at SDIA are higher than the 2018 TAF in 2023 and 2028, as shown in Table 6-1.
 - In 2023, the unconstrained forecast variance is 3.0%, compared with 2.5% for the constrained demand scenario
 - In 2028, the unconstrained forecast variance is 8.0%, compared with 7.8% for the constrained demand scenario
- The unconstrained forecast of commercial operations for SDIA is greater than the 2018 TAF in 2023 and 2028, while commercial operations in the constrained demand scenario are less than the TAF:
 - The unconstrained forecast variance is 5.3% in 2023, compared with -2.7% for the constrained demand scenario
 - The unconstrained forecast variance is 9.5% in 2028, compared with -5.8% for the constrained demand scenario
- The unconstrained forecast of total aircraft operations for SDIA is greater than the 2018 TAF in 2023 and 2028, while total operations in the constrained demand scenario are less than the TAF:
 - The unconstrained forecast variance is 4.9% in 2023, compared with -3.2% for the constrained demand scenario
 - The unconstrained forecast variance is 9.0% in 2028, compared with -6.5% for the constrained demand scenario
- Overall, both the SDIA updated unconstrained forecasts and the constrained demand scenario are similar to the FAA 2018 TAF for the Airport and "differ by less than 10 percent in the 5-year forecast period, and 15 percent in the 10-year forecast period," as stipulated in the FAA forecast guidance.

Tables 6-2 and 6-3 present summaries of the SDIA updated unconstrained forecasts and constrained demand scenario using a second template provided by the FAA.

^{*}U.S. Department of Transportation, Federal Aviation Administration, Forecasting Aviation Activity by Airport, July 2001, and Review and Approval of Aviation Forecasts, June 2008, http://www.faa.gov.



Table 6-1 FAA TAF FORECAST COMPARISON (2018 – 2033)

San Diego International Airport

Percent variance from 2018

					TAF		
	Year <i>(a)</i>	SDIA Unconstrained Forecast	Constrained Demand Scenario	FAA 2018 TAF	SDIA Unconstrained Forecast	Constrained Demand Scenario	
Passenger enplanements							
Base yr.	2018	12,125,938	12,125,938	12,001,009	1.0%	1.0%	
Base yr. + 5yrs.	2023	14,605,800	14,536,000	14,176,358	3.0%	2.5%	
Base yr. + 10yrs.	2028	16,951,100	16,919,000	15,689,066	8.0%	7.8%	
Base yr. + 15yrs.	2033	19,237,200	18,927,000	17,443,744	10.3%	8.5%	
Commercial operations (b)							
Base yr.	2018	213,963	213,963	210,982	1.4%	1.4%	
Base yr. + 5yrs.	2023	258,290	238,850	245,371	5.3%	-2.7%	
Base yr. + 10yrs.	2028	296,150	254,760	270,516	9.5%	-5.8%	
Base yr. + 15yrs.	2033	332,440	268,790	299,649	10.9%	-10.3%	
Total operations (c)							
Base yr.	2018	225,058	225,058	221,821	1.5%	1.5%	
Base yr. + 5yrs.	2023	269,460	248,500	256,771	4.9%	-3.2%	
Base yr. + 10yrs.	2028	307,580	263,800	282,076	9.0%	-6.5%	
Base yr. + 15yrs.	2033	344,140	277,200	311,370	10.5%	-11.0%	

⁽a) The SDIA Unconstrained Forecast and Constrained Demand Scenario were prepared on a calendar year basis; the FAA 2018 TAF were prepared on a U.S. government fiscal year basis (October through September).

Sources: Base year 2018 (actual)—San Diego County Regional Airport Authority records.

SDIA Unconstrained Forecast—LeighFisher, November 2018.

SDIA Constrained Demand Scenario—LeighFisher, April 2019.

FAA 2018 TAF for SDIA—U.S. Department of Transportation, Federal Aviation Administration, www.faa.gov, accessed March 2019.

⁽b) Commercial operations include operations by passenger airlines, all-cargo airlines, and air taxi operators.

⁽c) Total operations include commercial operations plus operations by general aviation and military.



Table 6-2 SUMMARY OF SDIA UNCONSTRAINED FORECAST USING FAA TEMPLATE

San Diego International Airport

		Ur	nconstrained For	Unconstrained Forecast			nual compound g	rowth rates	
	Base year 2018	Base year + 1 year 2019	Base year + 5 years 2023	Base year + 10 years 2028	Base year + 15 years 2033	Base year to +1 year 2018 - 2019	Base year to +5 years 2018 - 2023	Base year to +10 years 2018 - 2028	Base year to +15 years 2018 - 2033
Passenger enplanements	-								
Air carrier (a)	11,272,706	11,767,500	13,531,100	15,657,300	17,716,900	4.7%	3.8%	3.4%	3.1%
Commuter (b)	853,232	905,700	1,074,700	1,293,800	1,520,300	5.5%	4.6%	4.2%	3.9%
Total	12,125,938	12,673,200	14,605,800	16,951,100	19,237,200	4.8%	3.8%	3.4%	3.1%
Aircraft operations									
Itinerant									
Air carrier	201,466	214,360	245,310	282,790	318,760	6.7%	4.1%	3.5%	3.1%
Commuter/air taxi	12,497	12,660	12,980	13,360	13,680	1.8%	0.9%	0.7%	0.6%
Total commercial operations	213,963	227,020	258,290	296,150	332,440	6.4%	3.9%	3.3%	3.0%
General aviation	10,337	10,260	10,470	10,730	11,000	0.5%	0.5%	0.5%	0.5%
Military	758	700	700	700	700	0.0%	0.0%	0.0%	0.0%
Local									
General aviation									
Military									
Total operations	225,058	237,980	269,460	307,580	344,140	6.1%	3.7%	3.2%	2.9%
Cargo/mail (enplaned + deplaned tons) Based Aircraft	192,351	201,480	228,470	259,790	288,790	4.4%	3.4%	3.0%	2.7%
Single-engine (nonjet)									
Multiengine (nonjet)									
Jet engine	9	9	9	11	11				
Helicopter									
Other	<u>==</u>	==	==	<u> </u>	==				
Total	 9	9	9	11	11				
Operational factors									
Average aircraft size (seats)									
Air Carrier (a)	161.4	161.6	162.1	162.7	163.2				
Commuter (b)	74.1	74.3	74.9	75.6	76.4				
Average enplaning load factor									
Air Carrier (a)	81.8%	81.9%	82.2%	82.4%	82.7%				
Commuter (b)	77.2%	77.4%	78.2%	79.2%	80.2%				
GA operations per based aircraft	1,149	1,140	1,163	975	1,000				

Note: The SDIA Unconstrained Forecast was prepared on a calendar year basis; the FAA 2018 TAF were prepared on a U.S. government fiscal year basis (October through September).

Sources: Base year 2018 (actual)—San Diego County Regional Airport Authority records. SDIA Unconstrained Forecast—LeighFisher, November 2018. FAA 2018 TAF for SDIA—U.S. Department of Transportation, Federal Aviation Administration, www.faa.gov, accessed March 2019.

⁽a) Includes mainline and charter airline activity as summarized in the previous tables in this report.

⁽b) Includes regional affiliate airline activity, which includes flights using regional aircraft with more than 60 seats.



Table 6-3 **SUMMARY OF SDIA CONSTRAINED DEMAND SCENARIO USING FAA TEMPLATE**San Diego International Airport

		Constrained Demand Scenario				Average annual compound growth rates			
	Base year 2018	Base year + 1 year 2019	Base year + 5 years 2023	Base year + 10 years 2028	Base year + 15 years 2033	Base year to +1 year 2018 - 2019	Base year to +5 years 2018 - 2023	Base year to +10 years 2018 - 2028	Base year to +15 years 2018 - 2033
Passenger enplanements									
Air carrier (a)	11,272,706	11,738,000	13,798,000	16,670,000	18,753,000	4.1%	4.1%	4.0%	3.5%
Commuter (b)	853,232	836,000	738,000	249,000	174,000	-2.0%	-2.9%	-11.6%	-10.1%
Total	12,125,938	12,574,000	14,536,000	16,919,000	18,927,000	3.7%	3.7%	3.4%	3.0%
Aircraft operations									
Itinerant									
Air carrier	201,466	206,870	232,240	250,110	264,070	2.7%	2.9%	2.2%	1.8%
Commuter/air taxi	12,497	12,880	6,610	4,650	4,720	3.1%	-12.0%	-9.4%	-6.3%
Total commercial operations	213,963	219,750	238,850	254,760	268,790	2.7%	2.2%	1.8%	1.5%
General aviation	10,337	9,270	9,020	8,390	7,750	-10.3%	-2.7%	-2.1%	-1.9%
Military	758	580	630	650	660	-23.5%	-3.6%	-1.5%	-0.9%
Local									
General aviation									
Military									
Total operations	225,058	229,600	248,500	263,800	277,200	2.0%	2.0%	1.6%	1.4%
Cargo/mail (enplaned + deplaned tons) Based Aircraft	192,351	201,480	228,470	259,790	288,790	4.7%	3.5%	3.1%	2.7%
Single-engine (nonjet)									
Multiengine (nonjet)									
Jet engine	9	9	9	11	11				
Helicopter									
Other	==			<u>==</u>	=				
Total	9	 9	 9	11	11				
Operational factors									
Average aircraft size (seats)									
Air Carrier (a)	161.4	161.6	162.1	162.7	163.2				
Commuter (b)	74.1	74.3	74.9	75.6	76.4				
Average enplaning load factor									
Air Carrier (a)	81.8%	81.9%	82.2%	82.4%	82.7%				
Commuter (b)	77.2%	77.4%	78.2%	79.2%	80.2%				
GA operations per based aircraft	1,149	1,030	1,002	763	705				

Note: The SDIA Constrained Demand Scenario was prepared on a calendar year basis; the FAA 2018 TAF were prepared on a U.S. government fiscal year basis (October through September).

Sources: Base year 2018 (actual)—San Diego County Regional Airport Authority records. SDIA Constrained Demand Scenario—LeighFisher, April 2019. FAA 2018 TAF for SDIA—U.S. Department of Transportation, Federal Aviation Administration, www.faa.gov, accessed March 2019.

⁽a) Includes mainline and charter airline activity as summarized in the previous tables in this report.

⁽b) Includes regional affiliate airline activity, which includes flights using regional aircraft with more than 60 seats.



Appendix A UPDATED REGRESSION ANALYSIS

Regression analysis compares the historical relationship between a dependent variable, in this case, enplaned passengers, and an independent or "predictor" variable. The predictor variable is eventually used to project future levels of the dependent variable. In aviation demand forecasts, the predictor variable is typically represented by an economic or demographic metric such as population, employment, or personal income. Regression analyses produce a mathematical equation that identifies the strength or reliability of the historical correlation between the dependent variable (enplaned passengers) and predictor variables. The statistical reliability of this equation is typically measured by a regression statistic known as "R-squared." An R-squared of 1.0 would represent a perfect historical correlation between the dependent and predictor variable and suggest that the measurement of this historical relationship will be a reliable predictor of future results.

Table A-1 presents the key statistics for the updated domestic O&D passenger regression model based on data for 1990 through 2017.

Table A-1
UPDATED REGRESSION MODEL FOR THE UNCONSTRAINED FORECAST
San Diego International Airport

	Coefficient	t-statistic	P-value
omestic originating passengers			
Dependent variable = In(SDIA domestic originating passengers)			
Independent variables			
In(San Diego County per capita personal income, 2016			
dollars)	0.93	12.03	0.0000
In(SDIA domestic airfares, 2016 dollars)	-0.54	-4.81	0.0001
Dummy variable (2001-2005 downturn)	-0.08	-4.16	0.0004
Dummy variable (2015-2017 service expansion)	0.07	2.62	0.0155
Constant	8.60	6.72	0.0000
Observations	27		
Adjusted R-squared	0.96		



Appendix B

ALTERNATIVE FORECAST SCENARIOS

This appendix summarizes alternative forecasts of enplaned passengers, air cargo, and total aircraft operations for SDIA. In addition to the unconstrained forecasts of aviation activity presented in Section 4 (referred to in this Appendix as "baseline"), "Updated Aviation Activity Forecasts", two alternative scenarios are prepared for planning purposes and to use as tools to manage uncertainty and anticipate the facility requirements associated with alternative levels of aviation activity compared with the baseline forecast.

Scenario Assumptions

Two alternative forecast scenarios were developed based on the analysis of passenger and cargo activity presented in Section 4.

- The High Forecast Scenario is a fast growth scenario reflecting faster regional economic growth than
 the baseline forecasts, as measured by San Diego County per capita personal income, and continued
 gradual decreases in domestic airfares.
- The Low Scenario Forecast is a slow growth scenario reflecting slower regional economic growth than the baseline forecasts, as measured by San Diego County per capita personal income, and gradual increases in domestic airfares.

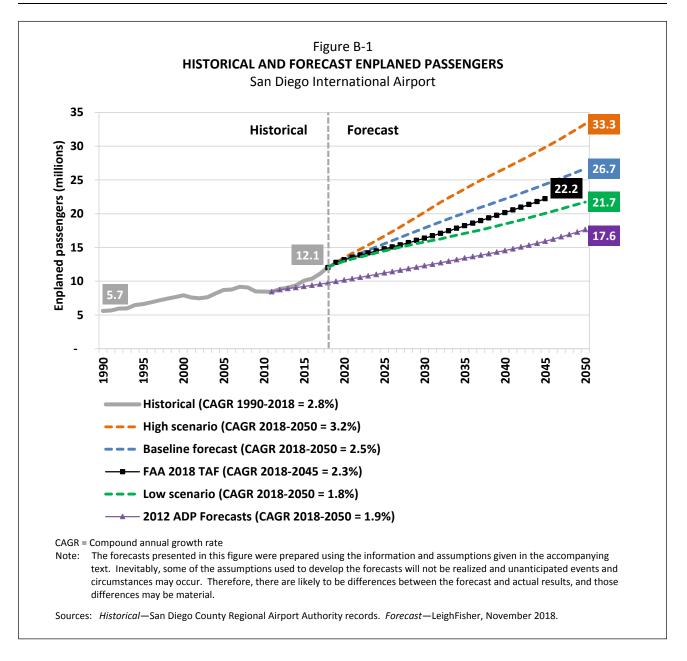
All other assumptions used in the alternative forecast scenarios are unchanged from the baseline forecast, including average load factors, average seats per departure, and cargo carried per operation.

Enplaned Passengers

Figure B-1 presents a comparison of the baseline forecast of enplaned passengers with the alternative forecast scenarios, the FAA 2018 TAF, and the 2012 ADP forecasts. Table B-1 (at the end of this section) presents the detailed alternative scenario forecasts of enplaned passengers.

- In the High Forecast Scenario, the number of passengers at the Airport is forecast to increase from 12.1 million passengers in 2018 to 33.3 million in 2050, an average increase of 3.2% per year. The number of domestic passengers at the Airport is forecast to increase an average of 2.8% per year between 2018 and 2050, compared with an average increase of 7.5% per year in international passenger traffic.
- In the Low Forecast Scenario, the number of passengers at the Airport is forecast to increase from 12.1 million passengers in 2018 to 21.7 million in 2050, an average increase of 1.8% per year. The number of domestic passengers at the Airport is forecast to increase an average of 1.7% per year between 2018 and 2050, compared with an average increase of 3.5% per year in international passenger traffic.





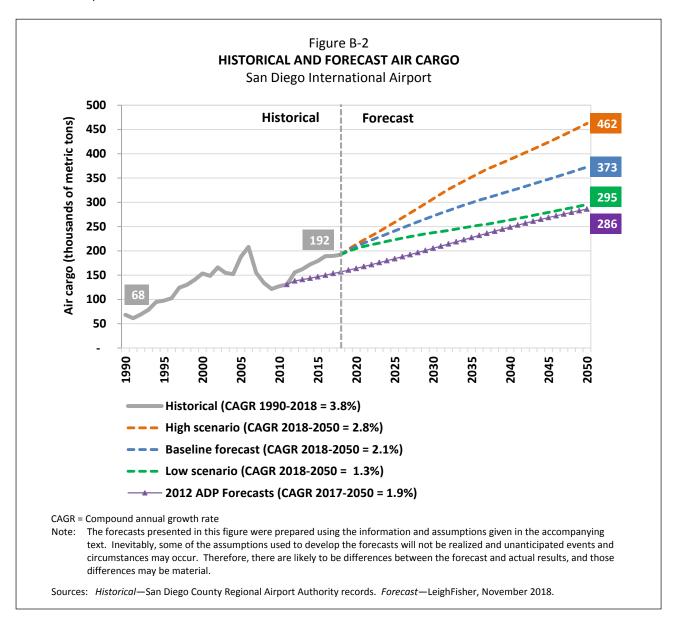
Air Cargo

Figure B-2 presents a comparison of the baseline forecast of total air cargo with the alternative forecast scenarios and the 2012 ADP forecasts. (The FAA does not prepare air cargo forecasts.) Table B-2 (at the end of this section) presents the detailed alternative scenario forecasts of total air cargo.

- In the High Forecast Scenario, total air cargo at the Airport is forecast to increase from 192,351 metric tons in 2018 to 462,480 metric tons in 2050, an average increase of 2.8% per year. Air freight and air mail at the Airport are forecast to increase an average of 2.8% per year between 2018 and 2050.
- In the Low Forecast Scenario, total air cargo at the Airport is forecast to increase from 192,351 metric tons in 2018 to 295,250 metric tons in 2050, an average increase of 1.3% per year. Air freight



and air mail at the Airport is forecast to increase an average of 1.3% per year between 2018 and 2050,



Total Aircraft Operations

Figure B-3 presents a comparison of the baseline forecast of total aircraft operations with the alternative forecast scenarios, the FAA 2018 TAF, and the 2012 ADP forecasts. Table B-3 (at the end of this section) presents the detailed alternative scenario forecasts of total aircraft operations.

• In the High Forecast Scenario, total aircraft operations at the Airport are forecast to increase from 225,058 in 2018 to 565,820 in 2050, an average increase of 2.9% per year. Commercial aircraft operations at the Airport are forecast to increase an average of 3.0% per year between 2018 and 2050, while general aviation are forecast to increase an average of 1.0% per year and military operations are forecast to remain relatively unchanged.



• In the Low Forecast Scenario, total aircraft operations at the Airport are forecast to increase from 225,058 in 2018 to 376,680 in 2050, an average increase of 1.6% per year. Commercial aircraft operations at the Airport are forecast to increase an average of 1.7% per year between 2018 and 2050, while general aviation and military operations are forecast to remain relatively unchanged.

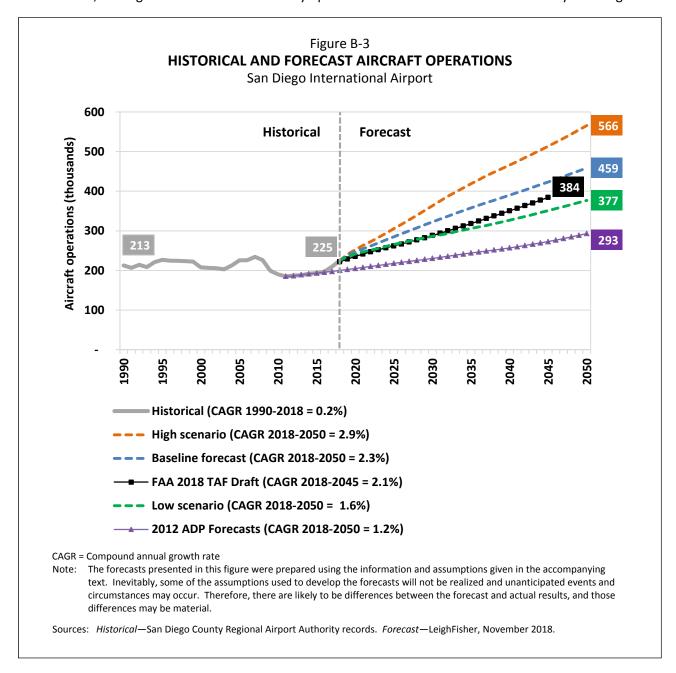




Table B-1
ENPLANED PASSENGER FORECASTS—ALTERNATIVE SCENARIOS

San Diego International Airport

	His	Historical			High Forec	ast Scenario		
	2017	2018	2023	2028	2033	2038	2043	2050
Domestic								
Mainline airline	4,752,261	5,244,306	6,563,400	7,901,200	9,239,800	10,301,700	11,169,200	12,388,400
Regional airline	712,939	853,232	1,127,100	1,423,500	1,746,900	2,044,800	2,328,200	2,765,800
Low cost carrier	5,208,403	5,515,739	6,863,500	8,262,500	9,662,300	10,772,700	11,679,900	12,954,900
Domestic total	10,673,603	11,613,277	14,554,000	17,587,200	20,649,000	23,119,200	25,177,300	28,109,100
International	433,475	512,661	804,700	1,179,300	1,703,400	2,414,800	3,360,100	5,170,300
Total Airport	11,107,078	12,125,938	15,358,700	18,766,500	22,352,400	25,534,000	28,537,400	33,279,400
O&D and connecting enplaned								
passengers								
O&D	10,462,985	11,422,762	14,468,000	17,678,300	21,056,100	24,053,400	26,882,600	31,349,500
Connecting	644,093	<u>703,176</u>	890,700	1,088,200	1,296,300	1,480,600	1,654,800	1,929,900
Total Airport	11,107,078	12,125,938	15,358,700	18,766,500	22,352,400	25,534,000	28,537,400	33,279,400
Percent of total Airport								
O&D	94.2%	94.2%	94.2%	94.2%	94.2%	94.2%	94.2%	94.2%
Connecting	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
		Percent change		Comp	oound annual percent increase (decrease)			
		2017-2018	2018-2023	2023-2028	2028-2033	2033-2038	2038-2043	2043-2050
Domestic								
Mainline airline		10.4%	5.8%	3.8%	3.2%	2.2%	1.6%	1.5%
Regional airline		19.7%	7.2%	4.8	4.2	3.2	2.6	2.5
Low cost carrier		5.9%	5.6%	3.8	3.2	2.2	1.6	1.5
Domestic total		8.8%	5.8%	3.9	3.3	2.3	1.7	1.6
International		18.3%	11.9%	7.9	7.6	7.2	6.8	6.4
Total Airport		9.2%	6.1%	4.1	3.6	2.7	2.2	2.2

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Table B-1 (page 2 of 2)

ENPLANED PASSENGER FORECASTS—ALTERNATIVE SCENARIOS

San Diego International Airport

	His	Historical			Low Foreca	ast Scenario		
	2017	2018	2023	2028	2033	2038	2043	2050
Domestic								
Mainline airline	4,752,261	5,244,306	5,959,400	6,509,000	6,970,700	7,457,700	8,022,100	8,896,600
Regional airline	712,939	853,232	1,024,300	1,174,800	1,321,400	1,484,900	1,677,600	1,992,600
Low cost carrier	5,208,403	5,515,739	6,231,900	6,806,600	7,289,400	7,798,700	8,388,900	9,303,400
Domestic total	10,673,603	11,613,277	13,215,600	14,490,400	15,581,500	16,741,300	18,088,600	20,192,600
International	433,475	512,661	668,100	810,800	969,000	1,135,900	1,306,000	1,536,600
Total Airport	11,107,078	12,125,938	13,883,700	15,301,200	16,550,500	17,877,200	19,394,600	21,729,200
O&D and connecting enplaned								
passengers								
O&D	10,462,985	11,422,762	13,078,700	14,413,900	15,590,800	16,840,600	18,270,000	20,469,100
Connecting	644,093	703,176	805,000	887,300	959,700	1,036,600	1,124,600	1,260,100
Total Airport	11,107,078	12,125,938	13,883,700	15,301,200	16,550,500	17,877,200	19,394,600	21,729,200
Percent of total Airport								
0&D	94.2%	94.2%	94.2%	94.2%	94.2%	94.2%	94.2%	94.2%
Connecting	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
		Percent change		Compound annual percent increase (decrease)				
		2017-2018	2018-2023	2023-2028	2028-2033	2033-2038	2038-2043	2043-2050
Domestic								
Mainline airline		10.4%	3.2%	1.8%	1.4%	1.4%	1.5%	1.5%
Regional airline		19.7%	4.7%	2.8	2.4	2.4	2.5	2.5
Low cost carrier		5.9%	3.1%	1.8	1.4	1.4	1.5	1.5
Domestic total		8.8%	3.3%	1.9	1.5	1.4	1.6	1.6
International		18.3%	6.8%	3.9	3.6	3.2	2.8	2.4
Total Airport		9.2%	3.4%	2.0	1.6	1.6	1.6	1.6

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.



Table B-2
AIR CARGO FORECASTS—ALTERNATIVE SCENARIOS

San Diego International Airport
In metric tons

	Histo	orical						
	2017	2018	2023	2028	2033	2038	2043	2050
Total air cargo								
Air freight								
Enplaned	75,097	72,960	90,450	108,230	126,170	140,940	153,890	173,570
Deplaned	91,038	94,826	118,850	142,270	165,920	185,440	202,640	228,820
Air freight total	166,135	167,786	209,300	250,500	292,090	326,380	356,530	402,390
Mail								
Enplaned	17,691	17,987	22,440	26,890	31,410	35,190	38,570	43,760
Deplaned	5,741	6,578	8,480	10,160	11,840	13,240	14,470	16,330
Mail total	23,432	24,566	30,920	37,050	43,250	48,430	53,040	60,090
Total air cargo								
Enplaned	92,788	90,947	112,890	135,120	157,580	176,130	192,460	217,330
Deplaned	96,779	101,404	127,330	152,430	177,760	198,680	217,110	245,150
Total air cargo	189,567	192,351	240,220	287,550	335,340	374,810	409,570	462,480
Percent of total	·	•	•	•	•	•		
Enplaned	48.9%	47.3%	47.0%	47.0%	47.0%	47.0%	47.0%	47.0%
Deplaned	51.1%	52.7%	53.0%	53.0%	53.0%	53.0%	53.0%	53.0%
Enplaned air freight								
Domestic								
Cargo airline	67,240	64,446	79,630	94,380	108,690	119,330	127,420	138,380
Passenger airline	5,738	5,763	6,790	8,050	9,270	10,180	10,870	11,810
Domestic total	72,979	70,209	86,420	102,430	117,960	129,510	138,290	150,190
International	2,118	2,751	4,030	5,790	8,210	11,430	15,600	23,380
Air freight total	75,097	72,960	90,450	108,220	126,170	140,940	153,890	173,570
Enplaned mail	·	•	•				•	
Cargo airline	15,115	15,027	18,690	22,400	26,170	29,320	32,130	36,450
Passenger airline	2,575	2,961	<u>3,750</u>	4,490	5,250	5,880	6,440	7,310
Mail total	17,691	17,987	22,440	26,890	31,420	35,200	38,570	43,760
Total enplaned air cargo	92,788	90,947	112,890	135,110	157,590	176,140	192,460	217,330



Table B-2 (page 2 of 4)

AIR CARGO FORECASTS—ALTERNATIVE SCENARIOS

San Diego International Airport In metric tons

	Percent increase (decrease) 2017-2018	High Forecast Scenario								
		Compound annual percent increase (decrease)								
		2018-2023	2023-2028	2028-2033	2033-2038	2038-2043	2043-2050			
Total air cargo (enplaned and deplaned)										
Air freight	1.0%	5.7%	3.7%	3.1%	2.2%	1.8%	1.7%			
Mail	4.%	5.9%	3.7	3.1	2.3	1.8	1.8			
Total	1.%	5.7%	3.7	3.1	2.3	1.8	1.8			
Enplaned air freight										
Domestic	(3.8)	5.3%	3.5	2.9	1.9	1.3	1.2			
International	29.9	10.0%	7.5	7.2	6.8	6.4	6.0			

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Table B-2 (page 3 of 4)

AIR CARGO FORECASTS—ALTERNATIVE SCENARIOS

San Diego International Airport

In metric tons

	Historical							
	2017	2018	2023	2028	2033	2038	2043	2050
Total air cargo								
Air freight								
Enplaned	75,097	72,960	81,390	87,450	92,210	97,090	102,710	111,100
Deplaned	91,038	<u>94,826</u>	106,930	<u>114,920</u>	<u>121,180</u>	<u>127,630</u>	<u>135,020</u>	<u>146,080</u>
Air freight total	166,135	167,786	188,320	202,370	213,390	224,720	237,730	257,180
Mail	•	,	,	,	,	,	,	,
Enplaned	17,691	17,987	20,170	21,690	22,890	24,130	25,540	27,640
Deplaned	<u>5,741</u>	<u>6,578</u>	7,630	<u>8,200</u>	<u>8,650</u>	<u>9,110</u>	<u>9,640</u>	10,430
Mail total	23,432	24,566	27,800	29,890	31,540	33,240	35,180	38,070
Total air cargo	•	•	,	,	,	•	,	,
Enplaned	92,788	90,947	101,560	109,140	115,100	121,220	128,250	138,740
Deplaned	96,779	101,404	114,560	123,120	129,830	136,740	144,660	156,510
Total air cargo	189,567	192,351	216,120	232,260	244,930	257,960	272,910	295,250
Percent of total	•	•	,	,	,	•	,	,
Enplaned	48.9%	47.3%	47.0%	47.0%	47.0%	47.0%	47.0%	47.0%
Deplaned	51.1%	52.7%	53.0%	53.0%	53.0%	53.0%	53.0%	53.0%
Enplaned air freight								
Domestic								
Cargo airline	67,240	64,446	71,930	76,950	80,720	84,610	89,200	96,190
Passenger airline	<u>5,738</u>	5,763	6,140	6,570	6,890	7,220	7,610	8,210
Domestic total	72,979	70,209	78,070	83,520	87,610	91,830	96,810	104,400
International	2,118	2,751	3,320	3,940	4,590	5,260	5,900	6,710
Air freight total	75,097	72,960	81,390	87,460	92,200	97,090	102,710	111,110
Enplaned mail								
Cargo airline	15,115	15,027	16,800	18,070	19,070	20,100	21,270	23,020
Passenger airline	2,575	2,961	3,370	3,620	3,820	4,030	4,260	4,620
Mail total	17,691	17,987	20,170	21,690	22,890	24,130	25,530	27,640
Total enplaned air cargo	92,788	90,947	101,560	109,150	115,090	121,220	128,240	138,750



Table B-2 (page 4 of 4)
AIR CARGO FORECASTS—ALTERNATIVE SCENARIOS

San Diego International Airport In metric tons

	Percent increase	Low Forecast Scenario								
	(decrease) 2017-2018	Compound annual percent increase (decrease)								
		2018-2023	2023-2028	2028-2033	2033-2038	2038-2043	2043-2050			
Total air cargo (enplaned and deplaned)										
Air freight	1.0%	2.9%	1.4%	1.1%	1.0%	1.1%	1.1%			
Mail	4.8	3.1%	1.5	1.1	1.1	1.1	1.1			
Total	1.5	3.0%	1.5	1.1	1.0	1.1	1.1			
Enplaned air freight										
Domestic	(3.8)	2.7%	1.4	1.0	0.9	1.1	1.1			
International	29.9	4.8%	3.5	3.1	2.8	2.3	1.9			

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.



Table B-3
AIRCRAFT OPERATIONS FORECASTS—ALTERNATIVE SCENARIOS

San Diego International Airport

	Historical		High Forecast Scenario							
	2017	2018	2023	2028	2033	2038	2043	2050		
Air Carrier										
Passenger airlines	182,712	197,244	252,180	306,270	362,450	411,160	456,030	525,640		
Cargo airlines	4,082	3,850	4,870	5,750	6,590	7,200	7,650	8,290		
Other	1,787	<u>372</u>	800	800	810	<u>810</u>	820	820		
Air Carrier total	188,581	201,466	257,850	312,820	369,850	419,170	464,500	534,750		
Air Taxi										
Cargo airlines	2,716	2,530	3,130	3,700	4,240	4,630	4,920	5,330		
Other	<u>7,946</u>	9,967	11,000	11,000	11,000	11,000	11,000	11,000		
Air Taxi total	10,662	12,497	14,130	14,700	15,240	15,630	15,920	16,330		
General Aviation										
Itinerant	9,613	10,337	10,730	11,280	11,850	12,460	13,090	14,040		
Local										
General Aviation total	9,613	10,337	10,730	11,280	11,850	12,460	13,090	14,040		
Military	707	<u>758</u>	700	700	700	700	700	700		
Total Airport	209,563	225,058	283,410	339,500	397,640	447,960	494,210	565,820		
		Percent								
		increase	High Forecast Scenario							
		(decrease)	Compound annual percent increase (decrease)							
		2017-2018	2018-2023	2023-2028	2028-2033	2033-2038	2038-2043	2043-2050		
Air Carrier								-		
Passenger airlines		8.1%	6.3%	4.0%	3.4%	2.6%	2.1%	2.1%		
Cargo airlines		(5.7)	6.1	3.4	2.8	1.8	1.2	1.2		
Other		(82.1)	21.1	0.0	0.2	0.0	0.2	0.0		
Air Carrier total		6.8	6.4	3.9	3.4	2.5	2.1	2.0		
Air Taxi										
Cargo airlines		(6.8)	5.5	3.4	2.8	1.8	1.2	1.2		
Other		25.4	2.5	0.0	0.0	0.0	0.0	0.0		
Air Taxi total		17.2	3.1	0.8	0.7	0.5	0.4	0.4		
General Aviation		7.5	0.9	1.0	1.0	1.0	1.0	1.0		
Military		7.2	(2.0)	0.0	0.0	0.0	0.0	0.0		
, Total Airport		7.4	5.9	3.7	3.2	2.4	2.0	2.0		

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Table B-3 (page 2 of 2)

AIRCRAFT OPERATIONS FORECASTS—ALTERNATIVE SCENARIOS

San Diego International Airport

	Historical		Low Forecast Scenario							
	2017	2018	2023	2028	2033	2038	2043	2050		
Air Carrier							·			
Passenger airlines	182,712	197,244	228,060	249,960	268,850	288,790	311,590	346,480		
Cargo airlines	4,082	3,850	4,400	4,690	4,890	5,110	5,360	5,760		
Other	1,787	<u>372</u>	800	800	810	810	<u>820</u>	820		
Air Carrier total	188,581	201,466	233,260	255,450	274,550	294,710	317,770	353,060		
Air Taxi										
Cargo airlines	2,716	2,530	2,830	3,010	3,150	3,290	3,450	3,710		
Other	<u>7,946</u>	9,967	9,000	9,000	9,000	9,000	9,000	9,000		
Air Taxi total	10,662	12,497	11,830	12,010	12,150	12,290	12,450	12,710		
General Aviation										
Itinerant	9,613	10,337	10,210	10,210	10,210	10,210	10,210	10,210		
Local										
General Aviation total	9,613	10,337	10,210	10,210	10,210	10,210	10,210	10,210		
Military	<u>707</u>	<u>758</u>	700	700	700	700	700	700		
Total Airport	209,563	225,058	256,000	278,370	297,610	317,910	341,130	376,680		
		Percent								
		increase	Low Forecast Scenario							
		(decrease)	Compound annual percent increase (decrease)							
		2017-2018	2018-2023	2023-2028	2028-2033	2033-2038	2038-2043	2043-2050		
Air Carrier		-					-			
Passenger airlines		8.1%	3.7%	1.9%	1.5%	1.4%	1.5%	1.5%		
Cargo airlines		(5.7)	3.4	1.3	0.8	0.9	1.0	1.0		
Other		(82.1)	21.1	0.0	0.2	0.0	0.2	0.0		
Air Carrier total		6.8	3.7	1.8	1.5	1.4	1.5	1.5		
Air Taxi										
Cargo airlines		(6.8)	2.8	1.2	0.9	0.9	1.0	1.0		
Other		25.4	(2.5)	0.0	0.0	0.0	0.0	0.0		
Air Taxi total		17.2	(1.4)	0.3	0.2	0.2	0.3	0.3		
General Aviation		7.5	(0.3)	0.0	0.0	0.0	0.0	0.0		
Military		7.2	(2.0)	0.0	0.0	0.0	0.0	0.0		
Total Airport		7.4	3.3	1.7	1.3	1.3	1.4	1.4		

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.



Appendix C FAA Approval Letter for the Forecasts



Western-Pacific Region Airports Division Los Angeles Airports District Office 777 S. Aviation Blvd, Suite 105 El Segundo, CA 90245

June 19, 2019

Administration

Ted Anasis, AICP Manager—Planning and Environmental Affairs, SDCRAA PO Box 82776 San Diego, CA 92138

San Diego International Airport (SAN) Aviation Activity Forecast Approval

Dear Mr. Anasis,

The Federal Aviation Administration (FAA) has reviewed and approves the aviation forecast for the San Diego International Airport (SAN) dated May 17, 2019. This approval replaces the previous forecast approval from December 20, 2018 which presented unconstrained forecasts for SAN. As described in your letter (enclosed), SAN has since developed a constrained demand scenario which evaluated the limitation of SAN's single runway on unconstrained forecast growth.

Section 4.5 of the forecast analyzes the design aircraft and concludes that SAN's design aircraft is the Boeing 777. The most demanding group of aircraft that conducted at least 500 operations in 2017 had an Airport Reference Code of D-V, represented by a combination of the Boeing 777 (426 operations) and the Boeing 747-400 (282 operations). Based on FAA review of the Traffic Flow Management System Counts and FAA Advisory Circular 150/5000-17 *Critical Aircraft and Regular Use Determination*, the FAA agrees that SAN's design aircraft may change to Boeing 787-9 in the future.

It is important to note that the approval of this forecast does not guarantee future funding for capital improvements and will need to be further analyzed for Airport Improvement Program eligibility purposes.

If you have any questions about this forecast approval, please call me at 424-405-7276.

Sincerely,

Brenda Pérez Community Planner

Enc. Request for Reapproval of Aviation Activity Forecasts for San Diego International Airport



May 17, 2019

Federal Aviation Administration
Western-Pacific Region Airports Division
Attn: Ms. Brenda Perez
777 South Aviation Blvd, Suite 150
El Segundo, California 90245

Re: Request for Reapproval of Aviation Activity Forecasts for San Diego International Airport

Dear Ms. Perez:

The San Diego County Regional Airport Authority (the Authority) is pleased to provide an updated technical memorandum of the Aviation Activity Forecast Update for San Diego International Airport (SDIA) for the FAA's review and approval. The memorandum is provided in draft form and will be finalized following the FAA's review and approval, incorporating the FAA's communication into the final form. The Authority does not anticipate the need for or the preparation of additional forecasts or demand scenarios.

In December 2018, the FAA reviewed and approved unconstrained forecasts for SDIA, which were updated to reflect a 2018 base year and the strong growth in passenger traffic that has occurred since the forecasts for the Airport Development Plan (ADP) were prepared in 2012 and approved by the FAA in its letter dated May 7, 2013. Similar to the FAA's Terminal Area Forecast (TAF), SDIA's December 2018 approved forecasts are demand driven based on local and national economic conditions and do not include specific assumptions about physical, regulatory, environmental or other impediments to aviation activity growth.

Since the FAA approved SDIA's baseline unconstrained forecasts as the "preferred" forecasts in December 2018, subsequent analyses were conducted, including the development of Design Day Future Schedules (DDFSs) derived from the approved unconstrained forecasts. (The development of unconstrained DDFSs is dependent on approved annual forecasts to provide the basis for the derivation of average day peak month (ADPM) activity which serves as the control totals for the DDFSs.) These analyses indicated that:

- The capacity of SDIA's single runway, an estimated 50 operations per hour, will be exceeded starting in 2024 based on the unconstrained forecast DDFSs
- SDIA's unconstrained demand could be met until approximately 2030, assuming that:
 - Load factors increase to an average of 90%, compared with 84% in the unconstrained forecast
 - Aircraft gauge, in terms of the average number of seats per operation, increases to an average of 175 seats per operation, compared with 151 in the unconstrained forecast



- Airline schedules are rebalanced to provide for the addition of new flights in off-peak hours
- Slower growth in the number of cargo airline operations occurs in a constrained environment, reflecting an increase in the average tonnage per operation
- The number and share of general aviation and military operations at SDIA gradually decrease, given the hourly operation limitations and increasing dominance of passenger airline operations
- The primarily narrowbody fleet of the airlines serving SDIA, accounting for 82.5% of passenger airline operations in 2018, as well as their orders for primarily narrowbody aircraft replacements, limit the ability of SDIA to meet unconstrained forecast demand
- In 2050, unmet demand, in term of enplaned passengers, is estimated to reach 6.4 million, i.e., 26.7 million enplaned passengers in the unconstrained forecast less 20.3 million passengers in the constrained demand scenario

In short, SDIA's unconstrained forecasts provided the necessary basis for the development of a constrained demand scenario which, in turn, allowed the Authority to evaluate the limitations of SDIA's single runway on unconstrained forecast growth. A description of the development of the constrained demand scenario is provided in Section 5.0 of the updated technical memorandum. At this time, the Authority is requesting the FAA's review and approval of the constrained demand scenario presented in this memorandum to represent the "preferred scenario", which will be used for airport planning, NEPA review, and Part 150/Noise analyses.

Per the FAA guidance, a comparison of the constrained demand scenario and the FAA 2018 Terminal Area Forecast (TAF) for SDIA is provided in the Technical Memorandum. The tables depicting the comparison can be found in Section 6.0 (Page 40) and show that both the updated <u>unconstrained</u> forecast and <u>constrained</u> demand scenario are within the allowed variance of the 2018 TAF.

Should you have any questions or comments regarding the forecast or the San Diego International Airport Development Plan, please contact me at tanasis@san.org or (619) 400-2478. Thank you for your continued coordination and assistance.

Respectfully,

Ted Anasis, AICP

Ted anasis

Manager – Planning & Environmental Affairs San Diego County Regional Airport Authority

cc: Richard Dykas, FAA



Appendix D

CONSTRAINED DEMAND SCENARIO TECHNICAL APPENDIX

San Diego International Airport (SDIA) will not accommodate the unconstrained forecast level of demand for air service. The Airport's single runway does not provide enough capacity to serve the San Diego region's predicted growth in air operations as identified in Section 4 of this report. A Constrained Demand Scenario has been developed in response to the runway capacity limitations and the results are provided in Section 5 of this report.

The Airport's capacity limitations are well known and have been studied for more than three decades. The 2018 ADP Unconstrained Forecast Update of aviation demand for the San Diego region shows that within five to seven years, there will be more demand for air service than the Airport can accommodate. The San Diego County Regional Airport Authority (SDCRAA or Authority) asked Johnson Aviation to review the draft unconstrained forecasts update and analyze the facility constraints at SDIA. In collaboration with Leigh Fisher, Johnson Aviation developed the Constrained Demand Scenario in response to the growing aviation demand and limited airport capacity at SDIA. This Technical Appendix provides a summary of the information that was used in the analysis.

The following information is presented in this Technical Appendix:

- The operational capacity of San Diego International Airport's single runway; and
- How the constrained runway impacts future growth in operations and passengers.

The results of the constrained facilities assessment show that:

- The hourly sustained throughput capacity limit of SDIA's single runway is 50 operations per hour (landings and/or takeoffs);
- Airlines will attempt to serve as much of the passenger demand as possible with average load factors of up to 90 percent; and
- Airlines will further attempt to serve as much of the passenger demand as possible by replacing smaller regional jet aircraft in the fleet with narrow body aircraft, raising the average seats per operation to 175.

As shown in Section 5 of this report, growth in operations will begin to slow relative to the forecast of unconstrained demand as the Airport's capacity limit is reached and congestion increases. Therefore, it is necessary to prepare an analysis of *constrained* demand to predict activity levels that the Airport can realistically accommodate. This results in a *constrained aviation demand scenario* and in lower levels of predicted airplane operations and passenger enplanements in future years reflective of the Airport's actual capacity limitations.

D.1 Purpose and Approach

The purpose of the constrained facilities analysis is to inform readers about San Diego International Airport's runway constraint and how it will impact future activity levels identified in the Constrained Demand Scenario.

The approach used to assess facility constraints was to review prior analyses of the Airport's runway capacity and delay, review updated air traffic control and aircraft fleet information, review airline



operational and service trends, and identify the likely maximum sustained operations and passenger throughputs the Airport can accommodate.

The information provided in this chapter was used to prepare the constrained demand scenario of aviation activity which better reflects future operations and passenger levels. The constrained demand scenario of future activity levels will be used to prepare operations simulations and environmental impact analyses of reasonably foreseeable impacts documented in the Environmental Impact Report (EIR), prepared under the California Environmental Quality Act (CEQA), and Environmental Assessment, prepared under the National Environmental Policy Act (NEPA).

D.2 Background

This section provides the background on constrained aviation activity analysis and the historical context of the constrained demand scenario at SDIA.

D.2.1 Airport Development Plan Forecasts

The Airport Development Plan (ADP) was initiated by the Airport Authority in 2011 to plan for facility improvements at SDIA. One of the first steps in the ADP process was to prepare a forecast of aviation activity. The ADP forecast was completed in 2012 and was based on historical data through 2011 (See Appendix C). The 2012 forecast predicted that passenger levels would grow at an average annual rate of 1.9% between 2011 and 2050, while operations would grow at an average annual rate of 1.2% between 2011 and 2050. These rates of growth were relatively modest and did not predict that the Airport's capacity limitations would be reached until after 2040, which was beyond the ADP planning horizon. Therefore, there was no need to prepare a constrained facilities analysis and constrained demand scenario that would identify limitations in predicted levels of passenger and operations activity.

The ADP planning process continued, and the proposed ADP projects were documented in a Draft Environmental Impact Report (EIR) published in 2018. Between 2012 and 2018, SDIA experienced five consecutive years of record passenger and operations growth that exceeded the forecast rate of growth.

The Airport Authority initiated an update to the aviation activity forecast in 2018 to reflect recent growth and better inform the analysis of potential environmental impacts associated with the ADP. Sections 2, 3, and 4 of this report present these findings and updated forecasts. Like the 2012 forecast, the 2018 forecast update is unconstrained. A fundamental assumption of an unconstrained forecast is the availability of adequate capacity to accommodate the predicted demand. The updated draft unconstrained forecast was submitted to FAA for review and was approved by FAA in December 2018.

The 2018 Baseline forecast predicts that aircraft operations will exceed 260,000 annually by 2022 and 300,000 by 2026. Previous demand-capacity analysis of SDIA's single runway show that it would become severely congested at these levels of activity and that it would not accommodate activity beyond approximately 300,000 annual operations. Therefore, it is necessary to include a constrained demand scenario that better reflects the Airport's facility limitations on future growth.

D.2.2 San Diego's Long History of Capacity Studies

The operational limit of SDIA's Runway 9/27 is not a new issue for the Airport Authority or the San Diego region. Recognition of the Airport's runway limitations date back to the 1950s and robust analysis of the Airport's capacity limits were reviewed with planning and forecasting studies in 1980, and again in the mid-1990s. Planning studies in 2001 and 2004 were conducted in response to continued growth with the intent to establish the limit of the Airport's runway capacity and the Airport's ability to accommodate passenger demand. The analyses culminated in the decision to consider relocation of the San Diego region's main commercial service airport in 2007 with a vote of San Diego County residents, who defeated a ballot



measure that would have affirmed the recommendation to relocate the Airport. The voters' decision was made, and the region has moved forward with improvements at San Diego International Airport knowing that, at some future point, the Airport's operational limitations would curtail further growth in air service.

The Great Recession from 2008 to 2009 reduced aviation demand in the United States and in the San Diego region. When the previous forecast of aviation activity was completed for the ADP in 2011, it appeared that growth in air operations would not exceed the Airport's runway capacity until sometime between 2040 and 2050. However, since 2011, economic growth in the region combined with strong airfare competition at SDIA have resulted in five straight years of record growth. In 2018, SDIA accommodated more than 24 million passengers and 225,000 operations, the highest levels of activity in the Airport's history. The updated forecast, which considers the recent growth in activity, predicts that demand for air service will outstrip the Airport's capacity within the next five to seven years.

Studies going back to 1980 identified the constraints of SDIA's small land area, limited airport facilities, and single runway. As operations grew over time, these limitations became clearer. Economic downturns and air service changes over time have forestalled the operational limits of the single runway. Studies in the late 1970s by the San Diego Community Planning Organization and in the 1980 Port Master Plan by the Port District called out the small land area of Lindbergh Field and its downtown airport location adjacent to extensive urban development. These studies explored relocation alternatives and planned for an evaluation again in the mid-1990s.

The Airport Development Study in the late 1980s and the Immediate Action Plan in the mid-1990s studied constrained forecasts of passengers and operations based on the then average aircraft seating capacities and typical airline load factors. Each assessed growing passenger demand in San Diego County and the need for additional airport capacity to meet the long-term demand. Terminal improvements and additional aircraft gates were the immediate focus, while regional efforts were underway to study relocation of the Airport due to the limited capacity of the single runway.

In 2001, a Master Plan update for SDIA was completed but not adopted prior to the terrorist attacks of September 11, 2001. This Master Plan was based on demand forecasts prepared in 1998 and updated in 2001 during the middle and the end of the Dot-com and Telecom economic bubbles and subsequent economic fallout. The economic and travel downturn again reduced the immediate operational limitation of the single runway.

The most extensive previous forecast exercise for SDIA was completed in 2004 by SH&E, Inc. and was subsequently used to drive the planning and development of the Airport over the last decade. This was the first study prepared for the newly-created Airport Authority and it addressed both unconstrained demand forecasts and constrained activity forecasts. It informed the 2006 Site Selection Study and the 2008 Airport Master Plan.

D.2.3 Runway Demand-Capacity Analysis

Airport planners have long studied runway demand and capacity as a fundamental driver of airport facility requirements. Runways, like roadways, have finite capacity. The capacity of a runway is measured in terms of hourly, daily, and annual aircraft operations at an acceptable level of delay. Much like a roadway, as demand (the number of landings and takeoffs) increases, congestion ("delay") increases.

Airport planning studies use demand-capacity analysis to determine the limitations of existing runway infrastructure and assess the timing for construction of new or improved runway facilities necessary to accommodate growing demand. When airport facilities are limited by physical constraints that cannot be removed or remedied, the same analytical techniques can be used to predict the airport's operational limits.



D.2.4 FAA Capacity Analysis

The Federal Aviation Administration (FAA) studies airport capacity in the United States. Their goal is to "identify airports that are likely to need more capacity to accommodate anticipated growth in demand." These studies were conducted and documented by the Future Airport Capacity Task (FACT) reports. The results of the 2007 FAA FACT2 report state that SDIA will become constrained in approximately 2025 "even if all planned improvements are implemented;" and that "additional capacity enhancement is needed." The most recent report, FACT3, was published in 2015. The results of that study show that significant nationwide improvements in capacity have been made over the ten-year period from 2005 to 2015. These improvements were largely a result of the construction of 18 new runways and seven extended runways at 21 busy hub airports since 2000. However, SDIA is not one of the 21 airports with recent capacity improvements.

The FAA is also responsible for operating the United States airspace and air traffic control system and improvements have been made in the way air traffic is managed. These improvements are primarily based on the implementation of satellite-based air navigation to replace some functions of ground-based navigation. These improvements have enabled increased efficiency of arrivals and departures in and out of airports. Again, some technology and airspace improvements have helped to make SDIA operate more reliably relative to air traffic at other regional airports but these improvements have not increased the operational capacity of the single runway.

As part of the FACT3 process, FAA also published an Airport Capacity Profile for SDIA in May 2014 based on analysis completed by MITRE Corporation. The report states that SDIA's air traffic control (ATC) reported hourly rate of operations is 48, with a maximum model-estimated hourly throughput of 57 operations per hour during good "visual" weather. The higher model-estimated levels of traffic are rarely encountered and not sustained for more than a short period of time. This study also lacks an analysis of the congestion or delay level that flights would encounter at this level of operations to understand the real-world sustained throughput capacity of the runway. FAA's capacity profile for SDIA noted that these throughput rates are during visual conditions and that the lack of a full-length parallel taxiway on the north side of the runway could slightly reduce the reported capacity. When marginal or instrument weather conditions are present at SDIA, the model-estimated rate falls to 48 operations per hour, matching the ATC reported rate.

A key takeaway from the FAA's SDIA capacity profile is that ATC reports a maximum hourly throughput of 48 landings and takeoffs in all conditions. Further, the report does not anticipate that future enhancements in air traffic control and air navigation technology will improve these rates by more than approximately two percent. For SDIA to operate at a sustained rate of 48 to 50 operations per hour, one landing or takeoff would need to occur approximately every 72 to 75 seconds.

D.3 Constrained Facilities

San Diego International Airport is comprised of 661 acres of land. It is the smallest major airport in the United States. Further, the Airport is bounded by water, major roadways, dense urban development, and military facilities that would be exceedingly difficult and expensive to move or acquire. The limited real estate prevents the Airport from adding runway capacity. This section provides a review of the airport facilities that accommodate aircraft operations and describes how they work as a system. Each part is critical to the capacity of the overall system and a constraint in one part can limit the capacity of the entire system.

D.3.1 Runway

San Diego International Airport has one runway. Runway 9/27 is 9,401 feet long and is 200 feet wide. The single runway is the Airport's primary constraint.



There are a variety of variables that can affect the capacity of a runway. These variables include the runway length, width, pavement strength, orientation relative to prevailing winds, prevailing weather conditions, obstructions in the vicinity, and the fleet mix of aircraft using the airport.

Runway 9/27 is long enough, wide enough, and has enough strength to accommodate the fleet of aircraft serving US domestic air service and some limited long-haul international air service. The runway is oriented appropriately with the prevailing winds, and the region has excellent or marginal weather conditions more than 98% of the time, according to FAA's airport capacity profile report. San Diego International Airport is also served by a fleet of aircraft composed mostly of large, narrow body jet aircraft, which enables highly efficient use of the runway.

There is, however, a fundamental limitation to the number of landings and take-offs that can be accommodated in any given amount of time with a single runway. This limitation is primarily driven by the need to maintain in-trail separation between landing and departing airplanes.

FAA rules governing the separation of large jet aircraft dictate that large jet aircraft are separated by a minimum of three miles, when flying the final approach path to the Airport. The required separation results in a minimum time between operations of approximately 70 to 90 seconds. When the runway is operating at its maximum throughput rate, a plane lands or takes off every 72 seconds resulting in an hourly throughput limit of 50 operations.

It is very difficult to maintain this high level of ideal operational efficiency for more than 10 to 20 minutes at a time. It is not feasible to operate at the maximum throughput rate for extended periods of time for the following reasons:

- Aircraft are arriving at San Diego from all over the country and from other parts of the world. If
 flights are delayed at their originating airport, or enroute to San Diego, they will disrupt the timing
 of aircraft into the terminal airspace.
- This high degree of efficiency requires that aircraft land and quickly exit the runway to make room
 for the next plane to land. If a plane misses a runway exit and cannot efficiently leave the runway,
 the next landing aircraft may need to execute a missed approach to maintain safe separation.
 Missed approach procedures are conducted to ensure that that airport operations are conducted in
 a safe manner.
- Departing aircraft may be delayed at the gate for many reasons including late passengers, late cargo, or other complications with servicing.
- And, of course, once a plane is delayed, even if it is delayed at another airport, its schedule may be disrupted for the remainder of its flying day.

As noted earlier, the hourly throughput capacity of SDIA's single runway is approximately one landing or one take-off every 72 to 75 seconds. This is equivalent to about 50 operations per hour. Once there is a disruption introduced to the operation, delays will begin to accrue and continue building, until there is a break in the demand that allows operations to recover and return to normal flow.

The Authority contracted SH&E, Inc. in 2004 to conduct a capacity and delay analysis for SDIA as part of an aviation activity forecast analysis. SH&E used a two-phased modeling approach. According to their technical report; "one phase of the analysis used models initially developed at the Massachusetts Institute of Technology (MIT) to assess the capacity and delay impacts of the Airport's most limiting constraint, its single runway. The other phase of the analysis used a high-level-of-detail simulation, SIMMOD, to analyze



airspace, runway, taxiway, and gate congestion." The analysis of SDIA's runway capacity completed in 2004 remains valid, today because the operational variables have changed only minimally.

The results of the modeling analysis completed in 2004 show that the Airport continues to operate with relatively moderate delay levels up to about 250,000 annual operations. Average annual all-weather delays exceed ten minutes per operation at 250,000 annual operations. Delays continue increasing rapidly reaching nearly 20 minutes per operation when demand reaches 285,000 annual operations. Figure D-1 depicts the relationship between growing annual operations at SDIA to the measured minutes per operation of average, all-weather delays**.

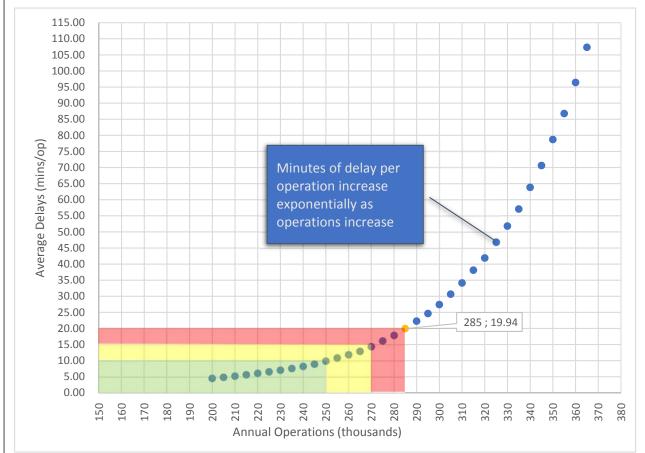
^{** &}quot;All-Weather" conditions refer to the weighted average percentage of time with cloud height and visibility conditions that dictate specific air traffic control operating rules at an airport. These conditions range from visual meteorological conditions (VMC or weather conditions that allow pilots to navigate by seeing and avoiding other air traffic and potential obstructions), marginal VMC (below visual conditions minima but better than instrument conditions) and instrument meteorological conditions (IMC or weather conditions that require exclusive use of instrument equipment and procedures for navigation).



Figure D-1

ANNUAL RUNWAY-RELATED DELAYS UNDER ALL WEATHER CONDITIONS

San Diego International Airport



Sources: SH&E, Inc., Final San Diego International Airport Aviation Activity Forecasts, San Diego County Regional Airport Authority, June 2004 Johnson Aviation, Inc. analysis, 2019



Figure D-1 demonstrates that once demand exceeds capacity, delays (as measured in minutes per operation) increase exponentially for each additional operation. The FAA has studied airport runway capacity for decades and has established policy guidance for planners to perform benefit cost analysis for construction of new runway infrastructure. While no new runway infrastructure is being contemplated at SDIA, it is helpful to review and consider FAA's policy guidance:

Airports experiencing severe delay due to congestion will not be able to accommodate rising demand for air service. Average delay per operation of 10 minutes or more may be considered severe. At 20 minutes [of] average delay (approximately the highest recorded average delay per operation known to FAA at an airport in the U.S.), growth in operations at the airport will largely cease. Prior to reaching these levels, airlines would begin to use larger aircraft, adjust schedules, and cancel or consolidate flights during peak delay periods. Passengers would make use of alternative airports, seek other means of transportation (e.g., automobile or train), or simply avoid making some trips ††.

The following are findings from the 2004 SH&E, Inc. integrated modeling approach completed as part of the San Diego Aviation Activity Forecast and the extensive capacity and delay analysis performed as part of that study:

- Growth in good-weather and all-weather delays begins to accelerate rapidly as demand moves
 towards a level of 260,000 annual operations. Even prior to reaching this point, infrastructure
 improvements would be beneficial, particularly given the low-cost carrier presence at SDIA and their
 focus on maintaining efficient operations and high levels of aircraft utilization.
- As flight activity grows beyond 260,000 annual operations, runway-related delays average more
 than 10 minutes per flight across all weather conditions. During Instrument Flight Rules (IFR)
 weather conditions, which occur 29 percent of the time, runway-related delays will average more
 than 28 minutes per flight. This level of runway congestion and delay is expected to limit the
 Airport's ability to fully accommodate growth in underlying demand. At this point, additional
 runway capacity is required.
- At 300,000 annual operations, severe runway congestion will virtually eliminate further growth.
- The single runway is clearly the most limiting constraint at SDIA, and the most likely to have an impact on future growth in demand.

For preparing this constrained demand scenario, SDIA's hourly runway throughput is set at 50 operations. This ensures that the forecast of aviation activity reflects an activity level that may be achieved at SDIA albeit with potentially severe operational delays at these sustained activity levels. The hourly throughput limitation is established based on:

- The FAA guidance on preparation of benefit cost analysis for runway infrastructure projects;
- The integrated modeling analysis previously completed for SDIA and updated for current activity levels that demonstrates SDIA's delay levels exceeding 20 minutes at about 285,000 annual operations;

^{††} It should be noted that these are average delay savings per operation, and reflect the averaging of minimal delays in non-peak hours with very long delays at peak hours. Passengers and airlines will react first to the excess delays at peak hours. FAA Benefit-Cost Analysis Guidance, 1999, Update 2010.



- Interviews conducted with the SDIA Chief of Airport Operations and the FAA Air Traffic Control Tower Chief at SDIA; and
- Reviews of operations parameters including airfield layout, fleet mix, weather, and airspace.

D.3.2 Taxiway System

Taxiways connect terminal, cargo, and aircraft servicing facilities to the runway system. SDIA has a full-length taxiway parallel to Runway 9/27 on the south side of the runway called Taxiway B. Taxiway B connects the passenger airline terminal facilities to Runway 9/27.

Taxiway C is located north of and parallel to Runway 9/27 but only extends along the eastern half of the runway. The lack of a full-length parallel taxiway on the north side of the runway presents an operational challenge. When cargo and general aviation aircraft land on Runway 27, they have about 3,350 feet of runway to slow down and exit the runway to the north on Taxiway C5. If these landing aircraft cannot slow down and exit at Taxiway C5 they must exit to the south toward Taxiway B and taxi back to the east to cross Runway 9/27 to reach the cargo and general aviation facilities. Each time one of these operations occurs, Air Traffic Control must provide enough separation between landing and takeoff operations to enable the taxing aircraft to cross the runway. This interruption to the flow of landings and takeoffs can result in additional operational delays.

There is no plan to extend Taxiway C due to a lack of available land.

D.3.3 Terminal/Aircraft Gates

Aircraft gates are parking positions that are used while passengers enplane and deplane. SDIA currently has 51 gates with T1, T2 East, and T2 West having 19, 13, and 19 gates, respectively. Terminal 1 is the oldest existing terminal facility having opened in 1967 and needs replacement to provide a level of customer service equivalent to that provided at Terminal 2 West, SDIA's newest terminal facility that was built in 1998 and expanded in 2014.

The Airport proposes to replace Terminal 1 with a new terminal that would replace the 19 existing Terminal 1 gates and provide eleven additional gates. The proposed terminal facilities will provide a higher-level of customer service, provide more efficient security screening facilities that meet current standards, provide additional concessions opportunities for passengers, and relocate aircraft gates south to provide more efficient taxing of aircraft near the new terminal facility.

D.4 Market Responses

Passengers and airlines will likely respond to increased congestion through several mechanisms that will enable SDIA to accommodate growing passenger demand at an operationally limited facility. The mechanisms available to the airlines, to the Airport, and to the flying public are summarized below.

D.4.1 Flight Scheduling Adjustments (De-peaking)

Airline schedules at most airports are peaked. This means that there are periods of the day with a lot of activity followed by periods of the day with lower levels of activity. This contrast is most obvious between day and night and reflect the desire of most people to fly during the day. Even within the course of the day, there are periods of high and low activity. At SDIA there is a very busy period of activity between about 9 AM and 11 AM. This period is busy, because it reflects a time of day that many people prefer to fly east to arrive at these airports before it is excessively late.

Even today, SDIA is operating near its maximum throughput rate between the hours of 9 AM and 11 AM. There is little available capacity for airlines to schedule additional departures during this period. Therefore,



airlines will schedule additional activity during earlier or later periods, when activity levels at SDIA are not as congested.

This solution is available until SDIA is operating at or near its capacity for the duration of its operating day.

It is essential to note that SDIA has a curfew that prohibits departures between the hours of 11:30 PM and 6:30 AM. For this reason, SDIA has fewer "red-eye" flights to eastern airports than its west coast peer airports. It is assumed that SDIA's curfew will remain in effect in the future and that there will be no additional scheduled flights that depart the gate after 11:15 PM or before 6:15 AM or departing flights during the hours of 11:30 PM and 6:30 AM.

D.4.2 Fleet Mix Adjustments

Airlines may choose to change the aircraft they use to serve SDIA to better serve demand. Most airlines fly a range of aircraft types that vary in size. As demand increases at SDIA, airlines may choose to use larger aircraft to serve selected markets in lieu of adding additional flights.

SDIA is already characterized by a homogeneous fleet of aircraft in that about 82% of flights are narrow-body jet aircraft in the Boeing 737 and 757 families and the Airbus A320 family.

Airlines are faced with some limitations in their ability to serve one airport with larger aircraft despite the full range of aircraft in their fleet. Limitations include the fact that most airlines serve domestic routes with exclusively narrow-body aircraft while wide-body aircraft are used almost exclusively on international routes. Further, airlines use aircraft for twenty years or more and generally do not purchase aircraft with the intent to serve a single market.

As demand and congestion increase and airlines still desire to add capacity during peak periods, they will substitute larger narrow-body aircraft to serve demand. For example, an airline that serves SDIA on a route with a Boeing 737-700 may use a Boeing 737-800 in the future. The 737-700 provides 143 seats in a single-class layout while the 737-800 provides 175 seats. Switching from an Airbus A320 with 150 seats to an Airbus A321 with 181 seats would provide 31 additional seats per flight.

The constrained demand scenario analysis anticipates that airlines will serve markets from SDIA with larger narrow-body aircraft and that average seats per departure will increase from about 155 seats to 175 seats as the Airport becomes increasingly constrained.

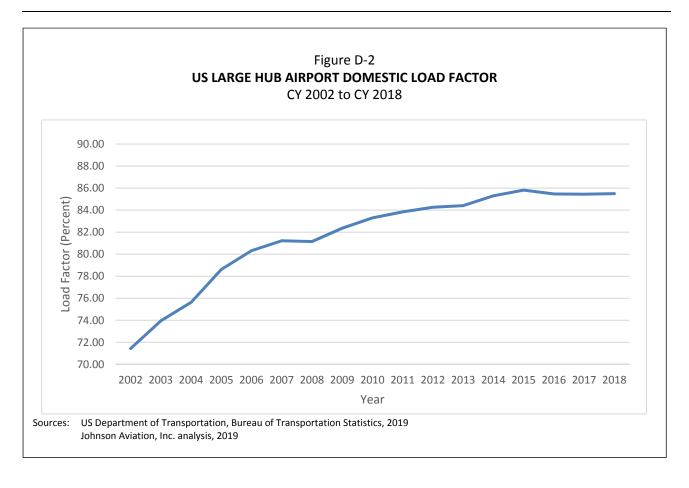
D.4.3 Increasing Load Factor

Load factor is a measure of the percent of occupied seats relative to the percent of available seats. If an airplane departs with 100 available seats and 80 are occupied by passengers, the aircraft has a load factor of 80%.

As demand increases and airlines cannot add flights or increase aircraft size, more of the available seats will be occupied reflective of increased demand. As shown in Figure D-2, Airline load factors in the United States of steadily increased from about 72 percent in 2002 to nearly 86 percent in 2018. Since 2015, however, the rise in load factors has stabilized and plateaued reflecting the reality that is very difficult for every available seat to be occupied on every departing flight.

SDIA already has relatively high load factors compared to its peer airports. In 2017, SDIA's average load factors exceeded 86%. The constrained demand analysis estimates that SDIA's average load factors will increase to 90%.





D.4.4 Seat Pricing

Basic economic theory concludes that price is a product of supply and demand. As SDIA becomes increasingly congested the demand for air service will steadily outpace the supply of available seats. Airlines are likely to steadily increase fares as a result. This constrained facilities analysis and resulting constrained demand scenario does not evaluate the effect of rising prices on demand for air service at SDIA, but does acknowledge that higher fares are a likely result of increasing congestion at SDIA. The assumption is that airlines, as profit-motivated entities, will balance supply and demand over time to maintain pricing power and to maximize revenue per seat (yield).

D.4.5 Policy

Federal and local agencies may also introduce policies to address an increase in demand that leads to severe congestion. FAA has the authority to and has implemented controls at highly congested airports in New York that limit the number of permitted scheduled operations in a given hour or 30-minute period. New York LaGuardia Airport is limited to 71 hourly operations. If delays at SDIA reached excessive levels as determined by FAA, it would have the right to impose operational and scheduling restrictions on flights to and from SDIA to combat excessive delays.

The San Diego County Regional Airport Authority (SDCRAA) has some limited discretion to enact policies that encourage airlines to schedule flights in a manner that avoids excessive delays. However, there are strict limitations to the SDCRAA's ability to unilaterally impose restrictions under FAA Grant Assurances for public use airports. The SDCRAA's policy approach would require coordination with the airlines, along with their approval, to enact scheduling policies that prevent excessive delays.



Appendix E 2012 ADP Forecast Report

Leigh|Fisher

In association with:
Gensler
URS Corporation
Connico
Jacobsen/Daniels Associates
LandUse USA
Lea + Elliott
Redhill Group
Simon Wong Engineering



TECHNICAL MEMORANDUM – AVIATION DEMAND FORECASTS

AIRPORT DEVELOPMENT PLAN

San Diego International Airport

Prepared for

San Diego County Regional Airport Authority San Diego, CA

March 2013







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SDIA AIRPORT DEVELOPMENT PLAN



CHICAGO AMSTERDAM
CINCINNATI BOLOGNA
DALLAS EDINBURGH
SAN FRANCISCO GLASGOW
WASHINGTON, D.C. LONDON
OTTAWA MANCHESTER
TORONTO NEW DELHI
READING



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CHAPTER 1 INTRODUCTION AND SUMMARY

This technical memorandum presents forecasts of aviation activity in support of the Airport Development Plan (ADP) for San Diego International Airport (the Airport or SDIA). The forecasts presented in this memorandum are "unconstrained" and, therefore, do not include specific assumptions about physical, regulatory, environmental or other impediments to aviation activity growth. The baseline unconstrained forecasts are the "preferred" forecasts recommended for FAA approval. Forecasts of aviation activity are presented for enplaned passengers, air cargo, and aircraft operations, including passenger, all-cargo, general aviation, and military operations. Using calendar year 2011 as the base year, annual forecasts were prepared for five future demand years—2016, 2021, 2026, 2031, and 2050. In addition, aviation activity for 2012 was estimated based on year to date activity (January through May 2012) available when this report was prepared.

FORECAST PROCESS AND APPROACH

The SDIA Airport Development Plan forecasts were prepared using a collaborative process which included: (1) a review of previous forecasts prepared for the Airport, including SDIA planning forecasts prepared in 2007 and the Federal Aviation Administration (FAA) 2011 Terminal Area Forecasts (TAF) for the Airport; (2) the collection and analysis of data related to the key issues and trends affecting future aviation demand at SDIA and the San Diego region; (3) the development of statistical models to identify historical causal factors; (4) a review of passenger traffic for the airports in the Los Angeles Basin; and (5) coordination with representatives of the San Diego County Regional Airport Authority and the FAA.

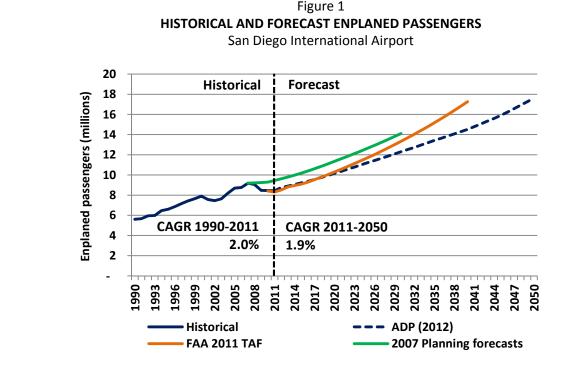
The approach used in developing forecasts for SDIA included consideration of the Airport service region and the role of the Airport in providing commercial passenger service and recent trends in airline service development at the Airport. In particular:

- The enplaned passenger forecasts were developed using a variety of analytical tools, including trend analysis, regression models, and market share analysis, to address the key components of aviation activity. In addition, recent airline service development at the Airport was considered in the preparation of the passenger forecasts.
- The air cargo forecasts were developed based on a review of the recent trends, an evaluation of key components of air cargo activity (i.e., enplaned and deplaned cargo (freight and mail) for all-cargo and passenger airlines), and domestic and international sectors.
- The aircraft operations forecasts were derived from the forecasts of passenger and cargo activity for the Airport. Forecasts of aircraft operations were developed by (1) disaggregating the total demand into the components (i.e., domestic and international, mainline (air carrier) and regional affiliate) and (2) making assumptions about average aircraft size in terms of seats per departure and average enplaned passenger load factors (percentage of seats occupied, on average) for future years. In addition, the future aircraft fleet plans of the airlines serving SDIA were also considered based on available information.



ENPLANED PASSENGERS

Figure 1 presents historical enplaned passengers for 1990 through 2011 and forecasts for 2012 through 2050, compared with the FAA 2011 TAF for the Airport. The ADP enplaned passenger forecasts are based on 2011 data and are within 1.0% of the FAA 2011 TAF in 2016 and 1.9% in 2021*. The enplaned passenger average growth rate of 1.9% per year between 2011 and 2050 is lower than the rate forecast by the FAA in its 2011 TAF for the Airport—an average of 2.4% per year from Federal Fiscal Year (FFY) 2010 to FFY 2040.** A detailed comparison of the ADP enplaned passenger forecasts and the FAA 2011 TAF is presented in Chapter 7.



Note: The forecasts presented in this figure were prepared using the information and assumptions

given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

CAGR = Compound average annual growth rate

Sources: Historical: San Diego County Regional Airport Authority records.

ADP Forecast: LeighFisher, July 2012.

FAA 2011 TAF: U.S. Department of Transportation, Federal Aviation Administration,

www.faa.gov.

2007 Planning forecasts: Destination Lindbergh: The Ultimate Build-Out, San Diego

International Airport, Aviation Activity Forecast, August 2008.

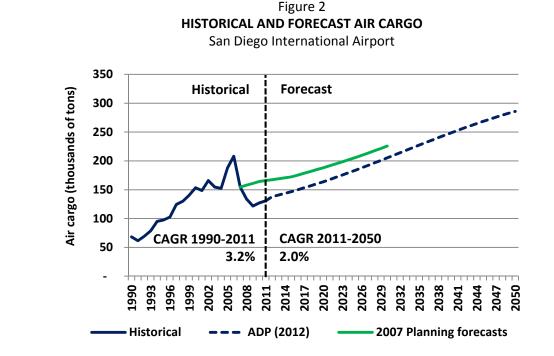
^{*}U.S. Department of Transportation, Federal Aviation Administration, Forecasting Aviation Activity by Airport, July 2001, and Review and Approval of Aviation Forecasts, June 2008, http://www.faa.gov

^{**}The Federal Fiscal Year begins on October 1 and ends on September 30.



AIR CARGO

Figure 2 presents historical air cargo (in pounds) for 1990 through 2011 and forecasts for 2012 through 2050. (The FAA does not prepare cargo forecasts for individual airports as part of the TAF.) Since 2000, the cargo industry nationwide and at SDIA has experienced significant changes related to: (1) air cargo security regulations by the FAA and Transportation Security Administration (TSA); (2) consolidation in the air cargo industry; (3) an increasing trend in the volume of cargo transported by truck; (4) the national and global economic recessions; (5) use of all-cargo carriers by the U.S. Postal Service to transport mail; and (6) increased use of mail substitutes (e.g., email). Total cargo (enplaned and deplaned air freight and mail) is forecast to increase an average of 2.0% per year at the Airport as shown on Figure 2.



Note: The forecasts presented in this figure were prepared using the information and assumptions

given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

CAGR = Compound average annual growth rate Includes enplaned and deplaned air freight and mail.

Sources: Historical: San Diego County Regional Airport Authority records.

ADP Forecast: LeighFisher, July 2012.

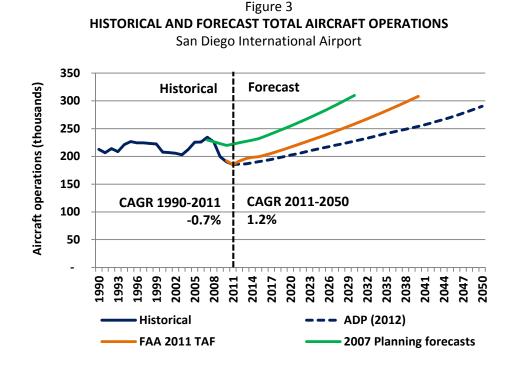
2007 Planning forecasts: Destination Lindbergh: The Ultimate Build-Out, San Diego

International Airport, Aviation Activity Forecast, August 2008.



AIRCRAFT OPERATIONS

Figure 3 presents historical total aircraft operations for 1990 through 2011 and forecasts for 2012 through 2050, compared with the FAA 2011 TAF for the Airport. (Total aircraft operations include air carrier, air taxi and commuter, general aviation, and military takeoffs and landings.) The aircraft operations forecasts are based on 2011 data and are within 3.3% of the FAA 2011 TAF in 2016 and 5.8% in 2021. The forecast average growth rate in total aircraft operations of 1.2% per year between 2011 and 2050 is lower than the rate forecast by the FAA in its 2011 TAF for the Airport—an average of 1.6% per year from FFY 2010 to FFY 2040. A detailed comparison of the ADP aircraft operations forecasts and the FAA 2011 TAF is presented in Chapter 7.



Note: The forecasts presented in this figure were prepared using the information and assumptions

given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and

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FAA 2011 TAF: U.S. Department of Transportation, Federal Aviation Administration,

www.faa.gov.

2007 Planning forecasts: Destination Lindbergh: The Ultimate Build-Out, San Diego

International Airport, Aviation Activity Forecast, August 2008.



AIRPORT SERVICE REGION

The primary area of the Airport service region, both in terms of population and geography, is San Diego County, as shown on Figure 4. In 2011, the population of San Diego County was 3.1 million as shown in Table 1. Because economic growth and activity within the primary area stimulate a significant portion of passenger demand at the Airport, statistics for San Diego County were used to evaluate aviation activity trends at the Airport.

The secondary area served by the Airport, which includes many of the counties surrounding San Diego County, is defined by the location of and driving distance to other air carrier airports, as well as by the availability, price, and quality of airline service at those other airports. San Diego County is part of the southern California region which includes five airports in the Los Angeles Basin. Los Angeles International Airport, a large-hub airport and international gateway with an average of 757 daily departures, is located approximately 125 road miles north of SDIA. The airports located in Burbank (Bob Hope), Ontario, and Orange County are medium-hubs with an average of 73, 68, and 113 daily departures, respectively, in 2011. Long Beach Airport is a small-hub airport (105 miles north) providing an average of 42 daily departures in 2011. Each of the 5 Los Angeles Basin airports is served by low cost carriers, including JetBlue, Southwest, and Frontier airlines.

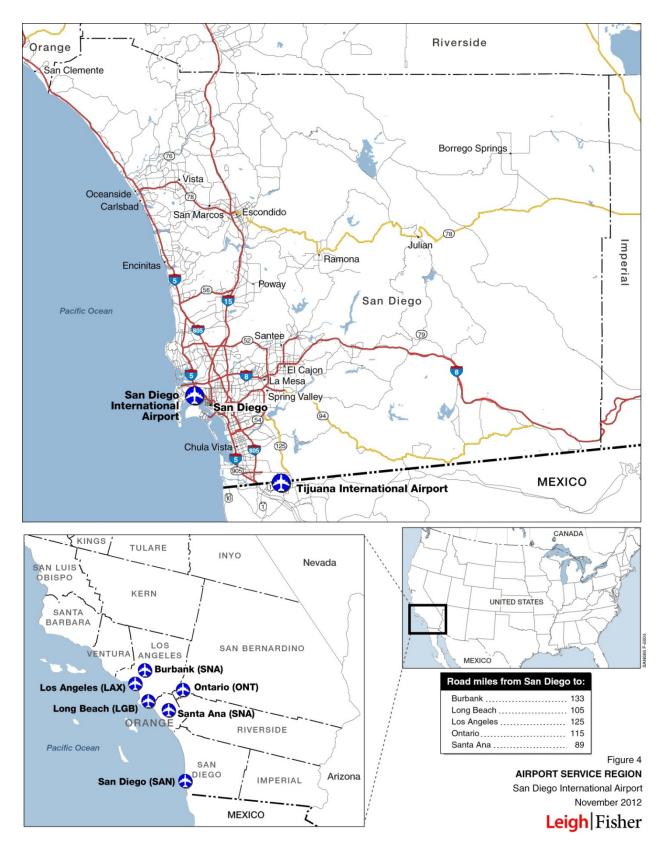
Table 1
SOUTHERN CALIFORNIA POPULATION

		201	.1
			Percent of
Metropolitan Statistical Area	County	Population	total
San Diego-Carlsbad-San Marcos MSA	San Diego	3,140,069	13.7%
Los Angeles-Long Beach-Santa Ana MSA	Los Angeles	9,889,056	43.1
	Orange	3,055,745	13.3
Subtotal		12,944,801	56.4%
Riverside-San Bernardino-Ontario MSA			
	San Bernardino	2,065,377	9.0%
	Riverside	2,239,620	9.8
Subtotal		4,304,997	18.8%
Bakersfield MSA	Kern	851,710	3.7%
Oxnard-Thousand Oaks-Ventura MSA	Ventura	831,771	3.6
Santa Barbara-Santa Maria-Goleta MSA	Santa Barbara	426,878	1.9
San Luis Obispo-Paso Robles MSA	San Luis Obispo	271,969	1.2
El Centro MSA	Imperial	77,057	0.8
Southern California region		22,949,252	100.0%

MSA = Metropolitan Statistical Area

Source: U.S. Department of Commerce Bureau of the Census, www.census.gov, accessed May 2012.







AIRPORT ROLE

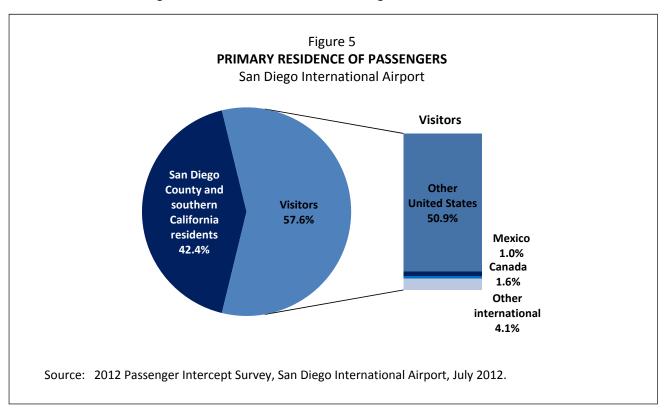
The role of an airport is important in evaluating the domestic and international components of aviation activity and preparing forecasts. San Diego International Airport has an important role in the national, state, and local air transportation systems. SDIA is a large-hub airport* as defined by the FAA and is the 28th busiest airport in the United States, in terms of total passengers (enplaned plus deplaned). The ADP forecasts were developed with consideration of the Airport's (1) large origin and destination (O&D) passenger base, (2) role as the primary commercial service airport in San Diego County, and (3) role as the twelfth busiest airport for Southwest Airlines.

Large Origin-Destination Passenger Base

The Airport's large O&D passenger base is related to the strength of the San Diego economy and supports service development by Southwest Airlines and the other airlines serving the Airport. SDIA is the 19th busiest airport in the United States, in terms of origin and destination passengers (O&D), as shown in Table 2. The Airport's large O&D passenger base is related to the strength of the San Diego economy and tourism. The flights of 8.03 million passengers originated from the Airport in 2011 (i.e., these originating passengers did not connect with another flight at the Airport).

Primary Commercial Service Airport in San Diego County

SDIA is the primary commercial service airport in San Diego County, with 8.4 million enplaned passengers in 2011. SDIA had an average of 241 scheduled daily aircraft departures in August 2012 to a total of 44 destinations, 36 domestic and 8 international. According to a passenger survey conducted in 2012 as part of the ADP, San Diego County and southern California residents accounted for 42.4% of SDIA passengers in 2012, while the remaining 57.6% were visitors, as shown on Figure 5.



^{*}As defined by the FAA, a large hub airport accounts for 1% or more annual U.S. enplaned passengers. www.faa.gov.



Table 2
ORIGINATING PASSENGERS AT BUSIEST U.S. AIRPORTS

2011		Total O&D passengers (millions) <i>(a)</i>			Average annual percent increase (decrease)	
Rank	City (airport)	2000	2007	2011	2000-2007	2007-2011
1	Los Angeles (International)	22.9	23.2	22.9	0.2%	(0.3)%
2	New York (Kennedy)	12.5	18.6	18.6	5.9	0.0
3	Orlando (International)	13.5	16.6	16.1	3.0	(0.8)
4	Las Vegas	13.9	18.4	16.7	4.1	(2.3)
5	San Francisco	14.3	12.6	15.3	(1.8)	4.9
6	Atlanta	15.9	15.5	13.8	(0.3)	(2.9)
7	Chicago (O'Hare)	15.3	17.2	14.8	1.6	(3.7)
8	Boston	11.8	13.1	13.4	1.4	0.6
9	Denver	9.3	12.7	13.0	4.7	0.5
10	Seattle-Tacoma	10.1	11.7	11.7	2.0	(0.0)
11	Newark	13.1	13.8	11.8	0.8	(3.8)
12	New York (LaGuardia)	11.0	11.5	11.0	0.7	(1.2)
13	Dallas/Fort Worth	11.3	12.0	10.9	0.9	(2.5)
14	Phoenix (Sky Harbor)	10.5	12.6	10.5	2.7	(4.4)
15	Fort Lauderdale-Hollywood	7.4	10.6	10.4	5.3	(0.5)
16	Miami	9.5	9.2	10.1	(0.5)	2.4
17	Baltimore/Washington	7.7	8.5	8.2	1.4	(1.0)
18	Minneapolis-Saint Paul	8.0	8.6	8.3	0.9	(0.8)
19	San Diego	7.4	8.8	8.0	2.5	(2.2)
20	Philadelphia	6.7	9.6	7.7	5.1	(5.4)
21	Detroit	8.3	8.9	7.7	1.0	(3.6)
22	Tampa	7.1	8.7	7.6	3.0	(3.4)
23	Houston (Bush)	6.5	8.9	7.5	4.5	(4.1)
24	Washington (Reagan)	6.1	7.4	7.4	2.9	(0.1)
25	Honolulu	8.3	8.4	7.0	0.1	(4.6)
26	Washington (Dulles)	4.7	7.1	6.1	6.2	(3.8)
27	Portland, Oregon	5.5	6.2	5.8	1.7	(1.6)
28	Chicago (Midway)	5.7	6.4	5.6	1.7	(3.4)
29	St. Louis	5.5	5.6	5.1	0.4	(2.3)
30	Charlotte (Douglas)	1.8	4.2	3.5	12.6	(4.3)
	Average for airports listed				2.5%	(1.8)%

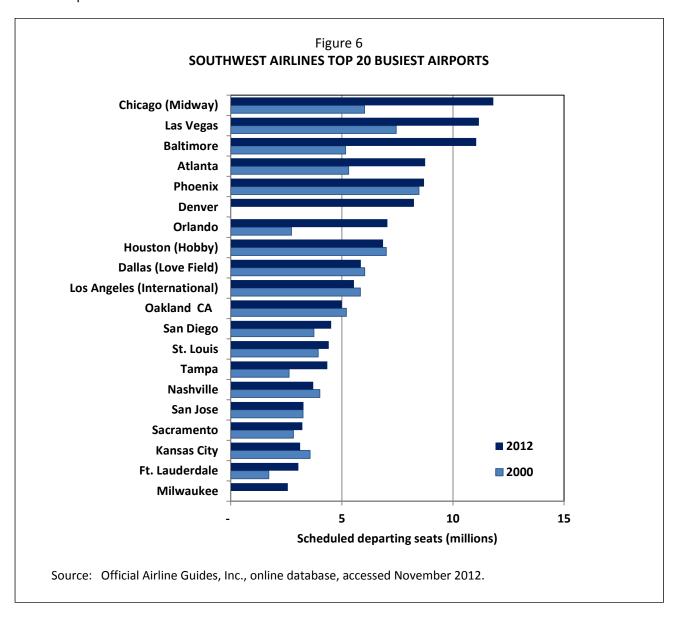
⁽a) Enplaned plus deplaned passengers.

Source: San Diego County Regional Airport Authority records and Airports Council International, Worldwide Airport Traffic Report and North American Airport Rankings, for years noted.



Twelfth Busiest Southwest Airlines Airport

In 2012, SDIA is estimated to account for 2.4% of the total scheduled departing seats in Southwest Airlines' system, making it the twelfth busiest airport in Southwest's system, as shown on Figure 6. As of July 2012, Southwest provided service from SDIA to 19 domestic destinations with an average of 92 scheduled daily aircraft departures.





CHAPTER 2 ECONOMIC BASIS FOR AVIATION DEMAND

The economy of San Diego County is an important determinant of long-term passenger and cargo demand at the Airport. Generally, regions with large populations, high levels of employment, and high average per capita incomes will generate strong demand for airline travel. The demographics and economy of the region—as measured by changes in population, employment, and per capita income—as well as airline service and airfares—are typically the most important factors affecting origin-destination (O&D) passenger demand. In 2011, approximately 95% of the Airport's passengers were O&D passengers; the remaining 5% were connecting passengers.

The following sections present a discussion of the economic basis for airline traffic at the Airport—the historical population, nonagricultural employment, and per capita income of San Diego County, comparative unemployment rates, and tourism. Also provided is a summary of the economic outlook for world regions, the United States, California, and San Diego County.

SOCIOECONOMIC TRENDS

Table 3 presents comparative trends in population, nonagricultural employment, and per capita personal income in San Diego County, the State of California, and the United States in 1990 and from 2000 through 2011. Projections are also presented for 2016, 2021, 2026, 2031, and 2050.

Population

Historically, population in San Diego County and the State increased faster than in the nation. From 1990 to 2011, population in San Diego County increased an average of 2.4% per year, while population in the State and the nation increased an average of 2.0% and 1.1% per year, respectively. Population growth in San Diego County is projected to increase an average of 0.9% per year between 2011 and 2050, with stronger growth in the near-term—an average increase of 1.6% per year between 2011 and 2016.

Employment

From 1990 to 2011, nonagricultural employment in San Diego County increased an average of 1.2% per year, faster than for the State and nation (an average of 0.5% and 0.9% per year, respectively). Since 2000, nonagricultural employment growth in San Diego County has slowed, increasing an average of 0.2% per year between 2000 and 2011, compared with an average decrease of 0.4% per year in the State and relatively no change in the nation. Nonagricultural employment growth during the past 10 years reflects the effects of the national economic recessions in 2001 and 2008. Nonagricultural employment in San Diego County is projected to increase an average of 0.9% per year between 2011 and 2050, with stronger growth in the near-term—an average increase of 1.4% per year between 2011 and 2016.



Table 3
HISTORICAL AND PROJECTED SOCIOECONOMIC DATA

	Population (thousands)			cultural empl (thousands)	oyment		a personal ir 2000 dollars	icome in	
	San Diego	State of	United	San Diego	State of	United	San Diego	State of	United
	County	California	States	County	California	States	County	California	States
Historical									
1990	2,505	29,828	248,710	967	12,500	109,487	27,314	28,314	25,499
2000	2,814	33,872	282,162	1,194	14,489	131,785	33,779	33,404	30,319
2005	2,938	35,828	295,517	1,282	14,802	133,703	36,339	33,890	31,259
2006	2,947	36,021	298,380	1,302	15,065	136,086	37,109	35,042	32,223
2007	2,976	36,250	301,231	1,309	15,185	137,598	37,438	35,347	32,810
2008	3,022	36,604	304,094	1,299	14,995	136,790	37,284	34,761	32,750
2009	3,061	36,961	306,772	1,231	14,092	130,807	35,169	32,705	31,180
2010	3,095	37,254	309,350	1,223	13,937	129,874	35,725	33,288	31,538
2011	3,140	37,692	311,592	1,231	14,061	131,359	n.a.	33,894	31,895
Projected									
2016	3,399	39,236	328,029	1,321	14,917	139,236	39,249	35,637	33,609
2021	3,569	41,127	344,303	1,393	15,961	148,872	42,437	38,186	36,117
2026	3,737	43,019	360,764	1,456	17,069	159,176	45,645	41,261	39,147
2031	3,902	44,850	377,108	1,512	18,246	170,193	48,655	44,810	42,667
2050	4,055	46,583	393,322	1,568	19,496	181,972	51,767	48,833	46,683
				Percent i	ncrease (dec	rease))			
2005-2006	0.3	0.5	1.0	1.5	1.8	1.8	2.1	3.4	3.1
2006-2007	1.0	0.6	1.0	0.6	0.8	1.1	0.9	0.9	1.8
2007-2008	1.6	1.0	1.0	(0.8)	(1.2)	(0.6)	(0.4)	(1.7)	(0.2)
2008-2009	1.3	1.0	0.9	(5.2)	(6.0)	(4.4)	(5.7)	(5.9)	(4.8)
2009-2010	1.1	0.8	0.8	(0.7)	(1.1)	(0.7)	`1.6 [°]	1.8	1.1
2010-2011	1.4	1.2	0.7	0.7	0.9	1.1	n.a.	1.8	1.1
			Ave	rage annual p	percent incre	ase (decrea	ase)		
Historical									
1990-2000	2.4	2.1	1.3	2.1	1.5	1.9	2.1	1.7	1.7
2000-2011	2.3	1.9	0.9	0.2	(0.4)	(0.1)	0.6 (a)	0.1	0.4
1990-2011	2.4	2.0	1.1	1.2	0.5	0.9	1.4 (a)	0.9	1.1
Projected							()		
2011-2016	1.6	0.8	1.0	1.4	1.2	1.2	1.6 (a)	1.0	1.1
2016-2021	1.0	0.9	1.0	1.1	1.4	1.3	1.6	1.4	1.4
2021-2026	0.9	0.9	0.9	0.9	1.4	1.3	1.5	1.6	1.6
2026-2031	0.9	0.8	0.9	0.8	1.3	1.3	1.3	1.7	1.7
2031-2050	0.6	0.7	0.8	0.7	1.3	1.3	1.5	1.8	1.8
2011-2050	0.9	0.8	0.9	0.9	1.3	1.3	1.5 (a)	1.6	1.7
-	-	-	-	-	-	-	- ()	-	

n.a. = not available

Source: Historical: U.S. Department of Commerce, Bureau of the Census, www.census.gov, accessed November 2012. California Department of Finance, www.dof.ca.gov. Published February 10, 2012; accessed May 2012. U.S. Department of Commerce, Bureau of Economic Analysis, Regional Accounts Data, www.bea.gov, accessed May 2012. Expressed in 2000 dollars using the consumer price index.

Projected: San Diego Regional Planning Agency, 2050 Regional Growth Forecast, published February 26, 2010; accessed May 2012. Woods & Poole, Economic and Demographic Projections, May 2012.

⁽a) Represents the average annual percent change from 2010.



Unemployment Rates

In addition to the employment trends cited above, the unemployment rate is also indicative of general economic conditions. Table 4 shows comparative annual unemployment rates in San Diego County, the State, and the nation as a whole for 2000 through 2011. The unemployment rate in San Diego County has followed the trends in the nation, and has remained less than the State rate since 1990.

Table 4
COMPARATIVE UNEMPLOYMENT RATES

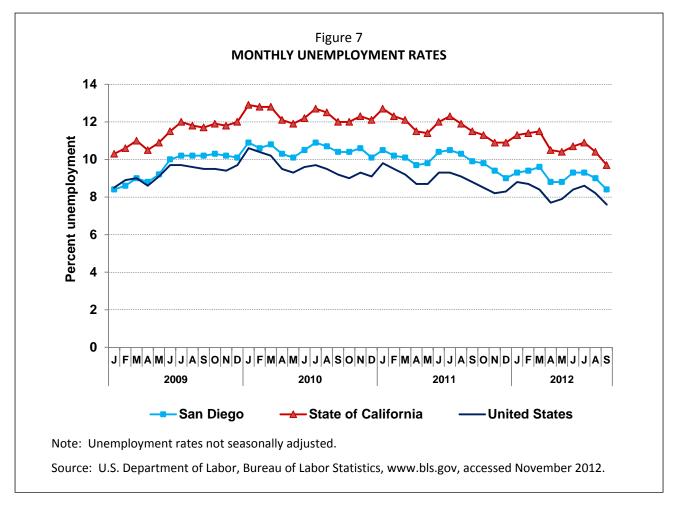
4.6		
	5.8	5.6
3.9	4.9	4.0
4.2	5.4	4.7
5.2	6.7	5.8
5.2	6.8	6.0
4.7	6.2	5.5
4.3	5.4	5.1
4.0	4.9	4.6
4.6	5.4	4.6
6.0	7.2	5.8
9.6	11.3	9.3
10.5	12.4	9.6
10.0	11.7	8.9
	4.2 5.2 5.2 4.7 4.3 4.0 4.6 6.0 9.6 10.5	4.25.45.26.75.26.84.76.24.35.44.04.94.65.46.07.29.611.310.512.4

Note: Unemployment rates are not seasonally adjusted and represent annual averages.

Source: U.S. Department of Labor, Bureau of Labor Statistics, www.bls.gov, accessed November 2012.

Since the beginning of the recession in January 2008, monthly unemployment rates in San Diego County, the State of California, and the United States have increased, as shown on Figure 7. In September 2012, the San Diego County unemployment rate (unadjusted) was 8.4%, lower than that for the State (9.7%) but higher than that for the nation (7.6%).





Income

From 1990 to 2010, per capita personal income in San Diego County increased an average of 1.4% per year, faster than that for the State (an average of 0.9% per year) and the nation (an average of 1.1% per year), as shown in Table 3. Since 2000, the growth in per capita income has slowed. In 2010, per capita income in San Diego County exceeded that for the nation. Per capita personal income in San Diego County is projected to increase an average of 1.5% per year between 2010 and 2050.

Nonagricultural Employment by Industry Sector

Figure 8 shows a comparative distribution of nonagricultural employment by industry sector for San Diego County in 2000 and in 2011, and for the State and the nation in 2011.

Business Services. Business services in San Diego County accounted for the largest share of nonagricultural employment, with 25.6% in 2000 and 24.6% in 2011. From 2000 to 2011, San Diego County employment in business services decreased an average of 0.1% per year, largely as the result of job losses in information services.*

^{*}Information services includes traditional, Internet, and software publishing; the motion picture and sound recording industries; the broadcasting industries; the telecommunications industries; Web search portals, data processing industries; and the information services industries.

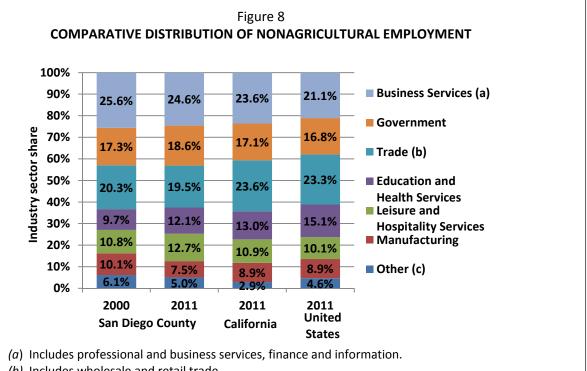


- **Government**. Employment by federal, state and local government agencies* increased an average of 0.9% per year between 2000 and 2011. The share of government employment in San Diego County increased from 17.3% in 2000 to 18.6% in 2011.
- **Trade**. Trade is comprised of wholesale and retail trade. From 2000 to 2011, San Diego County employment in trade decreased an average of 0.1% per year, reflecting slower growth in retail trade than in wholesale trade. The share of trade employment in San Diego County decreased from 20.3% in 2000 to 19.5% in 2011.
- **Education and Health Services.** Employment in education and health services in San Diego County increased an average of 2.4% per year between 2000 and 2011 and was the fastest growing industry sector. The share of education and health services employment in San Diego County increased from 9.7% in 2000 to 12.1% in 2011.
- Leisure and Hospitality Services. San Diego County employment in leisure and hospitality services increased an average of 1.8% per year between 2000 and 2011. The share of leisure and hospitality services in San Diego County increased from 10.8% in 2000 to 12.7% in 2011.
- Manufacturing. Manufacturing employment in San Diego County decreased an average of 2.4% per year between 2000 and 2011 and experienced the largest employment losses of any industry sector. The manufacturing sectors in California and the nation also experienced job losses between 2000 and 2011, decreasing an average of 3.6% and 3.4% per year, respectively, during that period. The share of manufacturing employment in San Diego County decreased from 10.1% in 2000 to 7.5% in 2011.
- Other Activities. Other employment in San Diego County decreased an average of 1.5% per year between 2000 and 2011, largely as the result of job losses in construction. The share of other employment in San Diego County decreased from 6.1% in 2000 to 5.0% in 2011.

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^{*}As reported by the U.S. Department of Labor, Bureau of Labor Statistics, government employment includes only civilian employees.





- (b) Includes wholesale and retail trade.
- (c) Includes mining, finance, insurance, real estate, construction, transportation and public utilities.

Source: U.S. Department of Labor, Bureau of Labor Statistics, www.bls.gov, accessed May 2012.

San Diego Industry Clusters

San Diego's economy is driven by companies that export goods and services nationally and globally, bringing in new investment and jobs that support economic growth as well as air service development. Companies that make up industry clusters, also referred to as the "traded sector", tend to cluster because they draw competitive advantage from their proximity to competitors, to a skilled workforce, to specialized suppliers, and to a shared base of sophisticated knowledge about their industry.

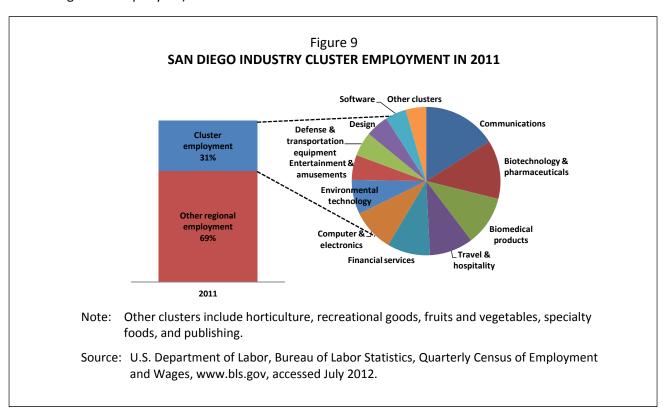
As shown on Figure 9, San Diego County has 16 industry clusters based on a 2006 SANDAG study.* In 2011, these 16 industry clusters accounted for about one-third of total employment and included a mix of mature, stabilizing, and emerging industries.

- Mature clusters in San Diego County, including Defense and Transportation, Financial Services, and Computer and Electronics, are primary economic drivers, although comprised of industries that have declining or low employment growth.
- Stabilizing clusters add diversity and economic stability to the region and provide employment opportunities to those who do not have the training or experience to gain entrance into a high techrelated field. Examples of stabilizing clusters in San Diego County include Travel and Hospitality, Amusement and Entertainment, Horticulture, Fruit and Vegetables, Recreational Goods, and Specialty Foods.

^{*}SANDAG, Traded Clusters in the San Diego Region, September 2006.



Emerging clusters are comprised of young, fast-growing industries that are becoming more integrated and important to the regional economy. Environmental Technology, Recreational Goods Manufacturing, Biotechnology and Pharmaceuticals, Biomedical Products, Communications, and Software are all examples of emerging clusters in the San Diego region. Employment in three emerging clusters experienced strong growth between 2001 and 2011--Biotechnology and Pharmaceuticals (an average of 3.4% per year), Biomedical Products (an average of 2.2% per year), Environmental Technology (an average of 2.7% per year).



Major Employers

Table 5 lists the major employers with headquarters in San Diego County in 2011. Health care and leisure and hospitality services together account for more than half (13 of the 25) of major companies reflecting the importance of these sectors to the economy of San Diego County.



Table 5 MAJOR EMPLOYERS IN SAN DIEGO COUNTY

Company	Location	Industry
32nd St Naval Station (a)	San Diego	Federal Government
Sharp Memorial Hospital (a)	San Diego	Health care
Kaiser Permanente (Clinics) (b)	San Diego	Health care
San Diego Naval Medical Center (b)	San Diego	Federal Government
University of California, San Diego Medical School (b)	La Jolla	Education
Barona Casino	Lakeside	Leisure and hospitality
Barona Resort	Lakeside	Leisure and hospitality
General Dynamics NASSCO	San Diego	Manufacturing
Goodrich Aerostructures Group	Chula Vista	Manufacturing
Hairspray	San Diego	Retail trade
Kaiser Permanente (Hospitals)	San Diego	Health care
Marine Corps Recruit Depot	San Diego	Federal Government
Mary Sharp Birch Hospital for Women	San Diego	Health care
Merchants Building Maintenance	San Diego	Business Services
Palomar Memorial Hospital	Escondido	Health care
Palomar Pomerado Health Rehab	Escondido	Health care
San Diego County Sheriff	Santee	Local government
Scripps Research Institute	La Jolla	Education
Sea World San Diego	San Diego	Leisure and hospitality
Sharp Grossmont Hospital	La Mesa	Health care
Solar Turbines Inc.	San Diego	Business Services
Sony Electronics Inc.	San Diego	Manufacturing
Sycuan Casino	El Cajon	Leisure and hospitality
Tri City Hospital	Oceanside	Health care
Viejas Casino & Outlet Center	Alpine	Leisure and hospitality

Note: Companies listed have 1,000 to 4,999 employees, except as noted.

Source State of California Employment Development Department, www.edd.ca.gov, accessed May 2012.

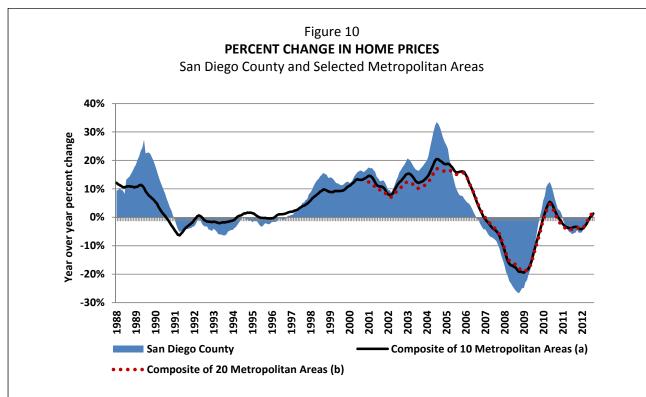
⁽a) More than 10,000 employees.

⁽b) 5,000 to 9,999 employees.



Regional Housing Market

Figure 10 presents the percent change in home prices for San Diego County from January 1988 through August 2012, compared with composites for 10 and 20 selected metropolitan areas, based on the Standard & Poor's/Case-Shiller Home Price Index. As shown, home prices in San Diego County exceeded the increases in home prices for the metropolitan areas in the composite index from mid-1988 through early 2005. Since 2005, home prices in San Diego County have generally followed the trends for the metropolitan areas in the composite index, except between mid-2009 through early 2011 when San Diego County home price increases exceeded the metropolitan area average. From early-2011 through June 2012, home prices in San Diego County decreased followed by increases in July and August, consistent with home prices for the composite of 20 metropolitan areas.



Note: Data for 20 metropolitan areas begins in 2001.

- (a) Includes Boston, Chicago, Denver, Las Vegas, Los Angeles, Miami, New York, San Diego, San Francisco, and Washington, D.C.
- (b) Includes Atlanta, Charlotte, Cleveland, Dallas, Detroit, Minneapolis, Phoenix, Portland, Seattle, and Tampa in addition to the areas mentioned above.

Source: Standard & Poors/Case-Shiller Home Price Indices, www.standardandpoors.com, accessed November 2012.



Tourism

Tourism represents an increasingly important source of economic activity in San Diego County. According to the San Diego Convention and Visitors Bureau, San Diego hosted 74 conventions, events and shows in 2011, compared with 64 in 2010 (a 15.6% increase). In 2011, a total of 566,658 convention delegates attended conventions at the San Diego Convention Center and generated an estimated \$579 million in economic impact for San Diego County. The San Diego Convention Center has 204,114 square feet of meeting space and 615,701 square feet of total exhibit space.

Table 6
SAN DIEGO COUNTY VISITORS AND CONVENTIONS

	Visitor	s (a)		Conventions (b)		
	Number	Percent overnight	Number	Delegates	Delegate spending (millions)	
2000	n.a.	n.a.	51	245,790	253.5	
2001	n.a.	n.a.	49	286,550	296.3	
2002	26,283,000	57%	52	331,650	316.6	
2003	26,418,000	58%	60	450,000	408.8	
2004	26,746,000	59%	47	399,900	362.3	
2005	31,777,000	49%	54	470,950	462.1	
2006	32,200,000	49%	71	573,398	604.5	
2007	31,563,000	49%	66	655,819	700.4	
2008	31,102,000	49%	68	633,883	772.0	
2009	29,606,000	49%	71	519,418	542.0	
2010	29,875,000	50%	64	543,931	567.0	
2011	31,100,000	50%	74	566,658	579.0	
	Com	npound avera	ge annual pe	ercent increase	e (decrease)	
2000-2005	6.5%		1.1%	13.9%	12.8%	
2005-2010	(1.2)		3.5	2.9	4.2	
2000-2010	1.6		2.3	8.3	8.4	
2010-2011 4.1		15.6	4.2	2.1		

n.a. = not available

Source San Diego Convention and Visitors Bureau, www.sandiego.org, accessed July 2012.

In 2011, about one-third (35%) of all overnight visitors arrived by air and accounted for nearly half (45%) of the \$6.68 billion in spending by overnight visitors, according to the San Diego Visitors and Convention Bureau.

⁽a) Includes visitors traveling to San Diego by all modes of transportation.

⁽b) Conventions held at the San Diego Convention Center.



ECONOMIC OUTLOOK

The economic outlook for the United States, the State of California, and San Diego County forms a basis for anticipated growth in airline traffic at the Airport. Economic activity in San Diego County and the State is directly linked to the production of goods and services in the world and the rest of the United States. Both airline travel and the movement of cargo through the Airport depend on the economic linkages between and among the regional, State, national, and global economies. The economic and other assumptions underlying the forecasts of enplaned passengers are based on a review of global, national, State, and regional economic outlooks as well as an analysis of historical socioeconomic trends and airline traffic trends, as presented in the section titled "Historical Airline Traffic."

Global Economy

Globalization of the world economy has created linkages between national economies that relate not only to trade but also to air travel. San Diego County and the State have strong linkages to the global economy through a number of industry sectors and the three world regions that are currently served at SDIA. The economic growth of these world regions, in terms of Gross Domestic Product (GDP), is directly related to the growth in air travel. Projections of GDP for the world regions are shown in Table 7. Continued growth in the economies of the world regions most closely aligned with the San Diego economy and airline service at SDIA are expected to contribute to continued growth in passenger traffic at the Airport.

U.S. Economy

The U.S. economy continues to recover from the financial crisis and global recession, although the pace of the recovery remains slow. The consensus among economists is that downturns following financial crises tend to be more prolonged than other downturns. In addition, such recessions raise the level and duration of unemployment, reduce the number of hours that employees work, and dampen investment. Continued high unemployment, lower disposable incomes, and reduced spending by businesses and consumers, particularly in the near-term, has the potential to dampen growth in the U.S. economy and passenger traffic nationally and at SDIA.

The Congressional Budget Office (CBO) expects that U.S. economic growth, as measured by U.S. GDP in constant dollars, will increase 2.1% in 2012, decrease 0.5% in 2013 as a result of increases in federal taxes and reductions in federal spending, and then increase an average of 3.5% per year between 2013 and 2020.* The CBO projects that the unemployment rate will decrease to 8.2% in the fourth quarter of 2012, increase to 8.8% in 2013, and decrease to 5.4% in 2020. The CBO's projections are influenced to a large extent by fiscal policy specified by current law which will result in tax increases and spending cuts in January 2013. In an alternative scenario, the CBO projects stronger economic growth (an estimated increase of 1.7% in U.S. GDP in 2013) if some or all of the fiscal restrictions are removed.

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^{*}Congressional Budget Office, Budget and Economic Outlook: Fiscal Years 2012 to 2022, August 22, 2012.



Table 7 HISTORICAL AND PROJECTED GDP GROWTH BY WORLD REGION

Compound average annual percent increase (decrease) in GDP (in constant U.S. dollars)

	- (
World region	Historical		Projected	
	1990-2010	2000-2010	2010-2030	
Asia	n.a.	4.2%	4.6%	
Canada	1.9%	3.6	2.3	
Europe (a)	(1.2) <i>(b)</i>	4.9	1.7	
Latin America	3.6	6.7	4.2	
Mexico	1.5	1.4	4.2	
Middle East/Africa	n.a.	11.0	2.4	
United States	3.4	1.6	2.7	
World	1.8	5.2	3.3	

n.a. = not available

(a) Data are for the Euro area.

(b) Percent change between 1991 and 2000.

Sources: Historical: International Monetary Fund, World Economic Outlook database,

www.imf.org, accessed July 2011 and U.S. Department of Commerce, Bureau of

Economic Analysis, www.bea.gov, accessed July 2012.

Projected: Global Insight as reported in U.S. Department of Transportation, Federal

Aviation Administration, FAA Aerospace Forecasts, Fiscal Years 2011-2031,

March 2011.

California Economy

California has experienced an uneven economic recovery, with some sectors of the economy such as high technology and exports reporting growth which is offset by a weak real estate market and continued volatility in equity markets. Near-term economic projections prepared by the University of California at Los Angeles (UCLA) Anderson Forecast* are for:

- Continued slow steady gains in employment through 2012, with expected growth of 1.9%, 1.8% and 2.5% in 2012, 2013 and 2014, respectively.
- Steady job growth in California that will bring the state's unemployment rate in line with the national average by the end of 2014. The unemployment rate will linger around 10.6% through 2012 and average 9.7% in 2013, and will drop to 8.3% in 2014.
- Modest growth in housing starts for the remainder of 2012 at approximately one quarter of the U.S. rate in predominantly multi-family housing with housing permits forecast to increase 40% in 2013 and double the U.S. rate in 2014, to 130,000 permits.

^{*}UCLA Anderson Forecast, June 2012 Economic Outlook, June 20, 2012, www.uclaforecast.com.



San Diego Economy

The economic drivers of San Diego County are diverse and include a mix of mature, stable, and emerging industries. Near-term economic projections prepared by the National University System Institute for Policy Research* are for:

- Employment to increase 1.8% in 2012, the strongest growth in six years.
- Gross metropolitan product, in constant dollars, to increase 1.8% in 2012, accompanied by a 1.4% increase in taxable sales.
- Housing construction to increase 15% in 2012.

The San Diego economy is expected to rebound faster than California as a whole. San Diego's unemployment rate is expected to decrease faster than most of California because of an increase in demand for high tech jobs and trade. At a presentation at the University of San Diego in April 2012, the San Francisco Federal Reserve President John Williams noted that "As the national economy improves, we'll see more improvement here, especially because (of) high tech and a lot of that is driven by the demand in the rest of the country."

Risks to the Economic Outlook

While the near-term outlook is improving and the mid- to long-term outlook is favorable, there are risks that expectations for growth may not be achieved. Key risks include:

- Inflation risks still persist due to the sizable amount of liquidity that the Federal Reserve Bank has
 injected into the banking system, which could eventually trigger upward pressures on prices. Also,
 increases in oil prices and rapid expansion of U.S. industrial capacity could trigger upward pressure on
 inflation.
- U.S. consumers may not be able to generate much spending growth due to persistent unemployment, reduced wealth and home values, and the various reasons described above.
- Increases in fuel prices related to rising global demand and political instability in oil producing countries in the Middle East and North Africa present a risk to continued economic recovery and growth.
- A significant worsening of the banking and fiscal problems in Europe could lead to further turmoil in international financial markets that could affect U.S. financial markets—reducing wealth, severely constraining the availability of credit, reducing hiring, and causing higher unemployment.
- In the long term, the principal risks to U.S. economic performance are the sizable external and fiscal deficits. The continuing deficits in the U.S. balance of payments could result in greater volatility in the currency markets, which would then translate into higher interest rates and, potentially, slower economic growth. These risks could be compounded if the fiscal deficit is not reduced in the near-term, thereby leading to increased financing requirements and subsequent increases in interest rates. Increased interest rates could lead to lower levels of investment and, consequently, slower productivity growth.

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^{*}Economic Ledger, December 2011, www.nusinstitute.org. The National University System Institute for Policy Research, LLC, (NUS-IPR) is a non-partisan organization that formulates and promotes high quality economic, policy, and public-opinion research so as to improve the efficiency and effectiveness of local governments in San Diego County and to improve the quality of life enjoyed by the region's citizens.



Economic Basis for Forecast Aviation Demand

The economic outlook for world regions, the United States, the State of California, and San Diego County form a basis for anticipated growth in aviation demand at the Airport. Employment and income projections for San Diego County and the State of California are for gradual but continued economic growth, particularly in biotechnology and pharmaceuticals, health care services, education, leisure and hospitality services. Factors expected to contribute to economic growth in San Diego County and associated increases in airline travel include: (1) the diversity in the economic base, which lessens its vulnerability to weaknesses in particular industry sectors, (2) growth in the existing and emerging San Diego industry sectors described earlier, (3) an educated labor force able to support the development of knowledge-based and service industries, and (4) continued reinvestment to support the development of tourism, conventions, and other businesses. This outlook is reflected in the aviation demand forecasts presented in Chapter 6, "Aviation Demand Forecasts."



CHAPTER 3 HISTORICAL PASSENGER AIRLINE TRAFFIC

A review of airline activity at the Airport provided the foundation for the enplaned passenger forecasts and included an analysis of: (1) the airline passenger service and market shares; (2) overall trends in enplaned passengers, including originating connecting passengers, and (3) monthly airline traffic for enplaned passengers, scheduled departing seats, and passenger airline landings.

AIRLINES SERVING SAN DIEGO INTERNATIONAL AIRPORT

The Airport is served by 20 passenger airlines, including 6 mainline airlines, 3 regional affiliates of which 1 is associated with more than one mainline airline, 7 low-cost carriers, and 4 foreign-flag airlines, as shown in Table 8. In addition, Japan Airlines is scheduled to begin Boeing 787 service from San Diego to Tokyo on December 2, 2012.

Table 8 AIRLINES SERVING SAN DIEGO

Mainline Low cost carriers Alaska Airlines **Allegiant Airlines** American Airlines (a) Frontier Airlines (d) Delta Air Lines (b) jetBlue Airways **Hawaiian Airlines** Southwest Airlines (e) United Airlines (c) **Spirit Airlines Sun Country Airlines US Airways** Virgin America Regional affiliates Foreign-flag American Eagle (American) Air Canada SkyWest (Delta, United, US Airways) **British Airways** Horizon (Alaska) Volaris West Jet

Sources: San Diego County Regional Airport Authority records and Official Airline Guides, Inc., online database, accessed November 2012.

⁽a) American filed for bankruptcy on November 29, 2011.

⁽b) Delta completed its merger with Northwest on October 29, 2008, and a single operating certificate was issued on December 31, 2009.

⁽c) United completed its merger with Continental on October 1, 2010, and a single operating certificate was issued on November 30, 2011.

⁽d) Acquired by Republic Airways Holdings on October 1, 2009.

⁽e) Southwest completed its merger with AirTran on May 2, 2011, and a single operating certificate was issued on March 1, 2012.



ENPLANED PASSENGERS

As shown in Table 9, the number of enplaned passengers at the Airport increased an average of 2.0% per year between 1990 and 2011, similar to growth in the nation as a whole during this period (an average increase of 2.2% per year).

Domestic and International Passengers

Between 1990 and 2011, the number of domestic enplaned passengers at San Diego International Airport increased an average of 1.9% per year, as shown in Table 9. The number of international passengers at the Airport increased an average increase of 5.2% per year between 1990 and 2011, faster than growth in the nation as a whole during this period (an average increase of 3.5% per year). International passengers accounted for 2.3% of total passengers in 2011, compared with a 1990 share of 1.2%.

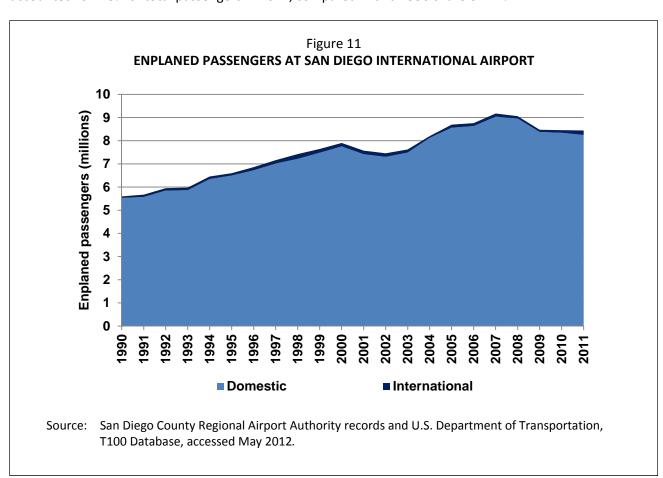




Table 9 **HISTORICAL ENPLANED PASSENGERS**San Diego International Airport

				Percent		
				increase		
	Domestic	International	Total	(decrease)		
1990	5,530,405	66,942	5,597,347			
1991	5,572,592	99,828	5,672,420	1.3%		
1992	5,850,933	101,293	5,952,226	4.9		
1993	5,862,343	115,829	5,978,172	0.4		
1994	6,346,853	110,939	6,457,792	8.0		
1995	6,500,263	98,015	6,598,278	2.2		
1996	6,724,235	135,237	6,859,472	4.0		
1997	7,017,674	142,699	7,160,373	4.4		
1998	7,218,290	205,401	7,423,691	3.7		
1999	7,482,569	163,539	7,646,108	3.0		
2000	7,753,920	150,523	7,904,443	3.4		
2001	7,418,373	152,366	7,570,739	(4.2)		
2002	7,302,422	154,718	7,457,140	(1.5)		
2003	7,489,032	134,566	7,623,598	2.2		
2004	8,124,791	75,896	8,200,687	7.6		
2005	8,561,714	130,980	8,692,694	6.0		
2006	8,633,671	125,998	8,759,669	0.8		
2007	9,040,253	132,686	9,172,939	4.7		
2008	8,955,478	105,677	9,061,155	(1.2)		
2009	8,376,678	96,103	8,472,781	(6.5)		
2010	8,340,716	115,460	8,456,176	(0.2)		
2011	8,247,416	195,196	8,442,612	(0.2)		
Commenced accommendation of the comment						

Compound average annual percent increase (decrease)

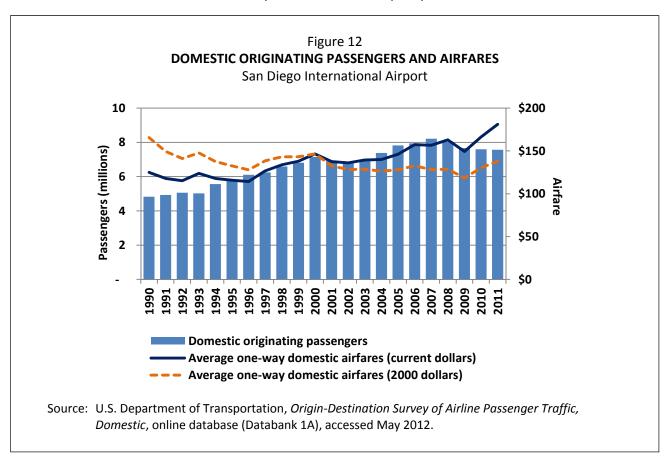
1990-2000	3.4%	8.4%	3.5%
2000-2002	(3.0)%	1.4%	(2.9)%
2002-2007	4.4%	(3.0)%	4.2%
2007-2011	(2.3)%	10.1%	(2.1)%
1990-2011	1.9%	5.2%	2.0%

Source: San Diego County Regional Airport Authority records.



Originating Passengers and Airfares

SDIA is primarily an O&D airport with more than 95% of its passengers originating from or destined for San Diego. O&D passenger demand is affected by the demographics and economy of the region served by the airport as well as airline service and airfares. From 1990 to 2011, the number of domestic originating passengers at SDIA increased an average of 2.2% per year. As shown on Figure 12, average one-way airfares in current dollars (unadjusted for inflation) have increased since 1990—an average increase of 1.8% per year between 1990 and 2011. In contrast, airfares in 2000 dollars have generally decreased—an average decrease of 0.9% per year between 1990 and 2011, except for recent increases in 2010 and 2011 related to the economic recession and airline industry efforts to reduce capacity.



AIRLINE MARKET SHARES AND PASSENGER SERVICE

The market shares for the passenger airlines serving the Airport are shown in Table 10 and Figure 13. In 2011, Southwest Airlines had the largest market share of enplaned passengers (38.4%) at the Airport, followed by United Airlines (mainline and regional affiliates) (17.3%), Delta Air Lines (12.2%), and American Airlines (9.6%).



Table 10
AIRLINE MARKET SHARES OF ENPLANED PASSENGERS

	2008	2009	2010	2011
Southwest (a)	3,246,277	3,151,626	3,241,173	3,244,498
United (b)	1,607,186	1,587,338	1,621,416	1,464,338
Delta (c)	991,777	974,732	1,009,201	1,027,475
American (d)	972,550	969,344	835,191	807,417
US Airways	622,862	552,807	512,435	543,907
Alaska	450,490	418,945	470,468	543,369
Frontier <i>(e)</i>	237,415	178,345	188,067	210,847
Virgin America	139,191	158,149	134,925	148,872
jetBlue	241,294	204,537	149,384	143,091
Others	<u>552,113</u>	276,958	<u>293,916</u>	308,798
	9,061,155	8,472,781	8,456,176	8,442,612
		Share of	ftotal	
	2008	2009	2010	2011
Southwest (a)	35.8%	37.2%	38.3%	38.4%
United (b)	17.7	18.7	19.2	17.3
Delta <i>(c)</i>	10.9	11.5	11.9	12.2
American <i>(d)</i>	10.7	11.4	9.9	9.6
US Airways	6.9	6.5	6.1	6.4
Alaska	5.0	4.9	5.6	6.4
Frontier <i>(e)</i>	2.6	2.1	2.2	2.5
Virgin America	1.5	1.9	1.6	1.8
jetBlue	2.7	2.4	1.8	1.7
Others	<u>6.1</u>	3.3	<u>3.5</u>	<u>3.7</u>
	100.0%	100.0%	100.0%	100.0%

⁽a) Southwest completed its merger with AirTran on May 2, 2011, and a single operating certificate was issued on March 1, 2012.

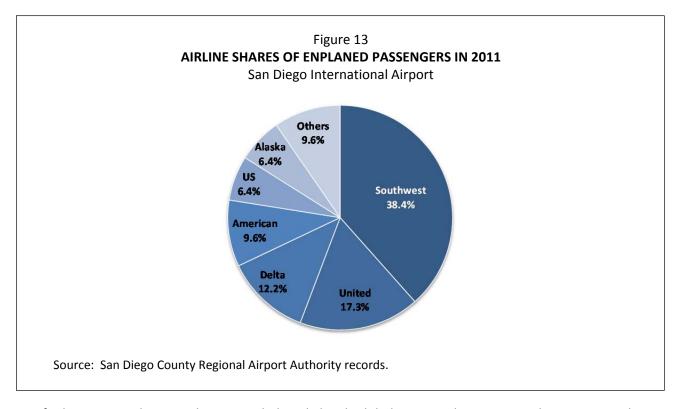
⁽b) United completed its merger with Continental on October 1, 2010, and a single operating certificate was issued on November 30, 2011.

⁽c) Delta completed its merger with Northwest on October 29, 2008, and a single operating certificate was issued on December 31, 2009.

⁽d) American filed for bankruptcy on November 29, 2011.

⁽e) Acquired by Republic Airways Holdings on October 1, 2009.





As of July 2012, Southwest Airlines provided 92 daily scheduled nonstop departures at the Airport, as shown in Table 11. Southwest's domestic flights were primarily (74 out of 92) to cities in the Pacific and Rocky Mountain regions. The other airlines serving the Airport provided 150 scheduled nonstop daily departures—143 domestic and 7 International.



Table 11 NONSTOP AIRLINE SERVICE AS OF JULY 2012

San Diego International Airport

Average daily scheduled

	nons	stop departur	es	Number of cities			
Sector/Region	Southwest Airlines	Other airlines	Total	Southwest Airlines	Other airlines		
Domestic							
Pacific	39	62	100	4	10		
South	11	29	40	6	6		
Rocky Mountain	35	23	59	6	4		
Midwest	7	16	23	3	4		
Northeast		<u>13</u>	<u>13</u>		4		
International	92	143	235	19	28		
Canada		3	3		3		
Central America		3	3		4		
Europe		<u>1</u> 7	<u>1</u> 7	_ 	<u>1</u> 8		
Total Airport	92	150	242	19	36		

Note: Includes mainline and regional affiliates.

Sources: Official Airline Guides, Inc. online database, accessed July 2012.

ORIGIN-DESTINATION MARKETS

In 2011, the top 20 domestic O&D passenger markets at SDIA accounted for 67.6% of the total originating passengers, as shown in Table 12. The San Francisco area is the largest originating passenger market in 2011 with 15.6% of total originating passengers. The New York market is the second largest O&D market, with 4.9% of total originating passengers, followed by Washington, D.C. (4.3%), Denver (4.2%), and Seattle (4.1%). In July 2012, the Airport had 42 daily scheduled flights to San Francisco airports, 29 of which were by Southwest Airlines.



Table 12 **HISTORICAL DOMESTIC ORIGINATING PASSENGERS BY MARKET IN 2011**Ranked by total originating passengers at San Diego International Airport

Average daily scheduled nonstop departures

	Air miles from	Percent of originating		in July 2012	
Origin-destination market	San Diego	passengers	Southwest Airlines	Other airlines	All airlines
San Francisco (a)	447	15.60%	29	13	42
New York (b)	2,438	4.9		9	9
Washington, D.C. (c)	852	4.3	2	4	6
Denver	2,247	4.2	5	9	14
Seattle	1,051	4.1		8	8
Phoenix	302	4	11	8	19
Sacramento	481	4	9		9
Chicago (d)	258	3.9	4	8	12
Las Vegas	1,719	3.9	11	2	13
Dallas/Ft. Worth (e)	1,183	2.5		10	10
Boston	2,580	2.1		2	2
Portland	933	2.1	2	7	9
Houston	1,530	1.9		4	4
Minneapolis	2,607	1.8		5	5
Philadelphia	2,363	1.6		3	3
Salt Lake City	626	1.6		5	5
Atlanta	1,885	1.4		6	6
Detroit	1,951	1.3		3	3
Honolulu	2,609	1.2		2	2
Orlando	2,141	<u>1.1</u>	<u></u>	_ 	
Airports listed		67.60%	73	108	181
Other airports		32.4	<u>19</u>	<u>42</u> (f)	<u>61</u>
Total		100.00%	92	150	242

⁽a) San Francisco, Oakland, and Mineta San Jose International airports.

⁽b) Newark Liberty International, LaGuardia, and John F. Kennedy International airports.

⁽c) Reagan Washington National, Baltimore/Washington International Thurgood Marshall, and Washington Dulles International airports.

⁽d) Chicago O'Hare and Midway International airports.

⁽e) Dallas/Fort Worth International Airport and Love Field.

⁽f) Includes 7 international departures.

Sources U.S. Department of Transportation, Origin-Destination Survey of Airline Passenger Traffic, Domestic, online database (Databank 1A), and Official Airline Guides, Inc., online database, accessed July 2012.



AIRFARES FOR DOMESTIC ORIGIN-DESTINATION MARKETS

Table 13 provides SDIA one-way airfare data for the top 20 domestic O&D passenger markets in 2011, compared with airfares for the Los Angeles Basin airports. For San Francisco, SDIA's largest O&D market, the average airfare at Burbank and Orange County airports was considerably higher than SDIA's average airfare in 2011, while the overall average airfare for all LA Basin airports is comparable. Airfares to New York are considerably higher at Los Angeles International and Orange County airports than SDIA airfares in 2011. SDIA airfares are lower to Denver than each of the LA Basin airports in 2011.

MONTHLY AIRLINE TRAFFIC

Trends in monthly airline traffic, including enplaned passengers, scheduled departing seats, enplaned passenger load factor, and passenger airline landings are presented in the following sections.

Monthly Enplaned Passengers

Table 14 presents monthly enplaned passenger data for the Airport for January 2007 through May 2012. The monthly data show the seasonal variation in enplaned passenger traffic, with peak levels occurring in July and August and the lowest monthly activity occurring from November through February.

Monthly Scheduled Departing Seats

Table 15 presents monthly scheduled departing seats data for the Airport for January 2007 through December 2012. The trends in the number of scheduled departing seats follow the seasonal variation in enplaned passengers. The peak month shares of annual seats are less than the peak month shares of enplaned passengers, largely because of differences in monthly load factors (the percentage of occupied seats on an aircraft).

Monthly Passenger Airline Aircraft Landings

Table 16 presents monthly passenger airline aircraft landings data for the Airport for January 2007 through May 2012.

Monthly Enplaned Passenger Load Factor

As shown on Figure 14, enplaned passenger load factors at SDIA ranged from a low of 65% in January 2009 to a high of 83.6% during August 2010. Load factors at the Airport in recent years have averaged more than 75% reflecting, in part, reductions in airline seating capacity.



Table 13

AVERAGE DOMESTIC ONE-WAY AIRFARES BY MARKET IN 2011

Ranked by total originating passengers at San Diego International Airport

Percent higher (lower) than SDIA airfare

market way airfare International County Burbank International Long Beach average San Francisco (a) \$116 (6.0%) 13.1% 9.1% (2.6%) (26.1%) (0.6%) New York (b) 262 17.1 12.1 (14.2) (17.7) (13.8) 13.1 Washington, D.C. (c) 264 (7.2) (12.6) (11.9) (15.2) (20.3) (9.0) Denver 122 6.1 4.1 47.1 24.1 9.1 9.1 Seattle 150 (1.0) (5.7) (2.6) (7.7) (20.4) (5.6) Phoenix 108 6.1 11.1 3.1 4.1 (1.1) 6.1 Sacramento 127 3.1 3.1 1.1 1.1 (2.78) (0.7) Chicago (d) 193 (0.3) 6.1 5.1 (1.0) (15.8) 0.1 Las Vegas 104 (13.8) 18.1 5.1 4.1 (37.1)				P	ercent nigher (ic	ower) than SDIA air	iare	
San Francisco (a) \$116 (6.0%) 13.1% 9.1% (2.6%) (26.1%) (0.6%) New York (b) 262 17.1 12.1 (14.2) (17.7) (13.8) 13.1 Washington, D.C. (c) 264 (7.2) (12.6) (11.9) (15.2) (20.3) (9.0) Denver 122 6.1 4.1 47.1 24.1 9.1 9.1 Seattle 150 (1.0) (5.7) (2.6) (7.7) (20.4) (5.6) Phoenix 108 6.1 11.1 3.1 4.1 (1.1) 6.1 Sacramento 127 3.1 3.1 1.1 1.1 (27.8) (0.7) Chicago (d) 193 (0.3) 6.1 5.1 (1.0) (15.8) 0.1 Las Vegas 104 (13.8) 18.1 5.1 4.1 (37.1) (8.5) Dallas/Ft. Worth (e) 206 (16.2) (0.5) (12.5) (7.8) (7.2) (11.9) </th <th>_</th> <th></th> <th>_</th> <th>_</th> <th></th> <th></th> <th></th> <th>LA Basin airport</th>	_		_	_				LA Basin airport
New York (b) 262 17.1 12.1 (14.2) (17.7) (13.8) 13.1 Washington, D.C. (c) 264 (7.2) (12.6) (11.9) (15.2) (20.3) (9.0) Denver 122 6.1 4.1 47.1 24.1 9.1 9.1 Seattle 150 (1.0) (5.7) (2.6) (7.7) (20.4) (5.6) Phoenix 108 6.1 11.1 3.1 4.1 (1.1) 6.1 Sacramento 127 3.1 3.1 1.1 1.1 (27.8) (0.7) Chicago (d) 193 (0.3) 6.1 5.1 (1.0) (15.8) 0.1 Las Vegas 104 (13.8) 18.1 5.1 (1.0) (15.8) 0.1 Las Vegas 104 (13.8) 18.1 5.1 4.1 (37.1) (8.5) Dallas/Ft. Worth (e) 206 (16.2) (0.5) (12.5) (7.8) (7.2) (11.9)	market	way airfare	International	County	Burbank	International	Long Beach	average
Washington, D.C. (c) 264 (7.2) (12.6) (11.9) (15.2) (20.3) (9.0) Denver 122 6.1 4.1 47.1 24.1 9.1 9.1 Seattle 150 (1.0) (5.7) (2.6) (7.7) (20.4) (5.6) Phoenix 108 6.1 11.1 3.1 4.1 (1.1) 6.1 Sacramento 127 3.1 3.1 1.1 1.1 (27.8) (0.7) Chicago (d) 193 (0.3) 6.1 5.1 (1.0) (15.8) 0.1 Las Vegas 104 (13.8) 18.1 5.1 (1.0) (15.8) 0.1 Las Vegas 104 (13.8) 18.1 5.1 4.1 (37.1) (8.5) Dallas/Ft. Worth (e) 206 (16.2) (0.5) (12.5) (7.8) (7.2) (11.9) Boston 227 10.1 0.1 (2.9) (2.5) (5.0) 7.1	San Francisco (a)	\$116	(6.0%)	13.1%	9.1%	(2.6%)	(26.1%)	(0.6%)
Denver 122 6.1 4.1 47.1 24.1 9.1 9.1 Seattle 150 (1.0) (5.7) (2.6) (7.7) (20.4) (5.6) Phoenix 108 6.1 11.1 3.1 4.1 (1.1) 6.1 Sacramento 127 3.1 3.1 1.1 1.1 (27.8) (0.7) Chicago (d) 193 (0.3) 6.1 5.1 (1.0) (15.8) 0.1 Las Vegas 104 (13.8) 18.1 5.1 4.1 (37.1) (8.5) Dallas/Ft. Worth (e) 206 (16.2) (0.5) (12.5) (7.8) (7.2) (11.9) Boston 227 10.1 0.1 (2.9) (2.5) (5.0) 7.1 Portland 149 10.1 (3.3) 5.1 (0.9) (17.5) 0.1 Houston 205 8.1 17.1 (8.9) 23.1 (10.1) 10.1 Minneapolis <td>New York (b)</td> <td>262</td> <td>17.1</td> <td>12.1</td> <td>(14.2)</td> <td>(17.7)</td> <td>(13.8)</td> <td>13.1</td>	New York (b)	262	17.1	12.1	(14.2)	(17.7)	(13.8)	13.1
Seattle 150 (1.0) (5.7) (2.6) (7.7) (20.4) (5.6) Phoenix 108 6.1 11.1 3.1 4.1 (1.1) 6.1 Sacramento 127 3.1 3.1 1.1 1.1 (27.8) (0.7) Chicago (d) 193 (0.3) 6.1 5.1 (1.0) (15.8) 0.1 Las Vegas 104 (13.8) 18.1 5.1 4.1 (37.1) (8.5) Dallas/Ft. Worth (e) 206 (16.2) (0.5) (12.5) (7.8) (7.2) (11.9) Boston 227 10.1 0.1 (2.9) (2.5) (5.0) 7.1 Portland 149 10.1 (3.3) 5.1 (0.9) (17.5) 0.1 Houston 205 8.1 17.1 (8.9) 23.1 (10.1) 10.1 Minneapolis 193 7.1 20.1 (4.3) (7.0) 0.1 8.1 Philade	Washington, D.C. (c)	264	(7.2)	(12.6)	(11.9)	(15.2)	(20.3)	(9.0)
Phoenix 108 6.1 11.1 3.1 4.1 (1.1) 6.1 Sacramento 127 3.1 3.1 1.1 1.1 (27.8) (0.7) Chicago (d) 193 (0.3) 6.1 5.1 (1.0) (15.8) 0.1 Las Vegas 104 (13.8) 18.1 5.1 4.1 (37.1) (8.5) Dallas/Ft. Worth (e) 206 (16.2) (0.5) (12.5) (7.8) (7.2) (11.9) Boston 227 10.1 0.1 (2.9) (2.5) (5.0) 7.1 Portland 149 10.1 (3.3) 5.1 (0.9) (17.5) 0.1 Houston 205 8.1 17.1 (8.9) 23.1 (10.1) 10.1 Minneapolis 193 7.1 20.1 (4.3) (7.0) 0.1 8.1 Philadelphia 254 9.1 (14.5) (5.0) (2.2) 28.1 3.1 Salt La	Denver	122	6.1	4.1	47.1	24.1	9.1	9.1
Sacramento 127 3.1 3.1 1.1 1.1 (27.8) (0.7) Chicago (d) 193 (0.3) 6.1 5.1 (1.0) (15.8) 0.1 Las Vegas 104 (13.8) 18.1 5.1 4.1 (37.1) (8.5) Dallas/Ft. Worth (e) 206 (16.2) (0.5) (12.5) (7.8) (7.2) (11.9) Boston 227 10.1 0.1 (2.9) (2.5) (5.0) 7.1 Portland 149 10.1 (3.3) 5.1 (0.9) (17.5) 0.1 Houston 205 8.1 17.1 (8.9) 23.1 (10.1) 10.1 Minneapolis 193 7.1 20.1 (4.3) (7.0) 0.1 8.1 Philadelphia 254 9.1 (14.5) (5.0) (2.2) 28.1 3.1 Salt Lake City 162 (16.6) (10.6) 5.1 (0.0) (33.6) (18.5)	Seattle	150	(1.0)	(5.7)	(2.6)	(7.7)	(20.4)	(5.6)
Chicago (d) 193 (0.3) 6.1 5.1 (1.0) (15.8) 0.1 Las Vegas 104 (13.8) 18.1 5.1 4.1 (37.1) (8.5) Dallas/Ft. Worth (e) 206 (16.2) (0.5) (12.5) (7.8) (7.2) (11.9) Boston 227 10.1 0.1 (2.9) (2.5) (5.0) 7.1 Portland 149 10.1 (3.3) 5.1 (0.9) (17.5) 0.1 Houston 205 8.1 17.1 (8.9) 23.1 (10.1) 10.1 Minneapolis 193 7.1 20.1 (4.3) (7.0) 0.1 8.1 Philadelphia 254 9.1 (14.5) (5.0) (2.2) 28.1 3.1 Salt Lake City 162 (16.6) (10.6) 5.1 (0.0) (33.6) (18.5) Atlanta 259 (20.1) (6.0) (22.3) (12.0) (20.8) (17.7)	Phoenix	108	6.1	11.1	3.1	4.1	(1.1)	6.1
Las Vegas 104 (13.8) 18.1 5.1 4.1 (37.1) (8.5) Dallas/Ft. Worth (e) 206 (16.2) (0.5) (12.5) (7.8) (7.2) (11.9) Boston 227 10.1 0.1 (2.9) (2.5) (5.0) 7.1 Portland 149 10.1 (3.3) 5.1 (0.9) (17.5) 0.1 Houston 205 8.1 17.1 (8.9) 23.1 (10.1) 10.1 Minneapolis 193 7.1 20.1 (4.3) (7.0) 0.1 8.1 Philadelphia 254 9.1 (14.5) (5.0) (2.2) 28.1 3.1 Salt Lake City 162 (16.6) (10.6) 5.1 (0.0) (33.6) (18.5) Atlanta 259 (20.1) (6.0) (22.3) (12.0) (20.8) (17.7) Detroit 219 1.1 (8.9) (11.7) (11.9) (12.1) (10.3) <td>Sacramento</td> <td>127</td> <td>3.1</td> <td>3.1</td> <td>1.1</td> <td>1.1</td> <td>(27.8)</td> <td>(0.7)</td>	Sacramento	127	3.1	3.1	1.1	1.1	(27.8)	(0.7)
Dallas/Ft. Worth (e) 206 (16.2) (0.5) (12.5) (7.8) (7.2) (11.9) Boston 227 10.1 0.1 (2.9) (2.5) (5.0) 7.1 Portland 149 10.1 (3.3) 5.1 (0.9) (17.5) 0.1 Houston 205 8.1 17.1 (8.9) 23.1 (10.1) 10.1 Minneapolis 193 7.1 20.1 (4.3) (7.0) 0.1 8.1 Philadelphia 254 9.1 (14.5) (5.0) (2.2) 28.1 3.1 Salt Lake City 162 (16.6) (10.6) 5.1 (0.0) (33.6) (18.5) Atlanta 259 (20.1) (6.0) (22.3) (12.0) (20.8) (17.7) Detroit 219 1.1 (8.9) (11.7) (11.9) (12.1) (1.3) Orlando 201 7.1 6.1 6.1 1.1 4.1 6.1	Chicago (d)	193	(0.3)	6.1	5.1	(1.0)	(15.8)	0.1
Boston 227 10.1 0.1 (2.9) (2.5) (5.0) 7.1 Portland 149 10.1 (3.3) 5.1 (0.9) (17.5) 0.1 Houston 205 8.1 17.1 (8.9) 23.1 (10.1) 10.1 Minneapolis 193 7.1 20.1 (4.3) (7.0) 0.1 8.1 Philadelphia 254 9.1 (14.5) (5.0) (2.2) 28.1 3.1 Salt Lake City 162 (16.6) (10.6) 5.1 (0.0) (33.6) (18.5) Atlanta 259 (20.1) (6.0) (22.3) (12.0) (20.8) (17.7) Detroit 219 1.1 (8.9) (11.7) (11.9) (12.1) (1.7) Honolulu 286 (10.7) (1.7) 17.1 (8.3) 23.1 (10.3) Orlando 201 7.1 6.1 6.1 1.1 4.1 6.1 Airp	Las Vegas	104	(13.8)	18.1	5.1	4.1	(37.1)	(8.5)
Portland 149 10.1 (3.3) 5.1 (0.9) (17.5) 0.1 Houston 205 8.1 17.1 (8.9) 23.1 (10.1) 10.1 Minneapolis 193 7.1 20.1 (4.3) (7.0) 0.1 8.1 Philadelphia 254 9.1 (14.5) (5.0) (2.2) 28.1 3.1 Salt Lake City 162 (16.6) (10.6) 5.1 (0.0) (33.6) (18.5) Atlanta 259 (20.1) (6.0) (22.3) (12.0) (20.8) (17.7) Detroit 219 1.1 (8.9) (11.7) (11.9) (12.1) (1.7) Honolulu 286 (10.7) (1.7) 17.1 (8.3) 23.1 (10.3) Orlando 201 7.1 6.1 6.1 1.1 4.1 6.1 Airports listed 169 15.1 (3.1) (16.5) (11.3) (29.2) 4.1	Dallas/Ft. Worth (e)	206	(16.2)	(0.5)	(12.5)	(7.8)	(7.2)	(11.9)
Houston 205 8.1 17.1 (8.9) 23.1 (10.1) 10.1 Minneapolis 193 7.1 20.1 (4.3) (7.0) 0.1 8.1 Philadelphia 254 9.1 (14.5) (5.0) (2.2) 28.1 3.1 Salt Lake City 162 (16.6) (10.6) 5.1 (0.0) (33.6) (18.5) Atlanta 259 (20.1) (6.0) (22.3) (12.0) (20.8) (17.7) Detroit 219 1.1 (8.9) (11.7) (11.9) (12.1) (1.7) Honolulu 286 (10.7) (1.7) 17.1 (8.3) 23.1 (10.3) Orlando 201 7.1 6.1 6.1 1.1 4.1 6.1 Airports listed 169 15.1 (3.1) (16.5) (11.3) (29.2) 4.1	Boston	227	10.1	0.1	(2.9)	(2.5)	(5.0)	7.1
Minneapolis 193 7.1 20.1 (4.3) (7.0) 0.1 8.1 Philadelphia 254 9.1 (14.5) (5.0) (2.2) 28.1 3.1 Salt Lake City 162 (16.6) (10.6) 5.1 (0.0) (33.6) (18.5) Atlanta 259 (20.1) (6.0) (22.3) (12.0) (20.8) (17.7) Detroit 219 1.1 (8.9) (11.7) (11.9) (12.1) (1.7) Honolulu 286 (10.7) (1.7) 17.1 (8.3) 23.1 (10.3) Orlando 201 7.1 6.1 6.1 1.1 4.1 6.1 Airports listed 169 15.1 (3.1) (16.5) (11.3) (29.2) 4.1	Portland	149	10.1	(3.3)	5.1	(0.9)	(17.5)	0.1
Philadelphia 254 9.1 (14.5) (5.0) (2.2) 28.1 3.1 Salt Lake City 162 (16.6) (10.6) 5.1 (0.0) (33.6) (18.5) Atlanta 259 (20.1) (6.0) (22.3) (12.0) (20.8) (17.7) Detroit 219 1.1 (8.9) (11.7) (11.9) (12.1) (1.7) Honolulu 286 (10.7) (1.7) 17.1 (8.3) 23.1 (10.3) Orlando 201 7.1 6.1 6.1 1.1 4.1 6.1 Airports listed 169 15.1 (3.1) (16.5) (11.3) (29.2) 4.1	Houston	205	8.1	17.1	(8.9)	23.1	(10.1)	10.1
Salt Lake City 162 (16.6) (10.6) 5.1 (0.0) (33.6) (18.5) Atlanta 259 (20.1) (6.0) (22.3) (12.0) (20.8) (17.7) Detroit 219 1.1 (8.9) (11.7) (11.9) (12.1) (1.7) Honolulu 286 (10.7) (1.7) 17.1 (8.3) 23.1 (10.3) Orlando 201 7.1 6.1 6.1 1.1 4.1 6.1 Airports listed 169 15.1 (3.1) (16.5) (11.3) (29.2) 4.1	Minneapolis	193	7.1	20.1	(4.3)	(7.0)	0.1	8.1
Atlanta 259 (20.1) (6.0) (22.3) (12.0) (20.8) (17.7) Detroit 219 1.1 (8.9) (11.7) (11.9) (12.1) (1.7) Honolulu 286 (10.7) (1.7) 17.1 (8.3) 23.1 (10.3) Orlando 201 7.1 6.1 6.1 1.1 4.1 6.1 Airports listed 169 15.1 (3.1) (16.5) (11.3) (29.2) 4.1	Philadelphia	254	9.1	(14.5)	(5.0)	(2.2)	28.1	3.1
Detroit 219 1.1 (8.9) (11.7) (11.9) (12.1) (1.7) Honolulu 286 (10.7) (1.7) 17.1 (8.3) 23.1 (10.3) Orlando 201 7.1 6.1 6.1 1.1 4.1 6.1 Airports listed 169 15.1 (3.1) (16.5) (11.3) (29.2) 4.1	Salt Lake City	162	(16.6)	(10.6)	5.1	(0.0)	(33.6)	(18.5)
Honolulu 286 (10.7) (1.7) 17.1 (8.3) 23.1 (10.3) Orlando 201 7.1 6.1 6.1 1.1 4.1 6.1 Airports listed 169 15.1 (3.1) (16.5) (11.3) (29.2) 4.1	Atlanta	259	(20.1)	(6.0)	(22.3)	(12.0)	(20.8)	(17.7)
Orlando 201 7.1 6.1 6.1 1.1 4.1 6.1 Airports listed 169 15.1 (3.1) (16.5) (11.3) (29.2) 4.1	Detroit	219	1.1	(8.9)	(11.7)	(11.9)	(12.1)	(1.7)
Airports listed 169 15.1 (3.1) (16.5) (11.3) (29.2) 4.1	Honolulu	286	(10.7)	(1.7)	17.1	(8.3)	23.1	(10.3)
	Orlando	201	7.1	6.1	6.1	1.1	4.1	6.1
Other airports 207 4.1 4.1 0.1 6.1 (22.5) 3.1	Airports listed	169	15.1	(3.1)	(16.5)	(11.3)	(29.2)	4.1
5.1.5. 5.1.5 5.1.5 (22.5) 5.1.	Other airports	207	4.1	4.1	0.1	6.1	(22.5)	3.1
Total 181 11.1 (2.7) (16.8) (6.4) (31.4) 3.1	Total	181	11.1	(2.7)	(16.8)	(6.4)	(31.4)	3.1

⁽a) San Francisco, Oakland, and Mineta San Jose International airports.

Sources: U.S. Department of Transportation, *Origin-Destination Survey of Airline Passenger Traffic, Domestic*, online database (Databank 1A), and Official Airline Guides, Inc., online database, accessed July 2012.

⁽b) Newark Liberty International, LaGuardia, and John F. Kennedy International airports.

⁽c) Reagan Washington National, Baltimore/Washington International Thurgood Marshall, and Washington Dulles International airports.

⁽d) Chicago O'Hare and Midway International airports.

⁽e) Dallas/Fort Worth International Airport and Love Field.



Table 14
HISTORICAL ENPLANED PASSENGERS BY MONTH

							Month						
Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
2007	642,946	644,130	758,396	767,769	762,664	813,109	876,877	901,065	739,397	767,720	764,915	733,951	9,172,939
2008	676,438	690,274	809,636	780,721	791,196	852,114	860,853	871,856	670,859	718,512	668,760	669,936	9,061,155
2009	605,207	589,481	693,236	712,754	708,898	765,422	835,971	817,594	662,849	723,055	681,907	676,407	8,472,781
2010	618,036	577,277	700,889	698,188	703,248	758,465	811,643	810,476	680,247	722,083	688,419	687,205	8,456,176
2011	615,521	581,576	688,309	689,241	708,595	757,805	794,406	794,928	699,738	711,956	686,504	714,033	8,442,612
2012	626,213	629,283	729,909	717,469	709,239								
					Υ	ear-over-y	ear percent	increase (decrease)				
2007-2008	5.2%	7.2%	6.8%	1.7%	3.7%	4.8%	(1.8)%	(3.2)%	(9.3)%	(6.4)%	(12.6)%	(8.7)%	(1.2)%
2008-2009	(10.5)	(14.6)	(14.4)	(8.7)	(10.4)	(10.2)	(2.9)	(6.2)	(1.2)	0.6	2.0	1.0	(6.5)
2009-2010	2.1	(2.1)	1.1	(2.0)	(0.8)	(0.9)	(2.9)	(0.9)	2.6	(0.1)	1.0	1.6	(0.2)
2010-2011	(0.4)	0.7	(1.8)	(1.3)	0.8	(0.1)	(2.1)	(1.9)	2.9	(1.4)	(0.3)	3.9	(0.2)
2011-2012	1.7	8.2	6.0	4.1	0.1								
							Percent o	of total					
2007	7.0%	7.0%	8.3%	8.4%	8.3%	8.9%	9.6%	9.8%	8.1%	8.4%	8.3%	8.0%	100.0%
2008	7.5	7.6	8.9	8.6	8.7	9.4	9.5	9.6	7.4	7.9	7.4	7.4	100.0
2009	7.1	7.0	8.2	8.4	8.4	9.0	9.9	9.6	7.8	8.5	8.0	8.0	100.0
2010	7.3	6.8	8.3	8.3	8.3	9.0	9.6	9.6	8.0	8.5	8.1	8.1	100.0
2011	7.3	6.9	8.2	8.2	8.4	9.0	9.4	9.4	8.3	8.4	8.1	8.5	100.0
5-year average (2007-2011)	7.2	7.1	8.4	8.4	8.4	9.1	9.6	9.6	7.9	8.4	8.0	8.0	100.0

Note: Data include domestic and international passengers enplaned on mainline and regional passenger airlines.



Table 15
HISTORICAL SCHEDULED DEPARTING SEATS BY MONTH

						N	lonth						
Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
2007	972,858	881,903	999,936	967,248	1,012,816	1,040,222	1,090,205	1,108,552	1,058,766	1,095,835	1,038,082	1,046,002	12,312,425
2008	1,026,672	969,775	1,060,180	1,053,291	1,085,626	1,094,568	1,134,954	1,104,094	957,684	985,820	940,823	956,527	12,370,014
2009	927,803	846,564	946,959	914,902	966,931	992,708	1,026,092	1,002,194	901,787	928,985	879,112	902,751	11,236,788
2010	871,412	795,790	897,929	883,633	945,019	956,388	985,765	969,904	872,840	912,288	856,741	882,379	10,830,088
2011	866,604	787,664	893,347	859,627	913,015	931,738	968,092	962,262	890,364	914,414	864,091	910,177	10,761,395
2012	859,486	826,412	919,318	885,621	916,848	958,650	1,017,493	990,860	888,622	920,854	879,518	919,592	10,983,274
					Y	ear-over-yea	ar percent ir	crease (dec	rease)				
2007-2008	5.5%	10.0%	6.0%	8.9%	7.2%	5.2%	4.1%	(0.4)%	(9.5)%	(10.0)%	(9.4)%	(8.6)%	0.5%
2008-2009	(9.6)	(12.7)	(10.7)	(13.1)	(10.9)	(9.3)	(9.6)	(9.2)	(5.8)	(5.8)	(6.6)	(5.6)	(9.2)
2009-2010	(6.1)	(6.0)	(5.2)	(3.4)	(2.3)	(3.7)	(3.9)	(3.2)	(3.2)	(1.8)	(2.5)	(2.3)	(3.6)
2010-2011	(0.6)	(1.0)	(0.5)	(2.7)	(3.4)	(2.6)	(1.8)	(0.8)	2.0	0.2	0.9	3.2	(0.6)
2011-2012	(8.0)	4.9	2.9	3.0	0.4	2.9	5.1	3.0	(0.2)	0.7	1.8	1.0	2.1
							Percent of t	otal					
2007	7.9%	7.2%	8.1%	7.9%	8.2%	8.4%	8.9%	9.0%	8.6%	8.9%	8.4%	8.5%	100.0%
2008	8.3	7.8	8.6	8.5	8.8	8.8	9.2	8.9	7.7	8.0	7.6	7.7	100.0
2009	8.3	7.5	8.4	8.1	8.6	8.8	9.1	8.9	8.0	8.3	7.8	8.0	100.0
2010	8.0	7.3	8.3	8.2	8.7	8.8	9.1	9.0	8.1	8.4	7.9	8.1	100.0
2011	8.1	7.3	8.3	8.0	8.5	8.7	9.0	8.9	8.3	8.5	8.0	8.5	100.0
2012	7.8	7.5	8.4	8.1	8.3	8.7	9.3	9.0	8.1	8.4	8.0	8.4	100.0
5 year													
average	0.4	7.4	0.2	0.4	0.6	0.7	0.4	0.0	0.4	0.4	0.0	0.2	400.0
(2007-2011)	8.1	7.4	8.3	8.1	8.6	8.7	9.1	8.9	8.1	8.4	8.0	8.2	100.0

Note: Data include domestic and international passengers enplaned on mainline and regional passenger airlines.

Source: Official Airline Guides, Inc., online database, accessed November 2012.

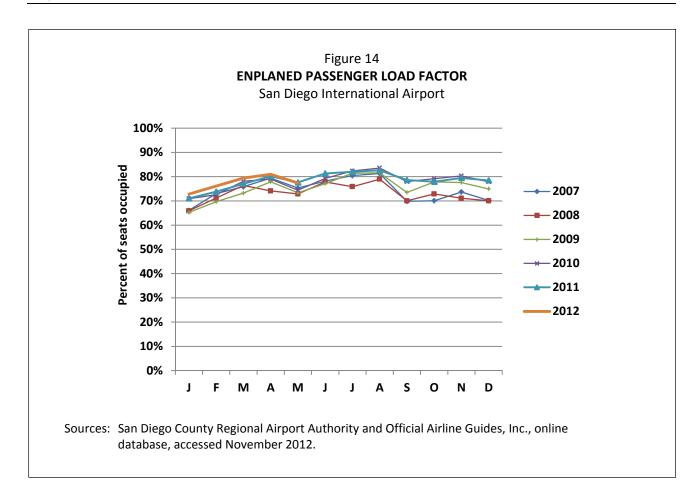


Table 16
HISTORICAL PASSENGER AIRLINE AIRCRAFT LANDINGS BY MONTH

							Month						
Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
2007	15,614	14,206	16,246	15,368	16,280	16,964	17,826	18,142	17,140	17,728	16,894	17,014	199,422
2008	16,424	15,594	17,110	16,766	17,440	17,448	17,928	17,594	14,678	15,076	14,198	14,336	194,592
2009	14,153	13,062	14,577	14,170	14,949	15,067	15,748	15,380	13,801	14,154	13,385	13,699	172,145
2010	13,038	12,061	13,817	13,601	14,405	14,430	14,743	14,488	13,024	13,487	12,749	13,115	162,958
2011	12,940	11,825	13,489	12,898	13,540	13,932	14,367	14,117	12,281	13,385	12,782	13,394	158,950
2012	12,625	12,179	13,495	13,172	13,524								
					Ye	ear-over-ye	ear percen	t increase (decrease)				
2007-2008	5.2%	9.8%	5.3%	9.1%	7.1%	2.9%	0.6%	(3.0)%	(14.4)%	(15.0)%	(16.0)%	(15.7)%	(2.4)%
2008-2009	(13.8)	(16.2)	(14.8)	(15.5)	(14.3)	(13.6)	(12.2)	(12.6)	(6.0)	(6.1)	(5.7)	(4.4)	(11.5)
2009-2010	(7.9)	(7.7)	(5.2)	(4.0)	(3.6)	(4.2)	(6.4)	(5.8)	(5.6)	(4.7)	(4.8)	(4.3)	(5.3)
2010-2011	(8.0)	(2.0)	(2.4)	(5.2)	(6.0)	(3.5)	(2.6)	(2.6)	(5.7)	(8.0)	0.3	2.1	(2.5)
2011-2012	(2.1)	3.0	0.0	2.1	(0.1)								
							Percent	of total					
2007	7.8%	7.1%	8.1%	7.7%	8.2%	8.5%	8.9%	9.1%	8.6%	8.9%	8.5%	8.5%	100.0%
2008	8.4	8.0	8.8	8.6	9.0%	9.0	9.2	9.0	7.5	7.7	7.3	7.4	100.0
2009	8.2	7.6	8.5	8.2	8.7%	8.8	9.1	8.9	8.0	8.2	7.8	8.0	100.0
2010	8.0	7.4	8.5	8.3	8.8%	8.9	9.0	8.9	8.0	8.3	7.8	8.0	100.0
2011	8.1	7.4	8.5	8.1	8.5%	8.8	9.0	8.9	7.7	8.4	8.0	8.4	100.0
5 year average													
(2007-2011)	8.1	7.5	8.5	8.2	8.6	8.8	9.1	9.0	8.0	8.3	7.9	8.1	100.0

Note: Data include domestic and international passengers enplaned on mainline and regional passenger airlines.







CHAPTER 4 HISTORICAL AIR CARGO

A review of air cargo activity at the Airport provided the foundation for the air cargo forecasts and included an analysis of: (1) overall trends in air cargo, domestic and International; (2) all-cargo airline market shares; and (3) monthly activity for air cargo and all-cargo airline landings.

HISTORICAL AIR CARGO TRENDS

The Airport is served by four all-cargo airlines—BAX Global, DHL, Federal Express, and United Parcel Service. Figure 15 and Table 17 present historical trends in air cargo at the Airport from 1990 through 2011. Total freight and mail at the Airport increased from 68,127 tons in 1990 to a peak of 207,992 in 2006 and then decreased to 130,850 tons in 2011, for an average increase of 3.1% per year between 1990 and 2011. Enplaned air cargo at the Airport accounted for 54% of total cargo tonnage (enplaned plus deplaned) in 2011, consistent with recent historical trends.

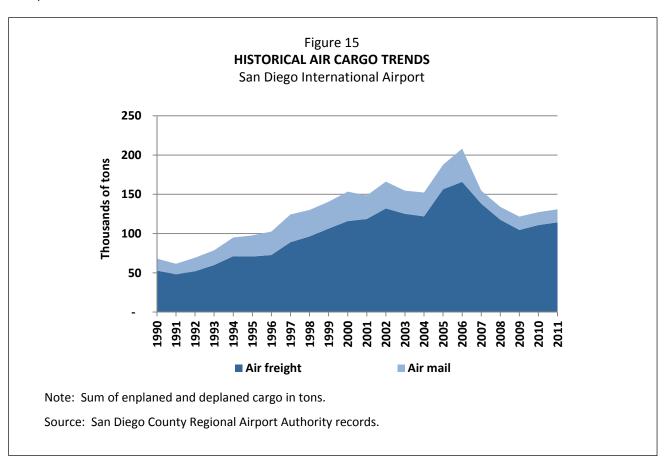




Table 17 **HISTORICAL AIR CARGO** (in tons)

San Diego International Airport

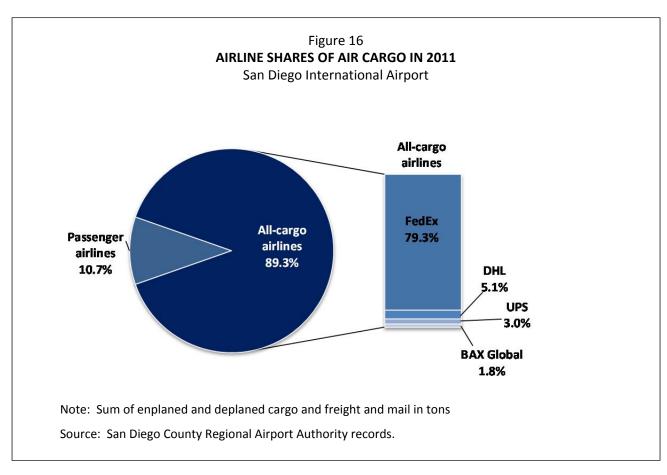
	ear Air mail Air freight			Percent	Percent of tota		
Year	Air mail	Air freight	Total	change	Enplaned	Deplaned	
1990	15,306	52,821	68,127	%	53%	47%	
1991	13,322	48,174	61,496	(9.7%)	53%	47%	
1992	17,373	51,975	69,348	13.1%	53%	47%	
1993	18,800	59,910	78,710	13.1%	52%	48%	
1994	23,822	71,167	94,989	21.1%	51%	49%	
1995	26,935	70,732	97,667	3.1%	52%	48%	
1996	29,789	72,725	102,514	5.1%	52%	48%	
1997	35,328	88,981	124,309	21.1%	53%	47%	
1998	33,671	96,341	130,012	5.1%	54%	46%	
1999	34,291	106,271	140,562	8.1%	53%	47%	
2000	37,527	115,843	153,370	9.1%	51%	49%	
2001	30,016	118,483	148,498	(3.2%)	52%	48%	
2002	34,118	131,932	166,050	12.1%	52%	48%	
2003	29,449	125,157	154,606	(6.9%)	50%	50%	
2004	30,417	121,840	152,257	(1.5%)	47%	53%	
2005	31,296	156,410	187,705	23.1%	46%	54%	
2006	42,221	165,771	207,992	11.1%	41%	59%	
2007	16,653	138,036	154,689	(25.6%)	55%	45%	
2008	16,337	117,579	133,916	(13.4%)	56%	44%	
2009	16,931	104,607	121,538	(9.2%)	56%	44%	
2010	16,437	110,824	127,261	5.1%	54%	46%	
2011	16,658	114,192	130,850	3.1%	54%	46%	
	Compound av	verage annual perce (decrease)	ent increase				
1990-2000	9.4%	8.2%	8.5%				
2000-2006	2.1%	6.1%	5.1%				
2006-2011	(17.0%)	(7.2%)	(8.9%)				
1990-2011	0.1%	4.1%	3.1%				

Note: Data include enplaned and deplaned air freight and mail on domestic and international flights.



AIRLINE SHARES OF AIR CARGO

Airline market shares of air cargo and mail at the Airport are shown in Figure 16. In 2011, all-cargo airlines accounted for 89.3% of air cargo at the Airport, and the remaining 10.7% was carried as belly cargo on passenger flights. Of the cargo airlines serving the Airport, FedEx accounted for the largest share of air cargo in 2011 (79.3%), followed by DHL with 5.1%, United Parcel Service (UPS) with 3.0%, and BAX Global with 1.8%, as shown on Figure 16.



MONTHLY AIR CARGO

Table 18 presents monthly air cargo data for the Airport for January 2007 through May 2012. The monthly data show the seasonal variation in air cargo activity, with peak levels occurring typically in December and the lowest monthly activity occurring from January through February.

MONTHLY ALL-CARGO AIRLINE AIRCRAFT LANDINGS

Table 19 presents monthly all-cargo airline aircraft landings data for the Airport for January 2007 through May 2012.



Table 18
HISTORICAL AIR CARGO BY MONTH

						N	1onth						
Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
2007	13,292	13,034	15,175	12,397	13,615	13,440	11,987	13,743	11,874	12,416	12,085	11,632	154,689
2008	12,201	11,890	11,868	12,255	11,765	10,807	11,615	11,460	10,068	10,341	9,415	10,231	133,916
2009	10,029	8,994	9,661	9,600	9,870	9,499	9,987	9,518	9,961	10,716	10,921	12,782	121,538
2010	9,876	9,654	10,901	10,561	10,285	10,350	11,413	10,296	10,333	11,178	10,484	11,929	127,261
2011	10,184	10,003	11,876	10,538	10,298	11,428	10,729	11,132	10,956	11,187	10,782	11,736	130,850
2012	10,344	11,218	12,158	10,467	11,040								
					Ye	ar-over-yea	r percent ir	ncrease (de	ecrease)				
2007-2008	(8.2)%	(8.8)%	(21.8)%	(1.1)%	(13.6)%	(19.6)%	(3.1)%	(16.6)%	(15.2)%	(16.7)%	(22.1)%	(12.0)%	(13.4)%
2008-2009	(17.8)	(24.4)	(18.6)	(21.7)	(16.1)	(12.1)	(14.0)	(16.9)	(1.1)	3.6	16.0	24.9	(9.2)
2009-2010	(1.5)	7.3	12.8	10.0	4.2	9.0	14.3	8.2	3.7	4.3	(4.0)	(6.7)	4.7
2010-2011	3.1	3.6	8.9	(0.2)	0.1	10.4	(6.0)	8.1	6.0	0.1	2.8	(1.6)	2.8
2011-2012	1.6	12.1	2.4	(0.7)	7.2								
							Percent of	total					
2007	8.6%	8.4%	9.8%	8.0%	8.8%	8.7%	7.7%	8.9%	7.7%	8.0%	7.8%	7.5%	100.0%
2008	9.1	8.9	8.9	9.2	8.8	8.1	8.7	8.6	7.5	7.7	7.0	7.6	100.0
2009	8.3	7.4	7.9	7.9	8.1	7.8	8.2	7.8	8.2	8.8	9.0	10.5	100.0
2010	7.8	7.6	8.6	8.3	8.1	8.1	9.0	8.1	8.1	8.8	8.2	9.4	100.0
2011	7.8	7.6	9.1	8.1	7.9	8.7	8.2	8.5	8.4	8.5	8.2	9.0	100.0
5-year average (2007-2011)	8.3	8.0	8.9	8.3	8.3	8.3	8.4	8.4	8.0	8.4	8.1	8.8	100.0

Note: Data include enplaned and deplaned air freight and mail on domestic and international flights.



Table 19
HISTORICAL ALL-CARGO AIRLINE LANDINGS BY MONTH

							Month						
Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
2007	610	598	616	564	624	592	586	620	564	614	600	558	7,146
2008	616	620	584	614	602	578	614	590	524	542	478	530	6,892
2009	612	582	584	598	548	570	596	548	558	590	510	648	6,944
2010	542	508	590	588	576	538	532	572	586	594	506	562	6,694
2011	566	530	634	570	544	540	498	542	528	478	474	548	6,452
2012	788	476	534	498	542								
					Υ	ear-over-y	ear percen	increase (decrease)				
2007-2008	1.0%	3.7%	(5.2)%	8.9%	(3.5)%	(2.4)%	4.8%	(4.8)%	(7.1)%	(11.7)%	(20.3)%	(5.0)%	(3.6)%
2008-2009	(0.6)	(6.1)		(2.6)	(9.0)	(1.4)	(2.9)	(7.1)	6.5	8.9	6.7	22.3	0.8
2009-2010	(11.4)	(12.7)	1.0	(1.7)	5.1	(5.6)	(10.7)	4.4	5.0	0.7	(0.8)	(13.3)	(3.6)
2010-2011	4.4	4.3	7.5	(3.1)	(5.6)	0.4	(6.4)	(5.2)	(9.9)	(19.5)	(6.3)	(2.5)	(3.6)
2011-2012	39.2	(10.2)	(15.8)	(12.6)	(0.4)								
							Percent o	of total					
2007	8.5%	8.4%	8.6%	7.9%	8.7%	8.3%	8.2%	8.7%	7.9%	8.6%	8.4%	7.8%	100.0%
2008	8.9	9.0	8.5	8.9	8.7	8.4	8.9	8.6	7.6	7.9	6.9	7.7	100.0
2009	8.8	8.4	8.4	8.6	7.9	8.2	8.6	7.9	8.0	8.5	7.3	9.3	100.0
2010	8.1	7.6	8.8	8.8	8.6	8.0	7.9	8.5	8.8	8.9	7.6	8.4	100.0
2011	8.8	8.2	9.8	8.8	8.4	8.4	7.7	8.4	8.2	7.4	7.3	8.5	100.0
5-year													
average													
(2007-2011)	8.6	8.3	8.8	8.6	8.5	8.3	8.3	8.4	8.1	8.2	7.5	8.3	100.0

Note: Data include enplaned and deplaned air freight and mail on domestic and international flights.



CHAPTER 5 HISTORICAL AIRCRAFT OPERATIONS

This chapter summarizes historical total aircraft operations at the Airport from 1990 through 2011. Aircraft operations include the total number of departures and arrivals by air carrier, air taxi and commuter, general aviation, and military aircraft. An aircraft operation is defined as either a takeoff or a landing at the Airport. Table 20 and Figure 17 present a summary of total aircraft operations at SDIA by type.

AIR CARRIER

Air carrier operations are those performed in revenue service by the passenger and all-cargo airlines serving the Airport. Included are scheduled flights, charter flights, diverted flights, and ferry operations (empty flights). The FAA defines an air carrier aircraft, for traffic counting purposes, as capable of carrying more than 60 passengers and provides a list of model types that are counted as air carrier operations (Appendix 3 in Order JO 7210.3W), even if the aircraft is conducting air freight operations.* As shown in Table 20, air carrier aircraft operations increased an average of 1.2% per year between 1990 and 2008. Since 2008, the number of air carrier operations at SDIA has decreased—an average of 3.7% per year between 2008 and 2011, reflecting the effects of the economic recession and airline systemwide capacity reductions.

AIR TAXI AND COMMUTER

Air taxi and commuter operations consist of unscheduled operations of "for hire" air taxis and the scheduled operations of commuter airlines, including regional affiliate airlines operating aircraft with less than 60 seats. The FAA defines air taxi and commuter operations as those performed by aircraft other than those listed in Appendix 3 noted above and which use three-letter company designators. Fractional ownership and management companies and corporate flight departments that use a three-letter company designator are included in air taxi operations. As shown in Table 20, air taxi and commuter aircraft operations decreased an average of 0.6% per year between 1990 and 2008. Since 2008, air taxi and commuter have decreased an average of 16.4% per year reflecting increased fuel costs and the comparatively higher cost of operating small regional jet aircraft.

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^{*}U.S. Department of Transportation, Federal Aviation Administration, Order JO 7210.3W, February 11, 2010, http://www.faa.gov/air_traffic/publications.



Table 20
HISTORICAL AIRCRAFT OPERATIONS

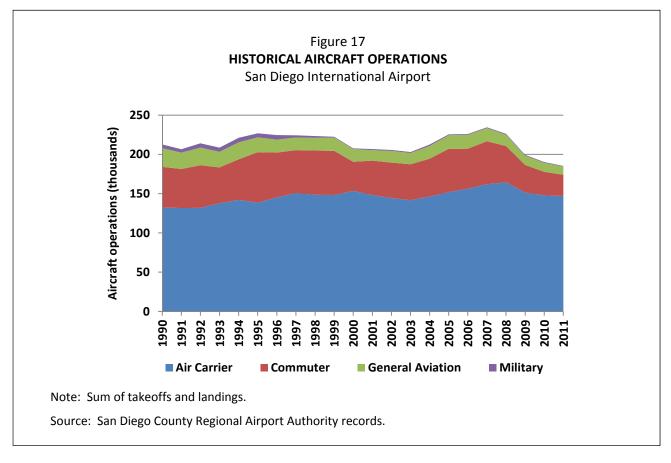
	Со	mmercial flight	S				Percent
	Air	Commuter/		General			increase
	carrier (a)	air taxi (b)	Subtotal	aviation	Military	Total	(decrease)
1990	132,211	51,889	184,100	23,752	4,701	212,553	
1991	131,661	49,616	181,277	20,934	4,276	206,487	(2.9)
1992	131,853	54,273	186,126	22,378	5,479	213,983	3.6
1993	137,779	45,628	183,407	19,860	5,239	208,506	(2.6)
1994	141,968	51,695	193,663	21,536	5,845	221,044	6.0
1995	138,550	64,118	202,668	19,009	5,038	226,715	2.6
1996	145,250	56,983	202,233	16,514	5,719	224,466	(1.0)
1997	150,695	54,701	205,396	16,008	2,791	224,195	(0.1)
1998	148,472	56,413	204,885	16,114	2,258	223,257	(0.4)
1999	148,173	56,300	204,473	16,847	1,036	222,356	(0.4)
2000	153,371	37,168	190,539	16,282	823	207,644	(6.6)
2001	148,262	43,762	192,024	13,239	1,451	206,714	(0.4)
2002	144,347	45,149	189,496	14,828	1,229	205,553	(0.6)
2003	141,605	45,762	187,367	14,314	1,197	202,878	(1.3)
2004	146,270	48,190	194,460	16,297	1,711	212,468	4.7
2005	151,925	55,031	206,956	17,328	1,139	225,423	6.1
2006	156,335	50,885	207,220	17,579	985	225,784	0.2
2007	161,896	54,788	216,684	16,644	1,042	234,370	3.8
2008	164,382	46,215	210,597	14,501	1,059	226,157	(3.5)
2009	151,390	35,091	186,481	11,624	1,105	199,210	(11.9)
2010	147,726	29,891	177,617	11,612	908	190,137	(4.6)
2011	146,990	27,044	174,034	10,406	703	185,143	(2.6)
		•	.1				
		Average annu	iai percent	increase (de	ecrease)		
1990-2000	1.5%	(3.3)%	0.3%	(3.7)%	(16.0)%	(0.2)%	
2000-2008	0.9	2.8	1.3	(1.4)	3.2	1.1	
2008-2011	(3.7)	(16.4)	(6.2)	(10.5)	(12.8)	(6.5)	
1990-2008	1.2	(0.6)	0.7	(2.7)	(7.9)	0.3	
1990-2011	0.5	(3.1)	(0.3)	(3.9)	(8.7)	(0.7)	

Note: Sum of takeoffs and landings.

⁽a) Includes all-cargo carrier operations.

⁽b) Includes scheduled and for-hire service passenger and cargo service on aircraft with less than 60 seats.





GENERAL AVIATION

General aviation operations include all civil aircraft operations not classified as air carrier or air taxi and commuter operations. As shown in Table 20, general aviation aircraft operations decreased an average of 3.9% per year between 1990 and 2011. According to the FAA 2011 TAF, a total of 6 general aviation aircraft were based at the Airport in 2011, comprised entirely of jet engine aircraft.

MILITARY

Military aircraft operations at the Airport have averaged approximately 1,100 operations per year from 2000 through 2011. In 2011, military operations totaled 703, less than the 12-year average. Historically, military operations have varied with geopolitical trends.

MONTHLY AIRCRAFT OPERATIONS

Table 21 presents monthly total aircraft operations data for the Airport for January 2007 through May 2012. The monthly data show the seasonal variation in total aircraft operations, with July and August each accounting for 9% of annual operations in 2011. From 2007 through 2011, July and August accounted for the peak share of annual aircraft operations at the Airport, with an average of approximately 9% of annual operations.



Table 21
HISTORICAL AIRCRAFT OPERATIONS BY MONTH

							Month						
Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
2007	18,383	16,809	18,803	17,894	19,161	19,852	20,809	21,720	20,229	20,946	20,071	19,693	234,370
2008	19,176	18,339	18,985	19,572	20,357	20,392	20,705	20,120	17,380	17,692	16,707	16,732	226,157
2009	16,539	15,238	16,601	16,382	17,330	17,357	18,168	17,876	16,051	16,419	15,471	15,778	199,210
2010	15,149	14,026	16,028	15,768	16,930	16,845	17,282	17,085	15,147	15,818	14,850	15,209	190,137
2011	15,018	13,676	15,646	14,839	15,720	15,891	16,598	16,494	15,081	15,604	14,970	15,606	185,143
2012	14,820	14,243	15,793	15,111	15,706								
					١	ear-over-y	ear percent	increase (c	lecrease)				
2007-2008	4.3%	9.1%	1.0%	9.4%	6.2%	2.7%	(0.5%)	(7.4%)	(14.1%)	(15.5%)	(16.8%)	(15.0%)	(3.5%)
2008-2009	(13.8)	(16.9)	(12.6)	(16.3)	(14.9)	(14.9)	(12.3)	(11.2)	(7.6)	(7.2)	(7.4)	(5.7)	(11.9)
2009-2010	(8.4)	(13.8)	(3.5)	(3.7)	(2.3)	(2.9)	(4.9)	(4.4)	(5.6)	(3.7)	(4.0)	(3.6)	(4.6)
2010-2011	(0.9)	(8.4)	(2.4)	(5.9)	(7.1)	(5.7)	(4.0)	(3.5)	(0.4)	(1.4)	0.8	2.6	(2.6)
2011-2012	(1.3)	4.1	0.9	1.8	(0.1)								
							Percent o	f total					
2007	7.8%	7.2%	8.0%	7.6%	8.2%	8.5%	8.9%	9.3%	8.6%	8.9%	8.6%	8.4%	100.0%
2008	8.5	8.1	8.4	8.7	9.0	9.0	9.2	8.9	7.7	7.8	7.4	7.4	100.0
2009	8.3	7.6	8.3	8.2	8.7	8.7	9.1	9.0	8.1	8.2	7.8	7.9	100.0
2010	8.0	7.4	8.4	8.3	8.9	8.9	9.1	9.0	8.0	8.3	7.8	8.0	100.0
2011	8.1	7.4	8.5	8.0	8.5	8.6	9.0	8.9	8.1	8.4	8.1	8.4	100.0
5-year													
average	8.1	7.5	8.3	8.2	8.6	8.7	9.0	9.0	8.1	8.4	7.9	8.0	100.0

Note: Data include passenger, cargo, general aviation, and military operations.



CHAPTER 6 AVIATION DEMAND FORECASTS

This chapter summarizes the forecasts of enplaned passengers, air cargo, and total aircraft operations for SDIA, including the forecast approach, methodology, and assumptions. As noted earlier, the baseline forecasts presented in this report are "unconstrained" and, therefore, do not include specific assumptions about physical, regulatory, environmental or other impediments to aviation activity growth. Forecasts of aviation activity are presented for enplaned passengers, air cargo, and aircraft operations, including passenger, all-cargo, general aviation, and military operations. Using calendar year 2011 as the base year, annual forecasts were prepared for five future demand years—2016, 2021, 2026, 2031, and 2050. In addition, aviation activity for 2012 was estimated based on year to date activity (January through May 2012) available when this report was prepared, as well as future flight schedule data provided by Official Airline Guides, Inc..

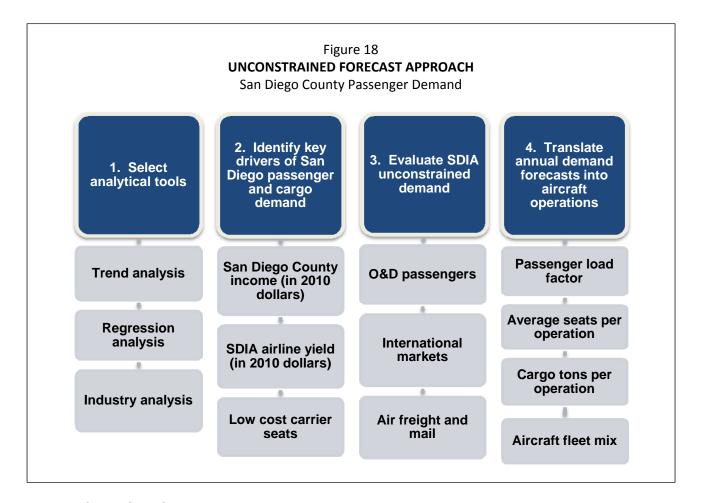
ENPLANED PASSENGERS

The key elements considered in the preparation of passenger forecasts for the Airport included (1) SDIA's large origin and destination (O&D) passenger base, (2) role as the primary commercial service airport in San Diego County, and (3) role as the twelfth busiest airport for Southwest Airlines and (4) the key factors affecting future passenger traffic such as national and global economic conditions, oil price volatility, and airline industry trends.

Forecast Approach and Methodology

As shown in Figure 18, the forecast approach incorporated a multi-tiered approach to evaluate passenger and cargo traffic at SDIA. It was recognized that no one approach would provide input on all of the key factors that affect aviation demand in San Diego County. For example, an econometric analysis would provide input on the relationships between historical domestic and international passengers and regional economic conditions but little to no input on such factors as (1) the role of individual markets in airline scheduling and service decisions, (2) recent trends in the airline industry that have affected an airline's decisions in route planning and aircraft acquisition, and (3) the effect of low-cost carrier service on passenger traffic. Input from these factors is important to the development of reliable forecasts that can serve as the basis for planning efforts at the Airport.

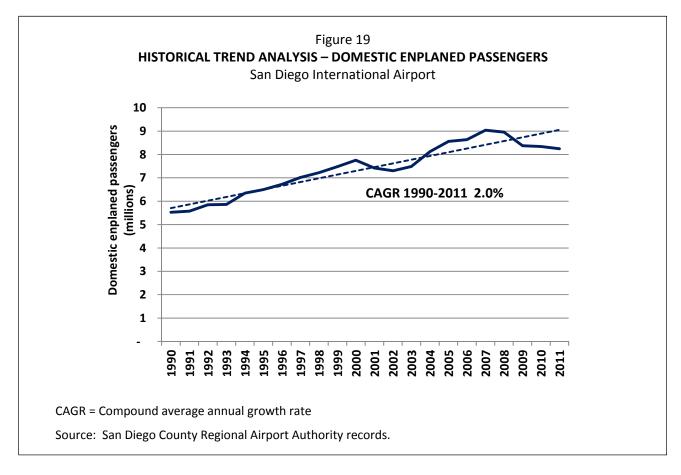




Historical Trend Analysis

Trend analysis is used in aviation forecasting to examine changes in traffic characteristics or underlying factors over time. Simple mathematical techniques such as linear and exponential trends are used to represent changes in the historical data. The calculation of compound average annual growth rates is an example of trend analysis and is frequently used in aviation forecasting to benchmark future growth against historical trends. As shown on Figure 19, the compound average annual growth rate for domestic enplaned passengers in San Diego County is 2.0% between 1990 and 2011. Economic cycles account for a large share of the variance in domestic passenger trends since 1990. In recent years, increasing fuel prices and airline reductions in systemwide capacity contributed to decreases in domestic passenger traffic at U.S. airports, including SDIA.

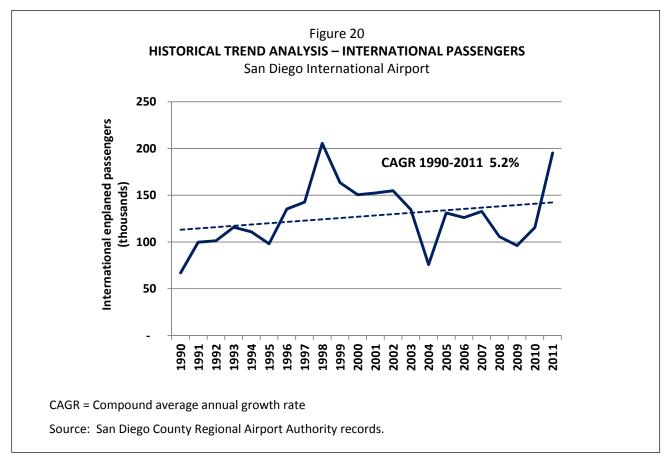




Similarly, as shown on Figure 20, the compound average annual growth rate for international passengers at SDIA is 5.2% per year between 1990 and 2011. International passenger service and traffic at SDIA has varied significantly since 1990.

Although trend analysis can be a valuable benchmarking tool, this technique does not model causal relationships, relies on the assumption that historical trends will continue into the future, and is unable to reflect changes in the underlying causal factors such as economic conditions or fuel prices. As a result, regression analysis was used as the primary basis for forecasting passenger demand at SDIA with the trend analysis informing the regression results.





Regression Analysis

In regression analysis, a mathematical equation defines causal relationships between aviation activity and socioeconomic, airline travel cost, service, and other factors. This analytical tool typically requires independent forecasts of causal factors to produce aviation forecasts. To prepare passenger forecasts for SDIA, regressions analyses of domestic originating and international passenger activity were conducted.

Domestic Originating Passengers. The trend in domestic originating passengers can be explained by a regression analysis relating passenger trends to economic and airline industry metrics. Typically, a passenger regression model includes an income variable (e.g., total personal income, per capita income, or GDP—all expressed in constant dollars) and a cost of travel variable (e.g., yield or airfare—also expressed in constant dollars). The primary objective is to represent the two key variables that affect air travel demand, i.e., how much people have to spend and how much it costs to travel. Other variables may be important as well, depending on the traffic market characteristics.

As shown in Figure 21, the historical trend in domestic originating passengers relates strongly to regional economic activity. Regression models which included economic variables such as total income, per capita personal income, or employment in San Diego County explained more than 90% of the historical variation in domestic originating passengers.



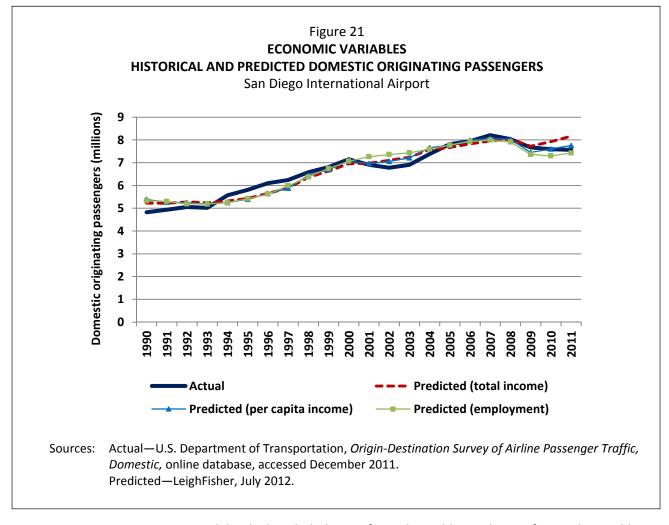
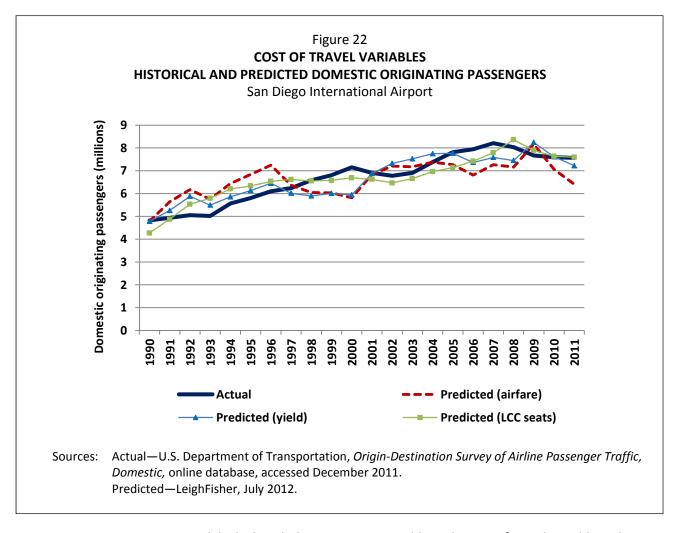


Figure 22 presents regression models which included cost of travel variables such as airfare, airline yield, or the number of low cost carrier seats* at SDIA explained 46% to 82% of the historical variation in domestic originating passengers.

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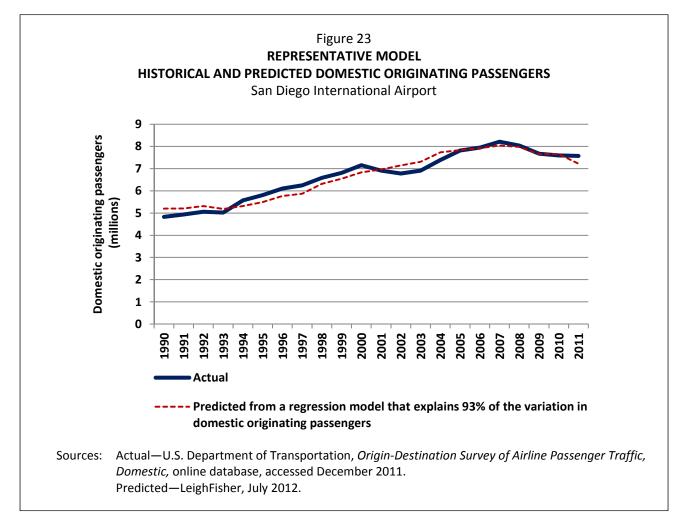
^{*}The number of low cost carrier seats at SDIA was used as a proxy for the cost of travel because increased low cost carrier competition at an airport has a downward influence on the cost of travel. That is, average airfares typically decrease with the addition of low cost carrier service and stimulate additional passenger traffic at an airport.





A representative regression model which includes an income variable and a cost of travel variable is shown on Figure 23. The historical trend in domestic originating passengers at SDIA relates strongly to the predicted values from a regression model which includes per capita personal income in San Diego County, in 2011 dollars, and airline yield (the airfare paid per mile flown) at SDIA, in 2011 dollars. The forecasts of domestic originating passengers at SDIA were based on projections of per capita personal income in San Diego County, presented in Table 3, and projections of SDIA airline yield based on the FAA's national forecasts.





International Passengers. As shown in Figure 20, the number of international passengers has varied significantly since 1990 and, as a result, international passenger trends at SDIA do not relate well to economic and airline industry metrics. Therefore, a regression model was not developed to forecast SDIA international passengers. Instead, bottom up forecasts of international passengers and service were developed and benchmarked to industry forecasts of international passenger traffic by world region prepared by Airbus, The Boeing Corporation, and International Air Transport Association (IATA).

Industry Analysis

Industry trends, both past and present, were important in considering the reasonableness of the forecasts generated by the statistical analysis and evaluating the capacity of the airline industry to support the forecast passenger demand. For example, the current fleet mix and orders for new aircraft by airlines serving SDIA could affect the realization of the forecasts. Similarly, the potential for new entrant airlines and the development of additional low cost carrier service could accelerate growth beyond that forecast. Such factors are not reflected in the statistical analysis since many have not yet occurred.

Enplaned Passenger Forecast Assumptions

Forecasts of enplaned passengers were developed taking into account analyses of the economic basis for airline traffic, analyses of historical airline traffic, and an assessment of the key factors that may affect future airline traffic, as discussed previously. In general, it was assumed that, in the long term, changes in



airline traffic at the Airport will occur largely as a function of growth in the population and economy of the Airport service region and changes in airline service. It was also assumed that continued development of airline service at the Airport will not be constrained by the availability of aviation fuel, long-term limitations in airline fleet capacity, limitations in the capacity of the air traffic control system or the Airport, or government policies or actions that restrict growth. Also considered were recent and potential developments in the national economy and in the air transportation industry as they have affected or may affect airline traffic at the Airport.

For 2012 through FY 2030, it was assumed that:

- The U.S. economy will continue a gradual recovery from the economic recession and experience sustained GDP growth averaging between 2.0% and 2.5% per year, consistent with the historical trends and long-term growth projections (see Table 7).
- The economy of San Diego County (as measured by employment and per capita income) will increase at a rate comparable to that of the U.S. as a whole (see Table 3).
- The economies of the world regions will experience sustained growth in GDP, (consistent with the historical trends and long-term growth projections (see Table 7).
- SDIA will continue to be the primary commercial service airport for San Diego County and one of the top 20 busiest airports for Southwest Airlines.
- A generally stable international political environment and safety and security precautions will ensure airline traveler confidence in aviation without imposing unreasonable inconveniences.
- There will be no major disruption of airline service or airline travel behavior as a result of international hostilities or terrorist acts or threats.
- Aviation fuel prices will stabilize at levels that are historically high, but lower than the record prices reached in mid-2008.
- Competition among the airlines serving the Airport will ensure the continued availability of competitive airfares.

Estimated Enplaned Passengers in 2012

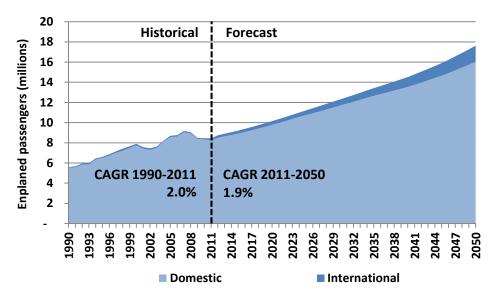
In 2012, the number of enplaned passengers at the Airport is estimated to total 8.7 million, a 3.6% increase from the 2011 total, reflecting actual data for the first 5 months of 2012 (January through May) and published flight schedules for the Airport.

Enplaned Passenger Forecasts

As shown on Figure 24 and in Table 22, the number of passengers at the Airport is forecast to increase from 8.4 million passengers in 2011 to 17.6 million in 2050, an average rate of 1.9% per year. The number of domestic passengers at the Airport is forecast to increase an average of 1.7% per year between 2011 and 2030, compared with an average increase of 5.5% in international passenger traffic.



Figure 24
HISTORICAL AND FORECAST ENPLANED PASSENGERS



Note: The forecasts presented in this figure were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

CAGR = Compound annual growth rate

Sources: Historical: San Diego County Regional Airport Authority records.

Forecast: LeighFisher, July 2012.



Table 22 ENPLANED PASSENGER FORECASTS - BASELINE

	Historical	Estimated			Forecast				
	2011	2012	2016	2021	2026	2031	2050		
Domestic									
Mainline airline	3,997,137	4,112,800	4,391,500	4,826,700	5,290,500	5,751,100	7,761,100		
Regional airline	431,990	419,100	447,500	491,800	539,100	586,000	790,800		
Low cost carrier	3,818,289	3,964,700	4,233,300	<u>4,652,900</u>	5,100,000	5,544,000	7,481,600		
Domestic total	8,247,416	8,496,600	9,072,300	9,971,400	10,929,600	11,881,100	16,033,500		
International	195,196	249,600	303,400	387,200	494,200	630,800	1,593,900		
Total Airport Percent of total Airport	8,442,612	8,746,200	9,375,700	10,358,600	11,423,800	12,511,900	17,627,400		
Domestic	97.7%	97.1%	96.8%	96.3%	95.7%	95.0%	91.0%		
International	2.3%	2.9%	3.2%	3.7%	4.3%	5.0%	9.0%		
		Compound annual percent increase (decrease)							
		2011-2012	2011-2016	2016-2021	2021-2026	2026-2031	2031-2050		
Domestic									
Mainline airline		2.9%	1.9%	1.9%	1.9%	1.7%	1.6%		
Regional airline		(3.0)	0.7	1.9	1.9	1.7	1.6		
Low cost carrier		3.8	2.1	1.9	1.9	1.7	1.6		
Domestic total		3.0	1.9	1.9	1.9	1.7	1.6		
International		27.9	9.2	5.0	5.0	5.0	5.0		
Total Airport		3.6	2.1	2.0	2.0	1.8	1.8		

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text.

Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Sources: Historical: San Diego County Regional Airport Authority records.

Forecast: LeighFisher, July 2012.



AIR CARGO

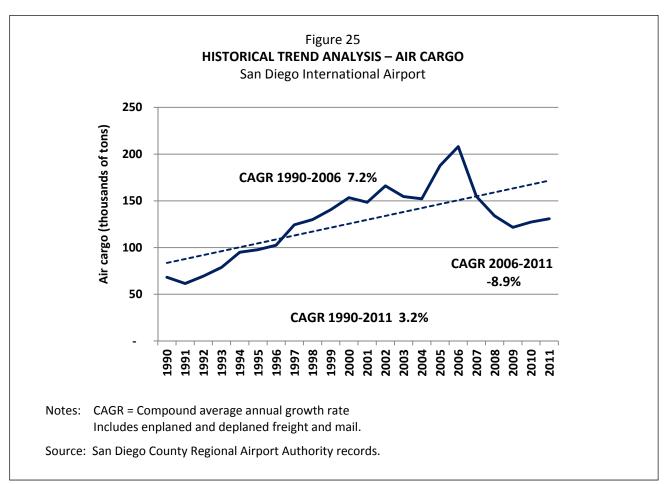
The key elements considered in the preparation of cargo forecasts for the Airport included (1) historical cargo trends at SDIA, (2) shares of passenger and all-cargo airline activity, and (3) the key factors affecting future cargo activity such as national and global economic conditions, oil price volatility, and airline industry trends.

Forecast Approach and Methodology

Similar to the forecast approach for passengers as shown previously in Figure 18, the methodology for preparing cargo forecasts incorporated a multi-tiered approach to evaluate cargo activity at SDIA.

Historical Trend Analysis

As shown on Figure 25, total air cargo (freight and mail) at SDIA increased an average of 3.2% between 1990 and 2011, including continued increases between 1990 and 2006 averaging 7.2% per year. Since 2006, air cargo at the Airport has decreased an average decrease of 8.9% per year between 2006 and 2011, reflecting the effects of the 2008-2009 economic recession, fuel price volatility, and consolidation in the air cargo industry.





Regression Analysis

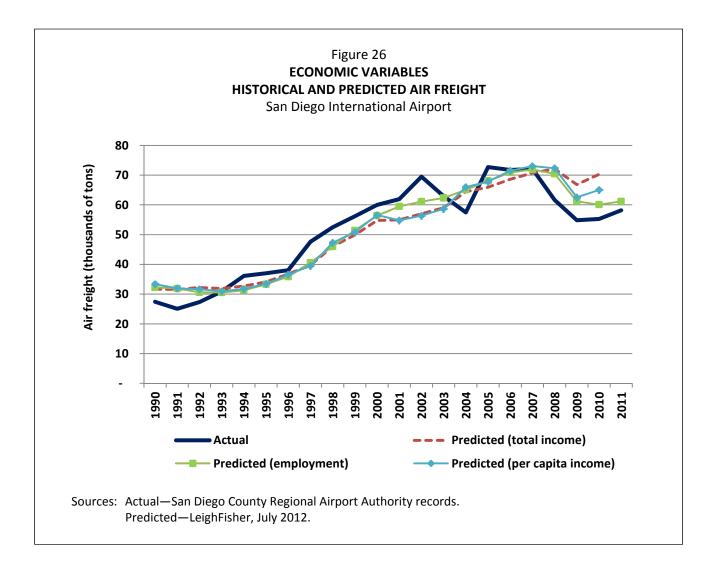
To prepare air cargo forecasts for SDIA, regressions analyses of air freight were conducted. Regression analyses of air mail were not conducted because of the small volume of mail relative to freight and the volatility in air mail volume historically, reflecting year-to-year changes in contracts with the U.S. Postal Service.

Similar to the analysis of passenger traffic, the trend in air freight can be explained by a regression analysis relating cargo trends to economic and airline industry metrics. Typically, an air cargo regression model includes an economic variable (e.g., total personal income, per capita income, or GDP—all expressed in constant dollars) and a cost variable (e.g., price of oil, jet fuel—also expressed in constant dollars). It is important to note that, unlike the analysis of passenger demand, cost variables specific to SDIA cargo activity are not available. The primary objective is to represent the two key variables that affect air cargo demand, i.e., economic activity driving the demand for air cargo services and how much it costs to transport cargo. Other variables may be important as well, depending on the traffic market characteristics.

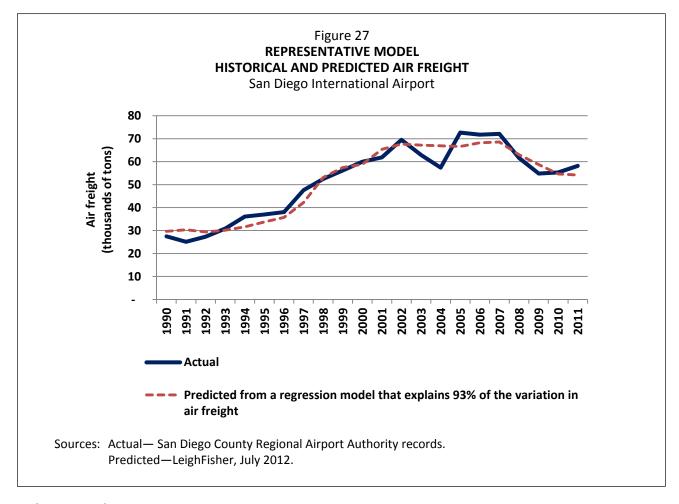
As shown in Figure 26, the historical trend in air freight relates strongly to regional economic activity. Regression models which included economic variables such as total income, per capita personal income, or employment in San Diego County explained 83% to 89% of the historical variation in air freight. In contrast, regression models which included only cost of travel variables such as West Texas Intermediate (WTI) oil prices explained a small share of the historical variation in air freight.

A representative regression model which includes an economic variable and a cost variable is shown on Figure 27. The historical trend in air freight at SDIA relates strongly to the predicted values from a regression model based which includes employment in San Diego County and West Texas Intermediate (WTI) oil prices, in 2011 dollars. The forecasts of air freight at SDIA were based on projections of employment in San Diego County, presented in Table 3, and projections of oil prices based on the FAA's national forecasts.









Industry Analysis

Industry trends, both past and present, were important in considering the reasonableness of the forecasts generated by the statistical analysis and evaluating the capacity of the airline industry to support the forecast air freight demand. In recent years, the cargo industry has been adversely affected by increased fuel prices, the world economic recession, and competition from other transportation modes. Although these factors have already had an impact on the cargo industry, the potential for continued adjustments is not reflected in the statistical analysis.

Estimated Air Cargo in 2012

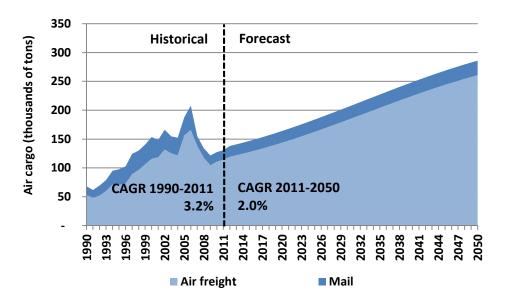
In 2012, total air cargo at the Airport is estimated to total 138,000 tons, a 5.5% increase from the 2011 total, reflecting actual data for the first 5 months of 2012 (January through May).

Air Cargo Forecasts

As shown on Figure 28 and in Table 23, total air cargo at the Airport is forecast to increase from 130,850 tons in 2011 to 286,000 tons in 2050, an average rate of 2.0% per year. Air freight at the Airport is forecast to increase an average of 2.1% per year between 2011 and 2050, compared with an average increase of 1.1% in mail.







Note: The forecasts presented in this figure were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur.

Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

CAGR = Compound average annual growth rate Includes enplaned and deplaned air cargo.

Sources: Historical: San Diego County Regional Airport Authority records.

Forecast: LeighFisher, July 2012.



Table 23

AIR CARGO FORECASTS – BASELINE (in tons)

San Diego International Airport

	Historical	Estimated	Forecast						
	2011	2012	2016	2021	2026	2031	2050		
Air freight	114,192	119,500	130,400	147,200	166,500	187,300	260,800		
Mail	16,658	18,500	19,500	20,500	21,500	22,400	25,200		
Total air cargo	130,850	138,000	149,900	167,700	188,000	209,700	286,000		
Percent of total									
Enplaned	54.4%	54.3%	54.4%	54.3%	54.4%	54.4%	54.4%		
Deplaned	45.6%	45.7%	45.6%	45.7%	45.6%	45.6%	45.6%		
Enplaned air freight									
Domestic									
Cargo airline	52,064	51,900	57,000	64,800	73,900	83,500	117,400		
Passenger airline	3,991	4,100	4,300	4,700	5,200	5,800	8,200		
Domestic total	56,055	56,000	61,300	69,500	79,100	89,300	125,600		
International	2,124	4,600	5,000	5,700	6,400	<u>7,300</u>	10,200		
Air freight total	58,179	60,600	66,300	75,200	85,500	96,600	135,800		
Enplaned mail									
Cargo airline	10,800	11,800	12,700	13,300	14,000	14,600	16,400		
Passenger airline	2,146	2,600	2,500	2,600	2,700	2,800	3,100		
Mail total	12,946	14,400	15,100	16,000	16,700	17,400	19,500		
Total enplaned air cargo	71,125	75,000	81,400	91,200	102,200	114,000	155,300		
,		Compound annual percent increase (decrease)							
		2011-2012	2011-2016	2016-2021	2021-2026	2026-2031	2031-2050		
Air freight		4.6%	2.7%	2.5%	2.5%	2.4%	1.8%		
Mail		11.1	3.2	1.0	1.0	0.8	0.6		
Total air cargo		5.5	2.8	2.3	2.3	2.2	1.6		
Enplaned air freight									
Domestic									
Cargo airline		(0.3)	1.8	2.6	2.7	2.5	1.8		
Passenger airline		2.7	1.5	1.8	2.0	2.2	1.8		
Domestic total		(0.1)	1.8	2.5	2.6	2.5	1.8		
International		116.6	18.7	2.7	2.3	2.7	1.8		
Air freight total		4.2	2.6	2.6	2.6	2.5	1.8		
Enplaned mail									
Cargo airline		9.3	3.3	0.9	1.0	0.8	0.6		
Passenger airline		21.2	3.1	0.8	0.8	0.7	0.5		
Mail total		11.2	3.1	1.2	0.9	0.8	0.6		
Total enplaned air cargo		5.4	2.7	2.3	2.3	2.2	1.6		

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Sources: Historical: San Diego County Regional Airport Authority records.

Forecast: LeighFisher, July 2012.



AIRCRAFT OPERATIONS

This section summarizes the forecasts of total aircraft operations, including passenger airline, all-cargo airline, general aviation, and military operations.

Forecast Approach and Methodology

The forecasts of total aircraft operations are derived from the forecasts of passenger and cargo demand described previously and an evaluation of general aviation and military operations. In particular:

- The forecasts of passenger airline aircraft departures are based on the enplaned passenger forecasts and assumptions regarding average aircraft size and enplaned passenger load factor.
- The forecasts of all-cargo airline aircraft departures are based on the air cargo forecasts and assumptions regarding average cargo tonnage per operation and type of all-cargo service (integrated carrier or regional feeder).
- The forecasts of general aviation aircraft operations are based on historical trends, the number of aircraft based at the Airport, the average daily utilization of those aircraft, assumptions regarding aircraft utilization in the future, and industry forecasts of general aviation activity such as those prepared by the FAA.
- The forecasts of military aircraft operations are based on data for the base year of the forecasts and carried forward through the forecast period. Military operations typically increase and decrease with geopolitical trends and therefore this activity may vary in a given year.

Forecast Assumptions

Table 24 presents the forecast assumptions for passenger and cargo airline aircraft operations, including assumptions for the average enplaned passenger load factor, the average number of seats per departure, and average cargo tonnage per cargo airline operation.



Table 24
ASSUMPTIONS FOR AIRCRAFT OPERATIONS FORECASTS - BASELINE

	Historical	Estimated			Forecast		
	2011	2012	2016	2021	2026	2031	2050
Enplaned passenger load factor							
Domestic							
Mainline airline	86.1%	85.5%	85.5%	85.5%	85.5%	85.5%	85.5%
Regional airline	79.8	78.5	78.9	79.4	79.9	80.4	83.1
Low cost carrier	72.2	74.3	75.0	76.5	78.0	79.5	84.4
Domestic total	78.7	79.5	79.9	80.8	81.5	82.3	84.9
International	71.2	75.5	76.2	77.3	78.4	79.6	84.3
Total Airport	78.6	79.4	79.8	80.6	81.4	82.2	84.8
Average seats per departure							
Domestic							
Mainline airline	158.9	156.7	157.4	158.2	158.9	159.9	166.1
Regional airline	46.5	46.1	49.9	55.1	60.9	66.9	88.7
Low cost carrier	140.2	140.9	143.7	147.3	151.0	154.4	160.4
Domestic total	133.3	133.2	136.3	140.0	143.6	147.0	156.6
International	138.9	144.4	147.3	151.0	154.8	158.6	171.6
Total Airport	133.4	133.6	136.6	140.4	144.1	147.6	157.8
inplaned freight per operation (tons)							
All-cargo airlines	16.1	15.7	19.7	20.7	21.7	22.8	27.5
All-cargo airlines				pound annual perc	ent increase (decrea		
		2011-2012	2011-2016	2016-2021	2021-2026	2026-2031	2031-2050
Enplaned passenger load factor							
Domestic							
Mainline airline		(0.7%)	(0.1%)	0.0%	0.0%	0.0%	0.0%
Regional airline		(1.7)	(0.2)	0.1	0.1	0.1	0.2
Low cost carrier		3.0	0.8	0.4	0.4	0.4	0.3
Domestic total		1.0	0.3	0.2	0.2	0.2	0.2
International		6.0	1.4	0.3	0.3	0.3	0.3
Total Airport		1.1	0.3	0.2	0.2	0.2	0.2
Average seats per departure			0.5	0.2	0.2	0.2	0.2
Domestic							
Mainline airline		(1.4)	(0.2)	0.1	0.1	0.1	0.2
Regional airline		(0.8)	1.4	2.0	2.0	1.9	1.5
Low cost carrier		0.5	0.5	0.5	0.5	0.4	0.2
Domestic total		(0.0)	0.4	0.5	0.5	0.5	0.3
International		3.9	1.2	0.5	0.5	0.5	0.4
Total Airport		0.1	0.5	0.5	0.5	0.5	0.4
		0.1	0.5	0.5	0.5	0.5	0.4
Enplaned freight per operation (tons)							

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Sources: Historical: San Diego County Regional Airport Authority records. Forecast: LeighFisher, July 2012.



Estimated Aircraft Operations in 2012

In 2012, the number of aircraft operations at the Airport is estimated to total 186,220, a 0.6% increase from the 2011 total, reflecting actual data for the first 5 months of 2012 (January through May), as shown in Table 25.

Passenger Airline Aircraft Operations Forecasts

Passenger aircraft operations include total departures and arrivals performed by mainline and regional affiliate aircraft in the service of transporting passengers, as shown in Table 25. Passenger airline aircraft operations were calculated by dividing the enplaned passenger forecasts by sector (e.g., domestic and International) and category (e.g., mainline and regional affiliate carrier) by the estimated number of passengers enplaned per departure. In 2011, the average number of passengers enplaned per departure for the Airport as a whole was approximately 106 and is derived by multiplying the load factor by the average seats per departure (e.g., 79.4% x 133.6 = 106.1). This number is expected to increase slowly over the forecast period based on an estimated increase in the average number of seats per aircraft and an estimated load factor, or percent of available seats filled with passengers. The average number of passengers enplaned per departure is expected to reach approximately 134 in 2050. Dividing the enplaned passenger forecasts by the forecast number of passengers enplaned per departure yields passenger airline aircraft departures. The forecast departures were then multiplied by two to yield passenger airline aircraft operations for each category of activity.

Passenger airline aircraft operations at SDIA are forecast to increase from 162,550 in 2011 to 263,390 operations in 2050, an average increase of 1.2% per year, reflecting an average increase of 1.4% per year in air carrier operations and relatively no change in air taxi operations, as shown in Table 25.

All-Cargo Airline Aircraft Operations Forecasts

Cargo airline operations at SDIA include the flight activity by airlines dedicated exclusively to the transportation of freight such as FedEx and by commuter/regional size aircraft. Air carrier size aircraft that perform all-cargo operations at the airport include widebody (e.g., Airbus A-300, Boeing 767, and MD-11) and narrowbody (e.g., Boeing 757) aircraft. Commuter or regional aircraft that perform all-cargo operations at the airport include small piston and turboprop aircraft such as the Beechcraft 99 and Swearingen Metroliner aircraft. In 2011, there were 6,452 cargo airline operations performed at the Airport.



Table 25
AIRCRAFT OPERATIONS FORECASTS – BASELINE

	Historical	Estimated			Forecast		
	2011	2012	2016	2021	2026	2031	2050
Air Carrier							
Passenger airlines	140,200	141,990	149,260	160,610	172,590	184,480	241,920
Cargo airlines	3,988	4,080	4,160	4,500	4,880	5,240	6,100
Other (a)	2,802	2,800	2,800	2,800	2,800	2,800	2,800
Air Carrier total	146,990	148,870	156,220	167,910	180,270	192,520	250,820
Air Taxi							
Passenger airlines	22,350	21,610	22,740	22,490	22,190	21,820	21,470
Cargo airlines	2,464	2,520	2,570	2,780	3,010	3,240	3,770
Other (a)	2,230	2,000	2,000	2,000	2,000	2,000	2,000
Air Taxi total	27,044	26,130	27,310	27,270	27,200	27,060	27,240
General Aviation							
Itinerant	10,406	10,520	11,050	11,600	12,150	12,690	14,250
Local							
General Aviation total	10,406	10,520	11,050	11,600	12,150	12,690	14,250
Military	<u>702</u>	700	700	700	700	700	700
Total Airport	185,142	186,220	195,280	207,480	220,320	232,970	293,010
			Cor	npound annual perc	ent increase (decrea	ase)	
		2011-2012	2011-2016	2016-2021	2021-2026	2026-2031	2031-2050
Air Carrier							_
Passenger airlines		1.3%	1.3%	1.5%	1.4%	1.3%	1.4%
Cargo airlines		2.3	0.8	1.6	1.6	1.4	0.8
Other (a)		(0.1)	(0.0)	0.0	0.0	0.0	0.0
Air Carrier total		1.3	1.2	1.5	1.4	1.3	1.4
Air Taxi							
Passenger airlines		(3.3)	0.3	(0.2)	(0.3)	(0.3)	(0.1)
Cargo airlines		2.3	0.8	1.6	1.6	1.5	0.8
Other (a)		(10.3)	(2.2)	0.0	0.0	0.0	0.0
Air Taxi total		(3.4)	0.2	(0.0)	(0.1)	(0.1)	0.0
General Aviation		` '		` ,	` ,	• •	
Itinerant		1.1	1.2	1.0	0.9	0.9	0.6
Local							
General Aviation total		1.1	1.2	1.0	0.9	0.9	0.6
		(0.2)	(0.1)	0.0	0.0	0.0	0.0
Military		(0.3)	(0.1)	0.0	0.0	0.0	0.0

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Sources: Historical: San Diego County Regional Airport Authority records. Forecast: LeighFisher, July 2012.

⁽a) Includes unscheduled, empty, and ferry flights.



The forecast of all-cargo operations was developed by first estimating the share of future cargo tonnage expected to be carried by air carrier and commuter aircraft. The cargo tonnage expected to be carried by all-cargo carriers was then divided by an estimated cargo tons per departure ratio to yield total air carrier cargo operations. For example, all-cargo aircraft for domestic service carried approximately 32,300 pounds per operation in 2011. The ratio of tons per operation is expected to increase gradually over the forecast period to account for expected growth in cargo related to economic activity.

Cargo airline aircraft operations at SDIA are forecast to increase an average of 1.1% per year from 6,452 in 2011 to 9,870 in 2050, as shown in Table 25.

General Aviation Aircraft Operations Forecasts

General aviation (GA) activity includes all flight operations by aircraft other than scheduled or charter passenger aircraft and military aircraft. GA includes not only pilot training and recreational flights on small single engine or multi-engine propeller driven aircraft, but also operations on large business jet aircraft.

On a nationwide basis, the number of general aviation aircraft operations has been in slow decline due to factors such as increases in aircraft, fuel, and insurance costs, as well as increased avionic instrument requirements. The 2008-2009 economic recession and the financial credit crisis further reduced general aviation activity nationwide. For the future, the FAA expects general aviation traffic to recover slowly.

The flight operations of GA aircraft are categorized as local or itinerant operations. Local operations are flights that operate within visual range or close proximity of the airport. Itinerant operations typically include those flights that leave the airport destined for another airport and require the filing of flight plans with the local air traffic control authorities. Historically, itinerant operations have accounted for nearly all GA operations at the Airport. In 2011, a total of 10,406 itinerant GA operations were performed at the Airport (100% of GA operations), as shown in Table 25.

GA operations in the future are forecast to continue to be comprised of itinerant operations only. The total number of general aviation operations is forecast to increase an average of 0.8% per year from 2010 through 2050, compared with a forecast growth rate of 0.9% per between 2011 and 2040 for the nation as a whole.*

In 2011, a total of 6 jet aircraft were based at the Airport. The total number of based aircraft at the Airport is forecast to remain unchanged through 2050.

Airport Development Plan San Diego International Airport

^{*}U.S. Department of Transportation, Federal Aviation Administration, Terminal Area Forecasts, Fiscal Years 2011-2040, www.faa.gov.

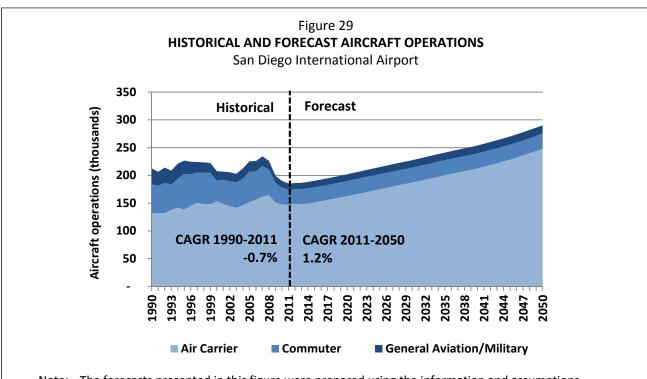


Military Aircraft Operations Forecasts

The number of military operations at the Airport averaged approximately 1,100 operations per year between 2000 and 2011. In 2011, military operations totaled 702, less than the 12-year average. Military operations are expected remain at a level of about 700 operations from 2011 through 2050, as shown in Table 25.

Total Aircraft Operations Forecasts

Total aircraft operations at SDIA are forecast to increase from 185,142 in 2011 to 293,010 operations in 2050, an average increase of 1.2% per year, as shown in Table 25 and on Figure 29. This forecast is unconstrained and does not reflect assumptions related to physical, regulatory, environmental and other potential impediments to aviation activity growth. With one runway and limited property, the capacity of SDIA is constrained. The single runway represents the most constraining factor for the Airport, limiting the number of aircraft operations (takeoffs and landings) that can be accommodated to an estimated 286,000 annual operations.



Note: The forecasts presented in this figure were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

CAGR = Compound annual growth rate

Sources: Historical: San Diego County Regional Airport Authority records.



CHAPTER 7 COMPARISON WITH THE FAA 2011 TAF

Table 26 presents a comparison of the baseline aviation demand forecasts prepared for San Diego International Airport and the FAA 2011 TAF for the Airport. The baseline unconstrained forecasts are the "preferred" forecasts recommended for FAA approval. The forecasts are compared for the components of total enplaned passengers, commercial aircraft operations and total aircraft operations. The format of Table 26 is based on the template provided by the FAA for the comparison of airport planning forecasts and the FAA TAF.* As required, the results are presented for the base year of 2011 and forecast horizons years which are equal to the base year, plus 1, 5, 10 and 15 years (2012, 2016, 2021, and 2026). The SDIA Airport Development Plan aviation demand forecasts have been compared graphically with the FAA 2011 TAF in the figures presented throughout this report, including Figures 1 and 3.

The key findings of the comparison of the SDIA ADP aviation demand forecasts with the FAA 2011 TAF are:

- The forecast of enplaned passengers for SDIA is higher than the TAF in 2016 and lower than the TAF in 2021. The variance between the SDIA ADP enplaned passenger forecast and the FAA 2011 TAF is 1.0% in 2016 and 1.9% in 2021, as shown in Table 26.
- The forecast of commercial operations for SDIA varies from the FAA 2011 TAF by 10.0% or less (3.7% in 2016 and 6.5% in 2021).
- The forecast of total aircraft operations for SDIA varies from the FAA 2011 TAF by 10.0% or less (3.3% in 2016 and 5.8% in 2021).
- Overall, the SDIA ADP aviation demand forecasts are similar to the FAA 2011 TAF for the Airport and "differ by less than 10 percent in the 5-year forecast period, and 15 percent in the 10-year forecast period", as stipulated in the FAA forecast guidance.

Table 27 presents a summary of the SDIA ADP aviation demand forecasts using a second template provided by the FAA.

Airport Development Plan San Diego International Airport

^{*}U.S. Department of Transportation, Federal Aviation Administration, Forecasting Aviation Activity by Airport, July 2001, and Review and Approval of Aviation Forecasts, June 2008, http://www.faa.gov.



Table 26 FAA TAF FORECAST COMPARISON (2011 – 2026)

San Diego International Airport

				SDIA ADP
				vs. 2011 TAF
			FAA 2011	(percent
	Year (a)	SDIA ADP	TAF	variance)
Passenger enplanements				
Base yr.	2011	8,442,612	8,304,057	1.7%
Base yr. + 5 yrs.	2016	9,376,000	9,285,951	1.0%
Base yr. + 10 yrs.	2021	10,359,000	10,564,693	(1.9)%
Base yr. + 15 yrs.	2026	11,424,000	12,020,173	(5.0)%
Commercial operations (b)				
Base yr.	2011	174,034	173,536	0.3%
Base yr. + 5 yrs.	2016	183,500	190,631	(3.7)%
Base yr. + 10 yrs.	2021	195,200	208,790	(6.5)%
Base yr. + 15 yrs.	2026	207,500	228,688	(9.3)%
Total operations (c)				
Base yr.	2011	185,142	184,840	0.2%
Base yr. + 5 yrs.	2016	195,300	201,892	(3.3)%
Base yr. + 10 yrs.	2021	207,500	220,383	(5.8)%
Base yr. + 15 yrs.	2026	220,300	240,623	(8.4)%

⁽a) The SDIA Airport Development Plan was prepared on a calendar year basis and the FAA 2011 TAF was prepared on a U.S. government fiscal year basis (October through September).

Sources: Base year 2011 (actual)—San Diego County Regional Airport Authority records.

SDIA ADP Forecasts—LeighFisher, July 2012.

FAA 2011 TAF for SDIA—U.S. Department of Transportation, Federal Aviation

Administration, www.faa.gov, accessed January 2012.

⁽b) Commercial operations include operations by passenger airlines, all-cargo airlines, and air taxi operators.

⁽c) Total operations include commercial operations plus operations by general aviation and military.



Table 27
SUMMARY OF SDIA ADP FORECASTS USING FAA TEMPLATE

		Forecast				Average annual compound growth rates			
	Base year 2011	Base year + 1 year 2012	Base year + 5 years 2016	Base year + 10 years 2021	Base year + 15 years 2026	Base year to +1 year 2011 - 2012	Base year to +5 years 2010 - 2016	Base year to +10 years 2011 - 2021	Base year to +15 years 2011 - 2026
Passenger enplanements Air carrier (a)	7,984,200	8,327,000	8,929,000	9,867,000	10,885,000	4.3%	2.3%	2.1%	2.1%
Commuter (b)	458,412	419,000	447,000	492,000	539,000	(8.6)%	(0.5)%	0.7%	1.1%
Total	8,442,612	8,746,000	9,376,000	10,359,000	11,424,000	3.6%	2.1%	2.1%	2.0%
Aircraft operations Itinerant	, ,	, ,	, ,	, ,	, ,				
Air carrier	146,990	148,900	149,300	167,900	180,300	1.3%	0.3%	1.3%	1.4%
Commuter/air taxi	27,044	26,100	34,200	27,300	27,200	(3.5)%	4.8%	0.1%	0.0%
Total commercial operations	174,034	175,000	183,500	195,200	207,500	0.6%	1.1%	1.2%	1.2%
General aviation	10,406	10,500	11,100	11,600	12,100	0.9%	1.3%	1.1%	1.0%
Military	702	700	700	700	700	(22.9)%	(5.1)%	(2.6)%	(1.7)%
Local									
General aviation									
Military									
Total operations	185,142	186,200	195,300	207,500	220,300	0.5%	1.1%	1.1%	1.2%
Cargo/mail (enplaned + deplaned tons)	130,850	138,010	149,960	167,680	188,000	5.5%	2.8%	2.5%	2.4%
Based Aircraft									
Single-engine (nonjet)									
Multiengine (nonjet)									
Jet engine	6	6	6	6	6				
Helicopter									
Other	 6	 6	 6	 6	 6				
Total	6	6	6	6	6				
Operational factors									
Average aircraft size (seats)	440.4	447.0	4.40.0	450.0	4540				
Air Carrier (a)	148.1	147.8	149.8	152.3	154.8				
Commuter (b)	46.5	46.1	49.9	55.1	60.9				
Average enplaning load factor	78.5%	79.5%	79.9%	80.7%	81.5%				
Air Carrier <i>(a)</i> Commuter <i>(b)</i>	78.5% 79.8%	79.5% 78.5%	79.9% 78.9%	80.7% 79.4%	81.5% 79.9%				
GA operations per based aircraft	79.8% 1,734	78.5% 1,750	78.9% 1,850	79.4% 1,933	79.9% 2,033				
da operations per based aircraft	1,/34	1,750	1,050	1,933	2,033				

Note: The SDIA ADP was prepared on a calendar year basis and the FAA 2011 TAF was prepared on a U.S. government fiscal year basis (October through September).

Sources: Base year 2011 (actual)—San Diego County Regional Airport Authority records. SDIA ADP Forecasts—LeighFisher, July 2012. FAA 2011 TAF for SDIA—U.S. Department of Transportation, Federal Aviation Administration, www.faa.gov, accessed January 2012.

⁽a) Includes mainline and charter airline activity as summarized in the previous tables in this report.

⁽b) Includes regional affiliate airline activity, which includes flights using regional aircraft with more than 60 seats.



CHAPTER 8 FORECASTS OF PEAK PERIOD DEMAND AND PASSENGER AIRLINE AIRCRAFT FLEET DISTRIBUTION

This chapter summarizes the forecasts of peak period demand for the average day peak month (ADPM) at the Airport for 2016, 2021, 2026, 2031, and 2050. The forecasts of ADPM aircraft operations are derived from the annual forecasts of enplaned passengers and aircraft operations presented in Tables 22 and 25, respectively. In addition, forecasts of passenger airline aircraft fleet distribution by activity type for the Airport are presented.

FORECAST APPROACH AND METHODOLOGY

The forecasts of peak period demand and passenger airline aircraft fleet were based on a 2011 base year distribution of operations by equipment type (e.g., Airbus 319, Boeing 737-800). The 2011 distribution was developed using published passenger airline schedules and SDIA airport records.

Peak Period Demand Forecasts

Peak period demand forecasts were prepared for the ADPM and the peak hour forecasts of passenger airline aircraft operations for the ADPM.

ADPM Forecasts

The peak month for passenger airline activity at SDIA is July. In 2011, July accounted for 9.4% of enplaned passengers, 9.0% of passenger airline scheduled departing seats, and 9.0% of passenger airline landings, as shown in Tables 14, 15, and 16. A 5-year average for 2007 through 2011, shows a similar peak month pattern—July accounted for an average of 9.6% of enplaned passengers, 9.1% of passenger airline scheduled departing seats, and 9.1% of passenger airline landings.

As shown in Table 21, July accounted for 9.0% of annual total aircraft operations in 2011. From 2007 through 2011, July accounted for the peak share of total aircraft operations at the Airport, with an average of 9.0% of annual operations.

Table 28 presents a summary of the ADPM forecasts of enplaned passengers, 2011 through 2050. The peak month shares of annual activity are assumed to represent future peak demand. The ADPM is the mathematical average of peak month activity (i.e., the peak month number of operations divided by 31 days in the peak month). The ADPM level of activity serves as the "control total" for the ADPM flight schedules which are used as input to detailed technical analyses such as facility requirements analysis and demand capacity modeling.



Table 28
HISTORICAL AND FORECAST PEAK PERIOD DEMAND – BASELINE

	Historical	Estimated			Forecast		
	2011	2012	2016	2021	2026	2031	2050
Enplaned passengers							
Annual passengers	8,442,612	8,746,200	9,375,700	10,358,600	11,423,800	12,511,900	17,627,400
Peak month	794,406	839,635	900,067	994,426	1,096,685	1,201,142	1,692,230
Peak month percent of annual	9.4%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%
Average day peak month (ADPM)	25,643	27,085	29,034	32,078	35,377	38,747	54,588
Passenger airline scheduled aircraft opera	tions						
Annual operations	162,550	163,600	172,000	183,100	194,780	206,300	263,390
Peak month	14,868	14,964	15,732	16,748	17,816	18,870	24,092
Peak month percent of annual	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%
Average day peak month (ADPM)	480	483	507	540	575	609	777
Total aircraft operations							
Annual operations	185,142	186,220	195,280	207,480	220,320	232,970	293,010
Peak month	16,598	16,695	17,507	18,601	19,752	20,886	26,268
Peak month percent of annual	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Average day peak month (ADPM)	535	539	565	600	637	674	847

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Peak month percent of annual represent 5-year averages for 2007 through 2011.

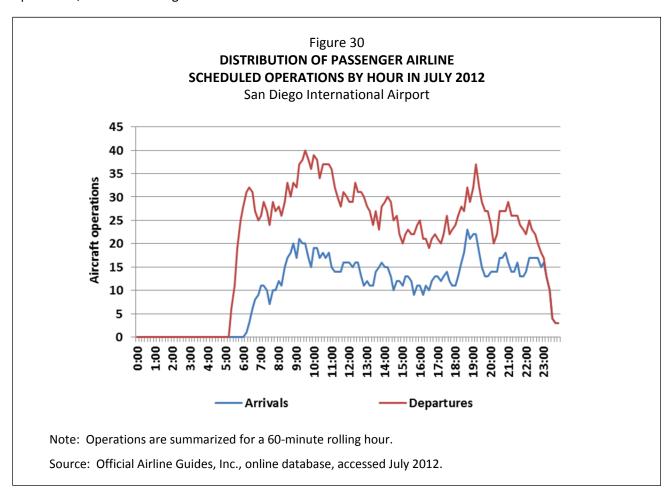
Total aircraft operations include passenger, cargo, general aviation, and military operations.

Sources: Historical: San Diego County Regional Airport Authority records.



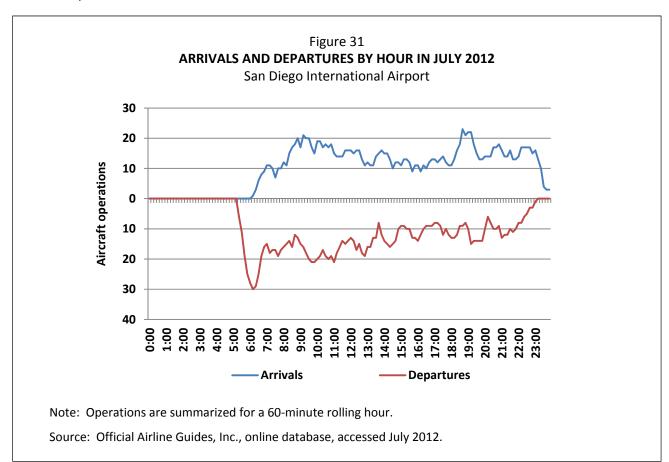
Passenger Airline Peak Hour Forecasts

The peak hour for passenger airline aircraft operations (arrivals and departures) at SDIA in July 2012 is during the 60-minute period from 8:30 to 9:30 am, accounting for 8.2% of ADPM total passenger airline operations, as shown on Figure 30.





As shown on Figure 31, the peak hour for passenger airline scheduled aircraft arrivals at SDIA in July 2012 is during the 60-minute period from 5:40 to 6:40 pm. A similar number of arrivals occur during the 60-minute period from 8:10 to 9:10 am. The peak hour for aircraft departures at SDIA in July 2011 is during the 60-minute period from 5:10 to 6:10 am.





Future passenger airline schedules were developed using published airline schedules for July 2012. As shown on Figure 32, additional flights (arrivals and departures) were added to the July 2012 schedule to reflect: (1) the ADPM operations for each forecast year (the "control totals" shown in Table 28) which relate directly to the annual forecasts, (2) the hourly percentage distribution of arrivals and departures represented by the July 2012 schedule, (3) the fleet mix of the airlines serving SDIA and their future fleet plans, and (4) the markets currently served at SDIA and the potential for new markets. The hourly distribution of operations from the flight schedules obtained for July 2012 is assumed to remain relatively unchanged during the forecast period.

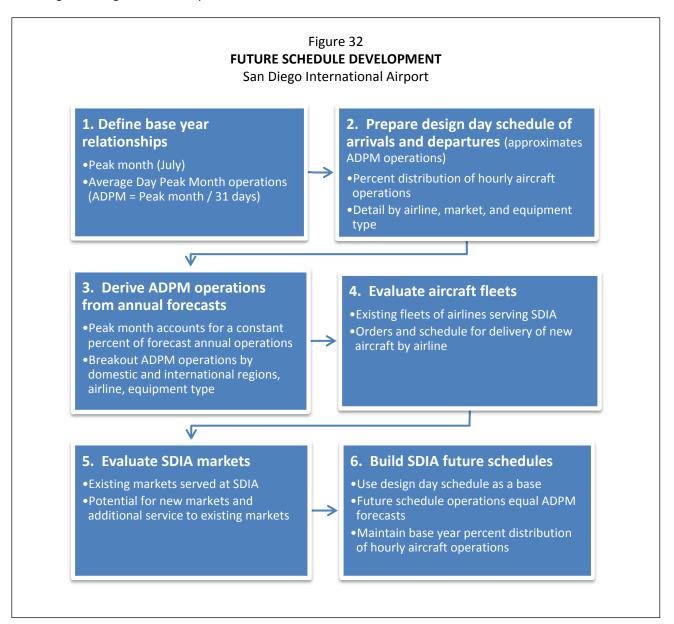




Figure 33 summarizes the baseline forecasts of passenger airline scheduled operations (arrivals and departures) for Planning Activity Levels (PAL) 10, 12, and 14 reflecting approximately 10 million, 12 million, and 14 million enplaned passengers, respectively.

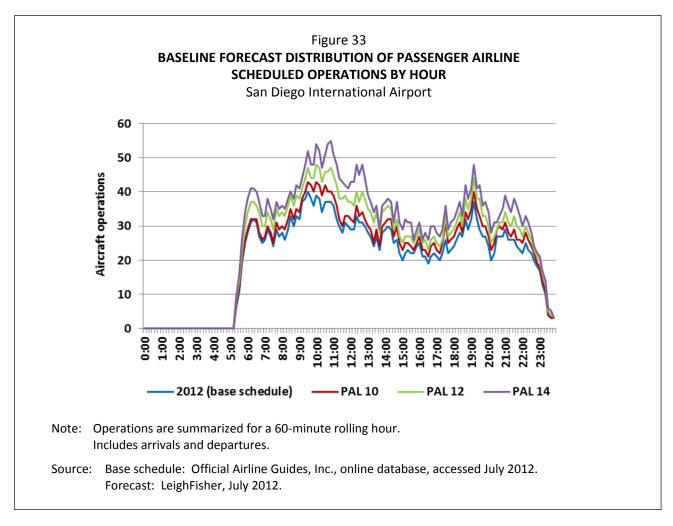
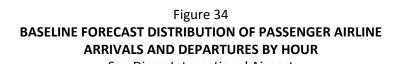
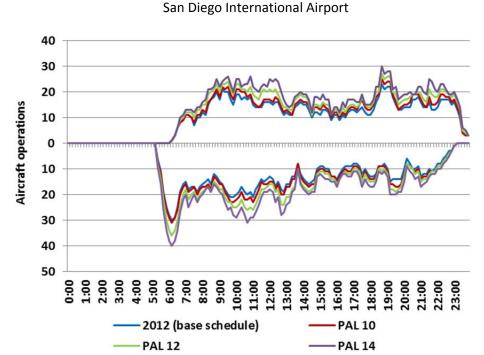


Figure 34 presents the baseline forecast of hourly distribution of arrivals and departures for each of the flight schedules.







Note: Operations are summarized for a 60-minute rolling hour.

Source: Base schedule: Official Airline Guides, Inc., online database, accessed July 2012.

Forecast: LeighFisher, July 2012.

Aircraft Fleet Forecasts

Table 29 presents the ADPM passenger airline fleet mix for 2011 and for the forecast years (2012, 2016, 2021, 2026, 2031, and 2050) in terms of the percentage of ADPM passenger airline aircraft operations. The passenger airline fleet mix in the future schedules for PALs 10, 12, and 14 are based on the annual baseline forecasts of fleet mix.



Table 29

ADPM PERCENT DISTRIBUTION OF PASSENGER AIRLINE AIRCRAFT OPERATIONS – BASELINE

San Diego International Airport

	Historical	Estimated			Forecast		
	2011	2012	2016	2021	2026	2031	2050
Domestic		·					
Narrowbody							
A318	120	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%
A319	124	3.7	4.9	3.1	2.5	2.5	1.8
A320	145	10.8	7.8	8.0	6.1	3.8	1.3
A320neo	145	0.0	0.0	0.0	2.5	5.0	7.6
A321	183	2.9	2.5	2.5	2.6	2.6	2.7
A717	117	0.0	0.0	1.0	1.0	1.0	0.5
B737-300/400	138	17.4	11.1	7.3	2.4	0.0	0.0
B737-500	114	3.7	1.6	0.0	0.0	0.0	0.0
B737-700	124	22.0	29.9	32.2	35.5	34.8	32.6
B737-800	157	8.7	11.9	15.4	16.2	16.6	17.2
B737-900	173	2.1	1.6	5.7	6.9	9.5	12.6
B737 MAX	157	0.0	0.0	0.0	2.2	6.3	9.8
B757-200/300	205	5.8	5.7	5.7	5.8	3.4	0.9
MD-80	141	3.3	2.9	0.9	0.0	0.0	0.0
MD-90	150	0.4	0.8	0.8	0.9	0.9	0.5
Subtotalnarrowbody		81.7%	80.7%	82.6%	84.6%	86.4%	87.4%
Regional jets							
More than 60 seats							
CRJ-700	70	2.1%	2.9%	3.9%	4.8%	4.8%	4.8%
CRJ-900	76	0.4	0.4	0.6	0.7	0.7	0.7
ERJ-170	73	0.0	0.0	0.0	0.0	0.0	0.0
ERJ-175	78	0.0	0.0	0.0	0.0	0.0	0.0
ERJ-190	99	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal		2.5%	3.3%	4.5%	5.5%	5.5%	5.5%
60 seats or less							
CRJ-100/200	50	2.9%	2.9%	1.2%	0.0%	0.0%	0.0%
ERJ-145	50	4.1	2.0	<u>2.1</u>	1.9	0.5	0.0
Subtotal		<u>7.1</u> %	4.9%	3.3%	1.9%	0.5%	0.0%
Subtotalregional jets		9.5%	8.2%	7.8%	7.4%	6.0%	5.5%
Turboprop							
EMB120	74	4.6%	5.3%	3.8%	1.7%	0.2%	0.0%
Q400	34	0.0	1.6	1.2	1.0	1.7	0.7
Subtotalturboprop		4.6%	7.0%	5.0%	2.8%	1.9%	0.7%



Table 29 (Page 2 of 2)

ADPM PERCENT DISTRIBUTION OF PASSENGER AIRLINE AIRCRAFT OPERATIONS - BASELINE
San Diego International Airport

	Historical	Estimated			Forecast		
	2011	2012	2016	2021	2026	2031	2050
Widebody				· ·			
A330-200		0.0%	0.4%	0.4%	0.4%	0.4%	0.4%
B767-200/300	196	1.2	1.2	1.2	1.2	1.2	1.2
Subtotalwidebody		<u>1.2</u>	<u>1.6</u>	1.6	<u>1.6</u>	1.6	1.6
SubtotalDomestic		97.1%	97.5%	97.0%	96.4%	95.9%	95.3%
International							
Narrowbody							
A319	120	1.2%	0.8%	0.9%	1.0%	1.1%	1.2%
B737-700	124	0.4	0.4	0.5	0.5	0.5	0.6
B737-800	157	0.4	0.4	<u>0.5</u>	<u>0.5</u>	<u>0.5</u>	0.6
Subtotalnarrowbody		2.1%	1.6%	1.8%	1.9%	2.1%	2.3%
Regional jets							
ERJ-190	99	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Widebody							
B777	270	0.4%	0.4%	0.4%	0.3%	0.4%	0.4%
A350	250	0.0	0.0	0.0	0.0	0.0	0.0
B787-8	235	0.0	0.0	0.4	0.9	1.2	1.1
B787-9	270	0.0	0.0	0.0	0.0	0.0	<u>0.5</u>
Subtotalwidebody		<u>0.4</u> %	<u>0.4</u> %	<u>0.8</u> %	<u>1.2</u> %	<u>1.6</u> %	<u>2.0</u> %
SubtotalInternational		2.9%	2.5%	3.1%	3.6%	4.2%	4.8%
TOTAL PASSENGER AIRLINES		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Totals may not add due to rounding.

Sources: Historical: San Diego County Regional Airport Authority records.



APPENDIX A ALTERNATIVE FORECAST SCENARIOS

This appendix summarizes the alternative forecasts of enplaned passengers, air cargo, and total aircraft operations for SDIA. In addition to the baseline forecasts of aviation demand presented in Chapter 6, "Aviation Demand Forecasts", two alternative scenarios are prepared for planning purposes and to use as tools to manage uncertainty and anticipate the facility requirements associated with higher levels of aviation activity compared with the baseline forecast.

ALTERNATIVE FORECAST SCENARIO ASSUMPTIONS

Two alternative forecast scenarios were developed based on the analysis of passenger and cargo activity presented in Chapter 6.

- Scenario 1 is a fast growth scenario reflecting faster regional economic growth than the projections used for the baseline forecasts, as measured by San Diego County per capita personal income (in constant dollars). In Scenario 1, per capita personal income in San Diego County is projected to increase an average of 2.0% per year between 2011 and 2050, compared with an average increase of 1.5% per year during the same period in the baseline forecast. Similarly, annual growth in San Diego County total personal income (in constant dollars) is assumed to increase average of 0.5% per faster in Scenario 1 than in the baseline forecast.
- Scenario 2 is a slow growth scenario reflecting slower regional economic growth. In Scenario 2, San Diego County per capita personal income (in constant dollars) is projected to increase an average of 1.0% per year between 2011 and 2050, compared with an average increase of 1.5% per year during the same period in the baseline forecast. Similarly, annual growth in in San Diego County total personal income (in constant dollars) is assumed to increase average of 0.5% per slower in Scenario 2 than in the baseline forecast.

All other assumptions used in the alternative forecast scenarios are unchanged from the baseline forecast, including airline yields at SDIA, average load factors, average seats per departure, and cargo carried per operation.

ENPLANED PASSENGER ALTERNATIVE FORECAST SCENARIOS

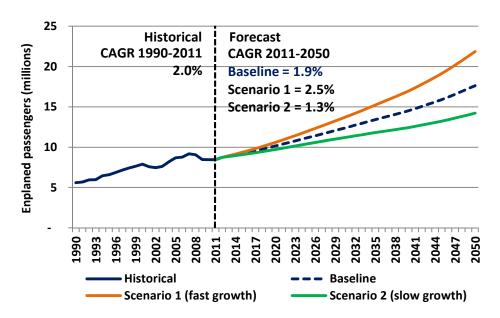
The enplaned passenger alternative forecast scenarios are presented in Tables A-1 and A-2. In Scenario 1 (fast growth), the number of enplaned passengers at SDIA is forecast to increase an average of 2.5% per year between 2011 and 2050, from 8.4 million in 2011 to 21.9 million in 2050, as shown in Table A-1. In Scenario 2 (slow growth), the number of enplaned passengers at SDIA is forecast to increase an average of 1.3% per year between 2011 and 2050, from 8.4 million in 2011 to 14.2 million in 2050, as shown in Table A-2.

Figure A-1 presents a comparison of the alternative forecast scenarios of enplaned passengers at SDIA with the baseline forecast.



Figure A-1 HISTORICAL AND FORECAST ENPLANED PASSENGERS ALTERNATIVE FORECAST SCENARIOS

San Diego International Airport



Note: The forecasts presented in this figure were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

CAGR = Compound average annual growth rate

Source: Historical: San Diego County Regional Airport Authority records.



Table A-30
ENPLANED PASSENGER FORECAST – SCENARIO 1 (FAST GROWTH)

	Historical	Estimated			Forecast		
	2011	2012	2016	2021	2026	2031	2050
Domestic							
Mainline airline	3,997,137	4,112,800	4,484,700	5,060,200	5,694,100	6,354,900	9,475,500
Regional airline	431,990	419,100	457,000	515,600	580,200	647,500	965,500
Low cost carrier	<u>3,818,289</u>	3,964,700	4,323,200	4,878,000	5,489,000	6,126,000	9,134,200
Domestic total	8,247,416	8,496,600	9,264,900	10,453,800	11,763,300	13,128,400	19,575,200
International	195,196	249,600	315,100	421,700	564,300	755,200	2,285,000
Total Airport Percent of total Airport	8,442,612	8,746,200	9,580,000	10,875,500	12,327,600	13,883,600	21,860,200
Domestic	97.7%	97.1%	96.7%	96.1%	95.4%	94.6%	89.5%
International	2.3%	2.9%	3.3%	3.9%	4.6%	5.4%	10.5%
			Compo	und annual perd	cent increase (d	ecrease)	
		2011-2012	2011-2016	2016-2021	2021-2026	2026-2031	2031-2050
Domestic							
Mainline airline		2.9%	2.3%	2.4%	2.4%	2.2%	2.1%
Regional airline		(3.0)	1.1	2.4	2.4	2.2	2.1
Low cost carrier		3.8	2.5	2.4	2.4	2.2	2.1
Domestic total		3.0	2.4	2.4	2.4	2.2	2.1
International		27.9	10.1	6.0	6.	6.0	6.0
Total Airport		3.6	2.6	2.6	2.5	2.4	2.4

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur.

Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Sources: Historical: San Diego County Regional Airport Authority records.



Table A-31
ENPLANED PASSENGER FORECASTS – SCENARIO 2 (SLOW GROWTH)

	Historical	Estimated			Forecast		
	2011	2012	2016	2021	2026	2031	2050
Domestic							
Mainline airline	3,997,137	4,112,800	4,299,800	4,602,900	4,913,700	5,202,000	6,350,200
Regional airline	431,990	419,100	438,100	469,000	500,700	530,000	647,000
Low cost carrier	<u>3,818,289</u>	3,964,700	<u>4,144,900</u>	4,437,100	4,736,700	5,014,600	6,121,500
Domestic total	8,247,416	8,496,600	8,882,800	9,509,000	10,151,100	10,746,600	13,118,700
International	195,196	249,600	292,000	355,300	432,200	525,900	1,108,000
Total Airport	8,442,612	8,746,200	9,174,800	9,864,300	10,583,300	11,272,500	14,226,700
Percent of total Airport							
Domestic	97.7%	97.1%	96.8%	96.4%	95.9%	95.3%	92.2%
International	2.3%	2.9%	3.2%	3.6%	4.1%	4.7%	7.8%
			Compo	und annual perd	ent increase (de	ecrease)	
		2011-2012	2011-2016	2016-2021	2021-2026	2026-2031	2031-2050
Domestic							
Mainline airline		2.9%	1.5%	1.4%	1.3%	1.1%	1.1%
Regional airline		(3.0)	0.3	1.4	1.3	1.1	1.1
Low cost carrier		3.8	1.7	1.4	1.3	1.1	1.1
Domestic total		3.0	1.5	1.4	1.3	1.1	1.1
International		27.9	8.4	4.0	4.0	4.0	4.0
Total Airport		3.6	1.7	1.5	1.4	1.3	1.2

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Sources: Historical: San Diego County Regional Airport Authority records.

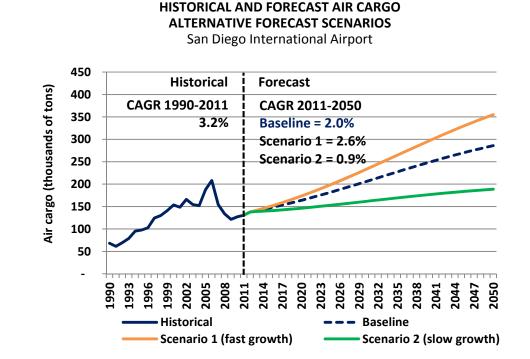


AIR CARGO ALTERNATIVE FORECAST SCENARIOS

The alternative air cargo forecast scenarios are presented in Tables A-3 and A-4. In Scenario 1 (fast growth), air cargo (air freight and mail) is forecast to increase an average of 2.6% per year between 2011 and 2050, from 130,850 tons in 2011 to 355,000 tons in 2050, as shown in Table A-3. In Scenario 2 (slow growth), air cargo tonnage is forecast to increase an average of 0.9% per year between 2011 and 2050, from 130,850 tons in 2011 to 188,700 tons in 2050, as shown in Table A-4.

Figure A-2 presents a comparison of the alternative forecast scenarios of air cargo at SDIA with the baseline forecast.

Figure A-2



Note: The forecasts presented in this figure were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

CAGR = Compound average annual growth rate

Source: Historical: San Diego County Regional Airport Authority records.



Table A-32
AIR CARGO FORECASTS – SCENARIO 1 (FAST GROWTH)

	Historical	Estimated			Forecast		
	2011	2012	2016	2021	2026	2031	2050
Air freight	114,192	119,500	134,900	158,400	185,900	216,200	329,800
Mail	16,658	18,500	19,500	20,500	21,500	22,400	25,200
Total air cargo	130,850	138,000	154,400	178,900	207,400	238,600	355,000
Percent of total							
Enplaned	54.4%	54.3%	54.4%	54.3%	54.4%	54.4%	54.4%
Deplaned	45.6%	45.7%	45.6%	45.7%	45.6%	45.6%	45.6%
Enplaned air freight							
Domestic							
Cargo airline	52,064	51,900	58,900	69,700	82,300	96,200	148,600
Passenger airline	3,991	4,100	4,700	<u>5,500</u>	6,500	7,600	11,700
Domestic total	56,055	56,000	63,600	75,200	88,800	103,800	160,300
International	2,124	4,600	<u>5,200</u>	6,100	7,200	8,400	13,000
Air freight total	58,179	60,600	68,800	81,300	96,000	112,200	173,300
Enplaned mail							
Cargo airline	10,800	11,800	12,400	13,100	13,700	14,300	16,000
Passenger airline	<u>2,146</u>	2,600	<u>2,700</u>	<u>2,900</u>	<u>3,000</u>	<u>3,100</u>	<u>3,500</u>
Mail total	12,946	14,400	<u>15,100</u>	16,000	16,700	17,400	<u>19,500</u>
Total enplaned air cargo	71,125	75,000	83,900	97,300	112,700	129,600	192,800
			Comp	ound annual perce	ent increase (decre	ease)	
		2011-2012	2011-2016	2016-2021	2021-2026	2026-2031	2031-2050
Air freight		4.6%	3.4%	3.3%	3.3%	3.1%	2.2%
Mail		11.1	3.2	1.0	1.0	0.8	0.6
Total air cargo		5.5	3.4	3.0	3.0	2.8	2.1
Enplaned air freight							
Domestic							
Cargo airline		(0.3)	2.5%	3.4	3.4	3.2	2.3
Passenger airline		2.7	3.3%	3.2	3.4	3.2	2.3
Domestic total		(0.1)	2.6	3.4	3.4	3.2	2.3
International		116.6	19.6	3.2	3.4	3.1	2.3
Air freight total		4.2	3.4	3.4	3.4	3.2	2.3
Enplaned mail							
Cargo airline		9.3	2.8	1.1	0.9	0.9	0.6
Passenger airline		21.2	4.7	1.4	0.7	0.7	0.6
Mail total		11.2	3.1	1.2	0.9	0.8	0.6
Total enplaned air cargo		5.4	3.4	3.0	3.0	2.8	2.1

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Sources: Historical: San Diego County Regional Airport Authority records. Forecast: LeighFisher, July 2012.

2031

140,600

2050

163,500

Forecast

2026

133,600



Air freight

Table A-33
AIR CARGO FORECASTS – SCENARIO 2 (SLOW GROWTH)

San Diego International Airport

2016

121,900

2021

127,100

Estimated

2012

119,500

All Height	114,192	119,300	121,900	127,100	133,000	140,000	103,300
Mail	<u> 16,658</u>	18,500	19,500	20,500	21,500	22,400	25,200
Total air cargo	130,850	138,000	141,400	147,600	155,100	163,000	188,700
Percent of total							
Enplaned	54.4%	54.3%	54.4%	54.3%	54.4%	54.4%	54.4%
Deplaned	45.6%	45.7%	45.6%	45.7%	45.6%	45.6%	45.6%
Enplaned air freight							
Domestic							
Cargo airline	52,064	51,900	52,900	55,100	57,900	61,000	71,200
Passenger airline	3,991	4,100	4,200	<u>4,400</u>	<u>4,600</u>	<u>4,800</u>	<u>5,600</u>
Domestic total	56,055	56,000	57,100	59,500	62,500	65,800	76,800
International	2,124	4,600	4,600	4,800	5,100	5,400	6,200
Air freight total	58,179	60,600	61,700	64,300	67,600	71,200	83,000
Enplaned mail							
Cargo airline	10,800	11,800	12,400	13,100	13,700	14,300	16,000
Passenger airline	2,146	2,600	2,700	2,900	3,000	3,100	3,500
Mail total	12,946	14,400	15,100	16,000	16,700	17,400	19,500
Total enplaned air cargo	71,125	75,000	76,800	80,300	84,300	88,600	102,500
			Comp	ound annual perce	ent increase (decre		
		2011-2012	2011-2016	2016-2021	2021-2026	2026-2031	2031-2050
Air freight		4.6%	1.3%	0.8%	1.0%	1.0%	0.8%
Mail		11.1	3.2	1.0	1.0	0.8	0.6
Total air cargo		5.5	1.6	0.9	1.0	1.0	0.8
Enplaned air freight							
Domestic							
Cargo airline		(0.3)	0.3	0.8	1.0	1.0	0.8
Passenger airline		2.7	1.0	0.9	0.9	0.9	0.8
Domestic total		(0.1)	0.4	0.8	1.0	1.0	0.8
International		116.6	16.7	0.9	1.2	1.1	0.7
Air freight total		4.2	1.2	0.8	1.0	1.0	0.8
Enplaned mail							
Cargo airline		9.3	2.8	1.1	0.9	0.9	0.6
Passenger airline		21.2	4.7	1.4	0.7	0.7	0.6
Mail total		11.2	3.1	1.2	0.9	0.8	0.6

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Sources: Historical: San Diego County Regional Airport Authority records. Forecast: LeighFisher, July 2012.

Historical

2011

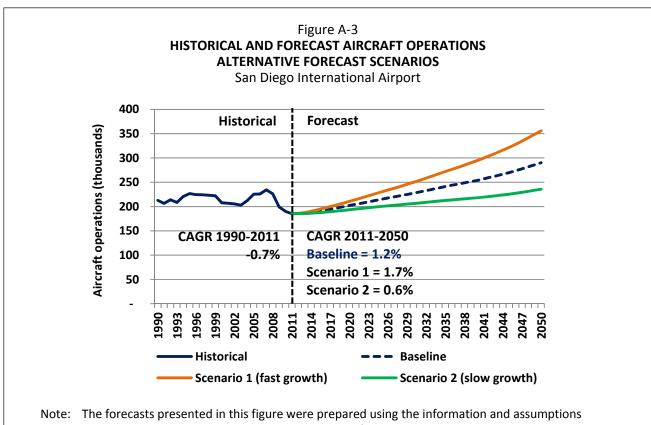
114,192



ALTERNATIVE AIRCRAFT OPERATIONS FORECASTS

Tables A-5 and A-6 provide aircraft operations forecasts for Scenarios 1 and 2. In Table A-5, the passenger and cargo airline operations are shown as derived from the enplaned passenger and air cargo tonnage totals associated with Scenario 1; Table A-6 provides the same for Scenario 2. In Scenario 1 (fast growth), total aircraft operations (passenger and cargo airlines, general aviation, and military) are forecast to increase an average of 1.7% per year between 2011 and 2050, from 185,142 in 2011 to 358,660 in 2050, as shown in Table A-5. In Scenario 2 (slow growth), total aircraft operations are forecast to increase an average of 0.6% per year between 2011 and 2050, from 185,142 in 2011 to 238,520 in 2050, as shown in Table A-6.

Figure A-3 presents a comparison of the alternative forecast scenarios of aircraft operations at SDIA with the baseline forecast.



Note: The forecasts presented in this figure were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

CAGR = Compound average annual growth rate

Source: Historical: San Diego County Regional Airport Authority records.

Forecast



Table A-34
AIRCRAFT OPERATIONS FORECASTS – SCENARIO 1 (FAST GROWTH)

San Diego International Airport

Estimated

Historical

	HISTOLICAL	Estimateu			rorccast		
	2011	2012	2016	2021	2026	2031	2050
Air Carrier							
Passenger airlines	140,200	141,990	152,630	168,760	186,410	204,890	300,210
Cargo airlines	3,988	4,080	4,290	4,830	5,430	6,040	7,720
Other (a)	2,802	2,800	2,800	2,800	2,800	2,800	2,800
Air Carrier total	146,990	148,870	159,720	176,390	194,640	213,730	310,730
Air Taxi	•	•	•	·	•		•
Passenger airlines	22,350	21,610	23,220	23,580	23,880	24,110	26,210
Cargo airlines	2,464	2,520	2,650	2,980	3,350	3,730	4,770
Other (a)	2,230	2,000	2,000	2,000	2,000	2,000	2,000
Air Taxi total	27,044	26,130	27,870	28,560	29,230	29,840	32,980
General Aviation	•	•	•	,	•	,	•
Itinerant	10,406	10,520	11,050	11,600	12,150	12,690	14,250
Local	, <u></u>	, 	,	,	,	,	·
General Aviation total	10,406	10,520	11,050	11,600	12,150	12,690	14,250
Military	702	700	700	700	700	700	700
Total Airport	185,142	186,220	199,340	217,250	236,720	256,960	358,660
•	,	,	· ·	•	ent increase (decre	•	,
		2011-2012	2011-2016	2016-2021	2021-2026	2026-2031	2031-2050
Air Carrier							-
Passenger airlines		1.3%	1.7%	2.0%	2.0%	1.9%	2.0%
Cargo airlines		2.3	1.5	2.4	2.4	2.2	1.3
Other (a)		(0.1)	(0.0%	0.0	0.0	0.0	0.0
Air Carrier total		1.3	1.7	2.0	2.0	1.9	2.0
Air Taxi							
Passenger airlines		(3.3)	0.8	0.3	0.3	0.2	0.4
Cargo airlines		2.3	1.5	2.4	2.4	2.2	1.3
Other (a)		(10.3)	(2.2)	0.0	0.0	0.0	0.0
Air Taxi total		(3.4)	0.6	0.5	0.5	0.4	0.5
General Aviation		ζ- /					
Itinerant		1.1	1.2	1.0	0.9	0.9	0.6
Local							
General Aviation total		1.1	1.2	1.0	0.9	0.9	0.6
Military		(0.3)	(0.1)	0.0	0.0	0.0	0.0

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Sources: Historical: San Diego County Regional Airport Authority records.

⁽a) Includes unscheduled, empty, and ferry flights.



Table A-35

AIRCRAFT OPERATIONS FORECASTS – SCENARIO 2 (SLOW GROWTH)

San Diego International Airport

	Historical	Estimated			Forecast		
	2011	2012	2016	2021	2026	2031	2050
Air Carrier							
Passenger airlines	140,200	141,990	146,050	152,920	159,860	166,160	195,230
Cargo airlines	3,988	4,080	3,860	3,820	3,820	3,830	3,700
Other (a)	2,802	2,800	2,800	2,800	2,800	2,800	2,800
Air Carrier total	146,990	148,870	152,710	159,540	166,480	172,790	201,730
Air Taxi							
Passenger airlines	22,350	21,610	22,260	21,450	20,610	19,730	17,560
Cargo airlines	2,464	2,520	2,380	2,360	2,360	2,370	2,280
Other (a)	2,230	2,000	2,000	2,000	2,000	2,000	2,000
Air Taxi total	27,044	26,130	26,640	25,810	24,970	24,100	21,840
General Aviation							
Itinerant	10,406	10,520	11,050	11,600	12,150	12,690	14,250
Local							
General Aviation total	10,406	10,520	11,050	11,600	12,150	12,690	14,250
Military	702	700	700	700	700	700	700
Total Airport	185,142	186,220	191,100	197,650	204,300	210,280	238,520
			Com	npound annual perc	ent increase (decre	ase)	
		2011-2012	2011-2016	2016-2021	2021-2026	2026-2031	2031-2050
Air Carrier		2011 2012	2011 2010	2010 2021	2021 2020	2020 2031	2031 2030
Passenger airlines		1.3%	0.8%	0.9%	0.9%	0.8%	0.9%
ě .		2.3	(0.7)	(0.2)	0.9%	0.8%	(0.2)
Cargo airlines Other (a)		(0.1)	, ,	, ,	0.0	0.0	0.2)
Air Carrier total		1.3	(0.0) 0.8	0.0 0.9	0.0	0.7	0.0
Air Carrier total		1.5	0.8	0.9	0.9	0.7	0.8
Passenger airlines		(3.3)	(0.1)	(0.7)	(0.8)	(0.9)	(0.6)
Cargo airlines		2.3	(0.7)	(0.2)	0.0	0.1	(0.8)
Other (a)		(10.3)	(2.2)	0.0	0.0	0.0	0.2)
Air Taxi total		(3.4)	(0.3)	(0.6)	(0.7)	(0.7)	(0.5)
General Aviation		(3.4)	(0.3)	(0.0)	(0.7)	(0.7)	(0.5)
Itinerant		1.1	1.2	1.0	0.9	0.9	0.6
Local			1.2	1.0	0.9	0.9	U.U
		 1 1					
General Aviation total		1.1	(1.3)	1.0	0.9	0.9	0.6

Note: The forecasts presented in this table were prepared using the information and assumptions given in the accompanying text. Inevitably, some of the assumptions used to develop the forecasts will not be realized and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the forecast and actual results, and those differences may be material.

Sources: Historical: San Diego County Regional Airport Authority records.

⁽a) Includes unscheduled, empty, and ferry flights.



APPENDIX B REGRESSION ANALYSIS

Regression analysis compares the historical relationship between a dependent variable, in this case, enplaned passengers, and an independent or "predictor" variable. The predictor variable is eventually used to project future levels of the dependent variable. In aviation demand forecasts, the predictor variable is typically represented by an economic or demographic metric such as population, employment, or personal income. Regression analyses produce a mathematical equation that identifies the strength or reliability of the historical correlation between the dependent variable (enplaned passengers) and predictor variables. The statistical reliability of this equation is typically measured by a regression statistic known as "R-squared." An R-squared of 1.0 would represent a perfect historical correlation between the dependent and predictor variable and suggest that the measurement of this historical relationship will be a reliable predictor of future results.

Two regression models were defined during the forecast process to evaluate historical trends in SDIA domestic originating passengers and air freight and are presented in Table B-1.



Table B-1 REGRESSION MODELS San Diego International Airport

	Coefficient	t-statistic	P-value
Domestic originating passengers			
Dependent variable = In(SDIA domestic originating passengers)			
Independent variables			
In(San Diego County per capita personal income, 2011 dollars)	1.07	7.11	0.0000
In(SDIA airline yield, 2011 dollars)	-0.24	-1.68	0.1096
Constant	4.95	2.56	0.0198
Observations	21		
Adjusted R-squared	0.93		
Air freight			
Dependent variable = In(SDIA air freight)			
Independent variables			
In(San Diego County nonagricultural employment)	3.18	15.13	0.0000
In(West Texas Intermediate oil prices, 2011 dollars)	-0.21	-3.84	0.0011
Constant	-10.76	-7.97	0.0000
Observations	22		
Adjusted R-squared	0.93		
Source: LeighFisher, July 2012.			

R-B2 - Gated Schedules

2024 - No Project

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
1A	A-321-NEO	A-321	
1	A-321-NEO	B-737-Max9	
2	A-321-NEO	B-737-Max9	
3	A-321-NEO	B-737-Max9	
4	A-321-NEO	B-737-Max9	
5	B-757-200	B-757-200	
6	DC-10-30	DC-10-30	
7	B-757-200	B-757-200	
8	B-767-300	B-767-300	
9	A-321-NEO	B-737-Max9	
10	A-321-NEO	B-737-Max9	
11	A-321-NEO	B-737-Max9	
12	A-321-NEO	B-737-Max9	
13	A-321-NEO	A-321-NEO	
14	A-321-NEO	A-321-NEO	
15	A-321-NEO	A-321-NEO	
16	B-757-200	B-757-200	
17	A-321-NEO	A-321-NEO	
18	A-321-NEO	A-321-NEO	
20	A-321-NEO	B-737-900WL	
21	A-321-NEO	B-737-900WL	
22	DC-8-55	B-747-400ER	

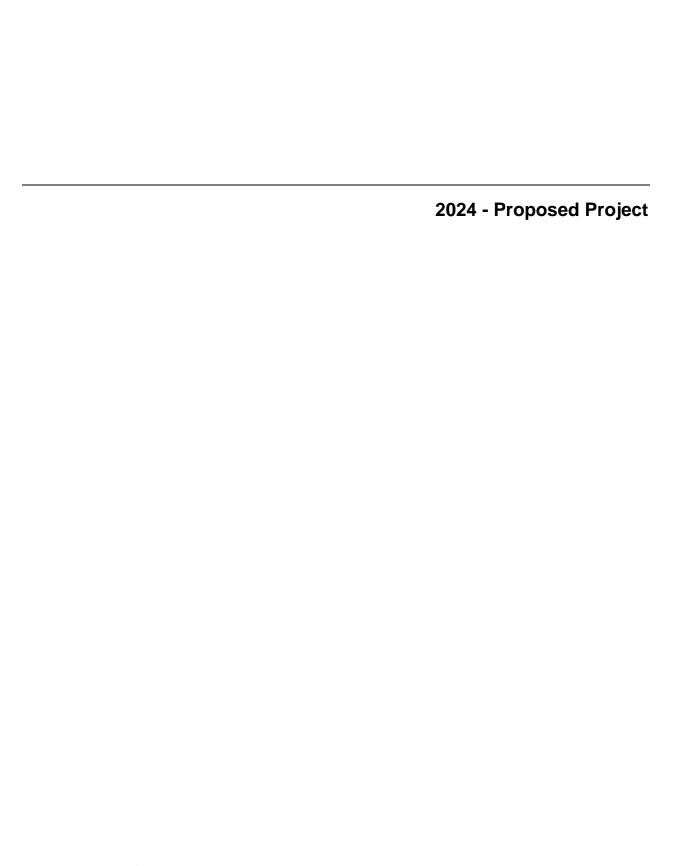
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Decompose 1							WN	WN		WN			WN	L	WN		WN			WN			WN		
Company							00WL	B-737 <mark>-800W</mark>		0WL			0WL			B- <mark>737-700</mark>				737-700WL		<u> </u>			B-737-800WL
March Marc							/sJC		SFO/SF	<mark>=0</mark>			swi	SJC/AUS		SJC/SLC			OAK/SEA	AUS/MCI	PDX/PDX			LAS/OAK	BNA/
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Column C							/SMF	Max 8			S <mark>EA/OA</mark> K	SFO/M	SY		1F/SFO	EWR/OAK	LAS/0	DAK	MSY/SAT	SI	MF/STL	OAK/OAK	B <mark>-737-700W</mark>	STL/	
								WN		WN		w	N									1 1 1	WN		WN
No.						B-73	WN	WN	L		WN			w	N	w w	N I		WN	WN		WN	1	WN	WN
1						B-73	WN	W	N I	WN		WN		WN		WN	w	'N	WN	L	WN	-	WN	WN	
						B-737	-700WL	B <mark>-7</mark>	<mark>37-700W</mark> L	OAK/ST	L	B <mark>-737-800V</mark>	VL B-737	7-700WL		B- <mark>737-700W</mark> L		B-737-700WL	SMF/PHX		-700WL		DWL	MDW/	
State Stat							/SFO	L	AS/SEA			SJC/MCO		A/SJC						LAS	/PHX	LAS/LA	.s		LAS/
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B-737-70001						B-7	WN	WN	N W	VN	WN	WN		WN	WN	WN	WN		WN		WN			WN	WN
STATE STAT						B-73	7 <mark>-700WL</mark>	B-737-8	BOOWL B-	- <mark>737-700W</mark> L	B-73	7-800WL		B- <mark>73</mark>	7-700WL		B- <mark>737-700W</mark> L B-	737-800WL	3.075.0		7-800WL B-73	8 <mark>7-700</mark> WL		B-737-70	
MOVE						B-7	/EWR	DAL/	OAK	PDX/SJC			B-737-700	SFC	<mark>У/МКЕ</mark>	B-737-800WI	SMF/SJC	DAL/PHX	00WL B-73	SJO	C/SJC S.	IC/PHX		OAK/	VL
No.										MCI/EWR									MF PH	K/OAK					
A 320 A 321 A 320 A 320						B-737	WN			WN			WN							WN			WN	WL	
A-321-NEO NK LASAS POWER A-321 NEO NK LASAS POWER A-321-NEO POWER A-321-N								F9			F9		4	F9			NK				NK			NK NK	NEO
A-320 NO NY							A-3 <mark>21-</mark>	NEO .		A-320-NE							LAS/LAS				BWI/LAS		A-	320	
No.												CVG/DI			ORD/ORD				DFW/DFW			A 220 NEO	F9 TU	IL/	p 737 80
AS AS AS SEA/MCO A-320737 800WL AS AS SEA/MCO B-737-900WL AS AS SEA/MSD AS A												NK		SY					G4			NK			AS HNL/
B-737-800WL A-320 737-800WL A-						,	A-320 B-73 AS /SEA	87-800WL37-9 AS /HNI	OOWL AS /SEA	4	۱S				A	S			AS	E175 AS	E175 AS		E175 AS STS/	B-737-8 AS KOA/	00WL
SEA/SEA MSP/ABQ OMA/SMF SFO/SFO OGG/ /BWI EWR/							A-320-7	737-800WL		E175					3-737-900WL				E175				B-737-800WE	3-737 <mark>-800WL</mark>	B-737-900
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/BOS // PDX // AUS/MCI						B-737	-800WL AS	В-	737 <mark>-800WL</mark>								AS		AS					B-737-800WL	B-737-800WL AS LIH/

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
23	B-757-200	B-757-200	
24	B-767-300ERWL	B-787-9	
25	B-757-200	B-757-200	
26	B-757-200	B-757-200	
27	B-757-200	B-757-200	
28	B-767-200	B-767-200	
29	DC-10-40	DC-10-40	
30	B-757-200	B-757-200	
31	MD-11	MD-11	
32	B-757-200	B-757-200	
33	B-757-200	B-757-200	
34	B-737-700	A-320	
35	B-757-200	B-757-200	
36 - IAF	B-737-Max9	B-757-200	
37 - IAF	B-757-200	B-757-200	
38	B-757-200	B-757-200	
39	B-757-200	B-757-200	
40	A-321-NEO	B-737-900WL	
41	A-321-NEO	B-737-900WL	
42	B-757-200	B-757-200	
43	B-767-300	B-767-300	
44	B-757-200	B-757-200	

12 AM 1 A	M 2/	M	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AI	M 12 PR	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
						A-321-NEO	B-737-800	B-7	737-800	A-321-NEO		B-737-800			A-321-NEO		A-321-N	EO	B-737-800		B-737-800	B-737-80	
						AA /DFW	AA /DFW		AA ·K/JFK	AA DFW/DFW		AA PHX/PHX			AA DCA/DCA		AA ORD/OF	l D	AA ORD/		AA /MIA	AA MIA/	AA PHL/
					/s	AS SMF	E175 AS SLC/DAL		175 AS T/FAT			E175 AS SJC/SMF			AS SEA/SEA		E175 AS STL/BO				B-737- AS BOS/	-800WL A-320 AS SFO/	
					B-737	AA	A-321 AA		B-757-200 AA	AA	NEO A-321-I	AA		B-737-80 AA			B-737-800 AA			Δ.	3-737-800 AA //IA/	B-737-800 AA /MIA	A-321-NEO AA
37- <mark>9</mark> 00WL						/PHL	/PHL	E1		DFW/	/[of W		ORD/OR	E175 AS		DFW/DFW	37-800WL AS		A-320)		DFW/ 737-800WL
					A-3 <mark>2</mark> 1	EWR /EWR	/MRY	-321-NEO		B-737-800		A-321			FAT/SLC			CO/PDX 21-NEO		SEA/	B-	737-800	B-737-8
						AA	AA	AA FW/DFW		AA JFK/JFK		AA DFW/DFW					AA DFV					AA FK/ORD	AA DFW/
						E175 AS /SJ0	A-3 A SFO		B-737-900V AS SEA/SEA					321-NEO AS FO/SFO			-320 AS D/SFO		B-737-80 AS PDX/P		E175 AS SMF/	E175 AS DAL/	
						E175 AA	A-321-NEO				-737-800 AA				A-321 AA				A-321-NEO	4	A-321 AA PHL/	AA A	737-800
						/LAX B-737 <mark>-800</mark>	JFK/JFK NL B-	37 <mark>-800WL</mark>	B-737-	- <mark>8</mark> 00WL B-737	-800WL			I-NEO	PHX/DFW	A-321-NEO/	A-321-NEO AA	A-321 AA	CLT/CLT		A	/CLT JF -321 E175 AA AA	9
							B-737-800	/ogg	BWI/	E175	/SEA			/DFW		DFW/	/DFW	CLT/			A-321	PHL LAX/	800
							AA /JFK			AA PHX/PHX			YYC	rs .							AA PHX/	AA ORD/	
					A	A-321 AA /PHX	B-737-800 AA /ORD			-321 AA T/CLT		737-800 AA 1L/PHL	CRJ-900 AC YVR/YVR			-737-800 AA RD/PHX		A-321 AA PHX/PH	A	-737-800 A FW/	B-7:	37-800 CR. AA AC /JFK YV	-900 R/
						CRJ-900					A-321 AC		7-800WL WS					B-737-800W WS		A-320 B6	i i A	-321 A	
						E175			A-320 DL)	YYZ/YYZ	A-:	R/YVR B20 DL	E175 DL		CRJ-900 AC	A-320 DL	YYC/YYC	E175 AC	BOS/JFK E175 DL	E175	.т/	
A-321					A-	/LAS	B- 737-900		SLC/SL		A-220-100		/SLC	SEA/SEA	A-321	VR/YVR E175	MSP/MSP	0	YVR/YVR	LAS/LAX	SEA/	B-757	200
OL MSP/						SLC	DL /MSP			DL	DL SEA/SEA	B6 JFK/JFk		DL TW/ATL	DL ATL/MSP	DL LAS/LA	DL			B6 /BOS	DL SEA/SEA	DL JFK/	
						A-220-300 DL /MSP				1	321 DL //DTW		B-737-800WL AS SJD/		B-737-700VL WN SJD/LAS			B-7 AS SJD	37-900WL	A-320 B6 FLL/FLL	A-321 DL DTW/		B-737-90 AS MZT/
						A-321 DL /ATL					A-320 B6 DS/BOS	B-737-80 DL		B-737-900 AS SJD/SJD		B-737-900W AS SJD/SJD		E175 DL			A-320 AS		A-321 DL SLC/
					B-7	737-900 DL		A-32		E175 DL	4	JFK/JFK A-321 DL	B-717-200 DL	B-73		B-717-200	A-321	SEA/SEA			A-321 DL		SLC
					B-737-	/MSP	E175W B-73	7-900	<u> </u>	LAS/LAS B-737	AT	L/ATL	SEA/SEA 3-737-900		A-320	SLC/SLC	DL ATL/		B-73	7-800 B	/ATL 3-737-900	B-737-900	A-320
						UA WR		UA /ORD		SFO	A /SFO		UA DEN/SFO		UA ORD/DEN					/SFO E	JA WR/	UA /EWR	IAH/
						E	-737-900 B-7 UA /SFO	UA		B-737-900 UA DEN/DEN			A-319 UA DRD/IAH		B-737-900 UA IAD/IAH		A-319 UA DEN/DEN		E175 UA LAX/LAX	A-3 UA DEI		A-320 B-73 UA UA /ORD EWF	UA
						5W UA LAX	B-737-8	JA	A-3: U <i>A</i> SFO/	A	B-737-900 UA		-737-900 UA			CRJ-700 UA LAX/LAX				737-900 UA H/FWR		B-737-900 UA SEO/	B-737-9 UA DEN/
5W					Α-	319 UA	A-320 UA	A-319 UA	A-319	9	A-320 UA		FO/DEN B-737-900 UA)	E175 UA	LANJLAN		B-737-900 UA	IA	H/EWR A-320 UA		SFO/ B-737-900 UA	E175W UA
,						SFO A-320	/IAH	SFO/	/SFC		EWR/EWR B-737-900		IAH/ORD		DEN/DEN		A-320	ORD/SFO		BOS/BOS	B-737-800	ORD/	LAX/
						UA /ORD					UA ORD/ORD				UA D/SFO		UA SFO/SFO				JA EWR/	U	
37-800						800 UA DRD	B-737-900 UA /IAH			B-737-900 UA ORD/ORD		757-200 UA AD/IAD		37-900 UA D/ORD		7-900 JA				9-737-900 UA IAD/LAX		A-319 UA SFO/	

				< Start of Ana	alysis Day					_			_									_				End of	f Analysis Day >
Position I	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
45 - IAF	B-757-200WL	B-757-300							A-22	0-300 DL /MSP				B-757-300 DL ATL/ATL			-321 DL _/DTW	5	A-320 DL SLC/SLC				A-32 DL ATL/			DL	B-737-900 UA IAH/
46 - IAF	B-757-200WL	B-757-300								A-321 DL /DTW	A-321 DL /ATL				B-757-200WL DL JFK/JFK		B-737-900 DL ATL/ATL							B-757-200 DL JFK/	B-757-2	OO A	A-220-300 DL MSP/
46A - IAF	B-747-400ER	B-777-300ER											1//					1//					1///				/////
17 - IAF	B-757-200WL	B-757-300															A-321 DL MSP/MSP							B-737-8 DL DTW/	00		
7A - IAF	B-747-400ER	B-777-300ER																									
8 - IAF	B-747-400ER	B-777-300ER									787-8 DY					B-	-777-200 BA HR/LHR						B-787-8 DY LGW/				
19 - IAF	A-321-NEO	A-321							B-737-800 DI /DTW					A-3 Di MSP/						A-321 DL JFK/JFK			B-73 DL	7-900 A-2	20-300 B- DL	737-900	
60 - IAF	A-321-NEO	A-321							/DIW	A-32 H.	A i i i			Wise	Wish					JENJJEN	A-: DL	321 - rw/	A-3 HA	21 A-	220-100 DL AS/LAS	A-321 DL /DTW	A-321 DL ATL/
50A - IAF	A-330-300	A-330-300								/og				////			A-340-3 LH	00 A- <mark>340-:</mark> /f	300 LH			W/			S/LAS	/JIW	/////
1 - IAF	B-747-400ER	B-777-300ER		/////	//////		,,,,,,		//////					HA	B-787 JL NRT/	7-8	B-787-8 JL		RA //			B-7 BA	77-3 00	B-777-300 BA		A- H	-330-200 A NL/
R_01	B-757-300	B-757-300					A-321 DL							'HNL	NRT/		/NRT					LHI	V	/LHR		A-321 HA OGG/OGG	IL/
R_02	B-757-300	B-757-300			<u> </u>	ļ <u> </u>	ATL/ATL B-737-900W AS		 														1	321)L	0.00.00.00		B-737-900 DL
t_03	B-757-300	B-757-300				ļ	PDX/SEA B-737-900 DL	l	 	+													DTW	/DTW		B-737-900 DL	MSP/MSP
	B-757-300	B-757-300		1 1 1		В	MSP/MSP -737-800WL AS		ļ <u> </u>	 																MSP/MSP A-321 DL	
	B-757-300	B-757-300				B-73	SEA/SJD 37-800WL AS																		A-321-NEO AA	ATL/ATL	
	B-757-300	B-757-300				PC	DX/HNL E175 AS		<u> </u>																	20-300 DL	B-737 <mark>-8</mark>
	B-757-300	B-757-300			ļ	 	STS/MRY B-737-90 UA	00	 	+																P/MSP	LIH/ B <mark>-737-800W</mark> AS
		B-757-300		1 1 1 1	ļļ <u>ļ</u> ļ	ļ 	LAX/DEN B-737-800WL	N 	 	 																	KOA/SJD E175 AS
	B-757-300						EWR/OGG A-321																			ST	E175
	B-757-300	B-757-300			ļ <u>ļ</u> .	Δ.	DL DTW/ATL A-320																			S	AS MF/SJC 3-737-800WL
	B-757-300	B-757-300		l 	ļ <u>-</u>	IA 	UA H/IAH 	 	 																	A-321	
_11	B-757-300	B-757-300			ļ	EW	UA /R/IAD 		 																	AA PHX/PI	
_12	B-757-300	B-757-300					AA HX/PHL																				UA EWR/IA





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osition	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PN	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
0	A-321-NEO	B-737-900WL									A-320B-73 UA /IAH	UA	A-320 UA SFO/IA		A-320 UA WR/EWR	A-320 B6 JFK/JFK			A-320 UA ORD/DEN				E175 UA LAX/LAX	A-3 UA DEI		A-320 B-7 UA UA /ORD EW	UA
1	A-321-NEO	B-737-900WL								7-900 UA 'EWR	B-737-80 U /IA	A		B-737-900 UA DEN/DEN			A-319 UA RD/IAH		37-900 UA D/SFO		A-319 UA DEN/DEN			A-320 B6 K/BOS		B-737-900 UA SFO/	B-737-900 UA DEN/
2	DC-8-55	B-747-400ER								+	B-737-900 UA			A-	-320 B6		В	737-900 UA		CRJ-700 UA				A-320 B6		E	B-737-900 UA
3	B-757-200	B-757-200								В-737-	/SFO -800WL AS	E17 AS		A-320-NEO NK	S/BOS		-321-NEO NK	RD/ORD	E175 AS		319 64		A-321-NEO AS	A-320 B6			B-737-800WL AS
4	B-767-300ERWL	B-787-9									B-737-900 UA	SJC/S	STL	DTW/DTW B-737-900 UA		57-200 UA	RD/ORD		FAT/SLC	EUG	A-3		SFO/SFO	BOS/JFK A-320 UA		A-319 UA	LIH/
5	B-757-200	B-757-200								A-32	/IAH		O-NEO	ORD/ORD A-32 F9	21	B-737-80 SY		-700WL A	321-NEO NK		SFO/	B-737-8001 WS	WL .	A-320-NEO		SFO/ A-320	
•	B-737-200	B-737-200		E175W					E1	.75W	UL E175W B-737	LAS	S/LAS	cvg/I		MSP/MS		:/YYC	AS/LAS B-737-900			YYC/YYC		LAS/BWI	-737-900	9 'UL/ B-737-900	A-320
6	B-757-200	B-757-200		UA LAX/						UA /LAX		UA 'ORD			UA IAH/IAH		UA IAH/OR		UA IAD/IAH				SF	O/SFO E	WR/	/EWR	IAH/
7	B-757-200	B-757-200								A-321-NEC NE /IAF	<mark>ık</mark>		A-321 F9 DEN/CVG			A-320 F9 US/AUS	CRJ-900 AC YVR/YVF			CRJ-900 AC /VR/YVR	A-320-NEO NK DFW/DFW	'	A-320-NEC NK BWI/LAS			A-321- NK IAH/	-NEO
8	В-767-200	B-767-200								N-319 UA /SFO				B-737- UA SFO/S			737-900 UA FO/DEN		E175 UA DEN/DEN			B-737-90 UA ORD/SFC		-737-900 UA AH/EWR		B-737-900 UA ORD/	E175W UA LAX/
9	DC-10-40	DC-10-40		B-737-800 UA SFO/						7-800 CRJ-900 UA AC 'ORD /YVF	.c				A-321 AC YYZ/YYZ		-800WL VS /YVR						E175 AC YVR/YVR		3-737-800 JA :WR/	A	RJ-900 C VR/
	B-757-200	B-757-200																									
	MD-11	MD-11								A-320 UA /ORD		A-319 UA SFO/	A-319 UA /SFO		B-737-900 UA ORD/ORD		-737-900 UA DEN/SFO		ι	37-900 JA I/SFO				B-737-900 UA IAD/LAX		L	A-320 UA DRD/
	B-757-200	B-757-200																									
	B-757-200	B-757-200									B-737-90	AS A	L75 AS /FAT		E175 AS MRY/FAT		B-737	-800WL AS /SJD			900WL I	B-737-800WL AS MCO/PDX					
	B-737-700	A-320									A-320 E17 AS AS	75 S			A-320 AS SFO/SFO		4	75 .S /MSP		E175 AS SMF/ST		75 .S		E175 AS SIC/SIC			
	B-757-200	B-757-200								A-320 E175 AS AS	75 B-737-900WI-7	37-800WL AS	B-737-800W AS PDX/KOA			E175 AS C/SME		-321-NEO AS SFO/SFO		E175 AS		B-737-900W AS	-		B-737-800W AS	/B-737 <mark>-800WL</mark> AS	B-737-800\ AS
i - IAF	B-737-Max9	B-757-200							B-737	7-800WL/37-800 AS	OWL A-32 AS AS	20	B-737-900W AS SEA/SEA	L			3-737-800WL	B-737-900 AS SJD/SJ		B-737-900\ AS SJD/SJD		B	-737-9 <mark>00WL</mark>		A-320 AS		B-737-9001 AS
- IAF	B-757-200	B-757-200		B-737-900WL AS					B-737 <mark>-9</mark>	000WL B-737-8	800WL AS		<u></u>	00WL B-737-8	BOOWL AS			3,0/3	E175 AS VISP/ABO	30/300	E175 AS			BOOWL S	E175 AS	A-320 AS	0
	B-757-200	B-757-200		SEA/						A-320 AS	E175 AS	E175 AS	BWI		/SEA		737-900WL AS		800WL S		A-320 AS	E175 AS	E175	A-320 AS	B-7.	37-800WL	B- AS
	B-757-200	B-757-200								/SFO E 1875 37-900WL AS AS	E1753-737-800 AS	AS	-737-800WL AS			E175 AS	SEA/SEA	PDX	PDX 3-737-900WL AS		O/SFO E175 AS		/37-900WL AS	SEA/	A-320 DL	AS	
	A-321-NEO	B-737-900WL								A-220-300 DL		BOS	A-320 DL			A-3		E175 DL	SEA/SEA	E17!		A-320 DL	B-7		SEA/SEA 220-100 DL	KOA/	
									B-737-800	/MSP			SLC/SLC A-22		220-100	SLC/ B-737-80	SLC	SEA/SEA	37-800	LAS/L B-717-200 DL SLC/SLC		C/SLC	MS	P/ L E175 DL LAS/LAX	AS/LAS E17 DL SEA		-220-300 L ISP/

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
42	B-757-200	B-757-200	
43	B-767-300	B-767-300	
44	B-757-200	B-757-200	
45 - IAF	B-757-200WL	B-757-300	
46 - IAF	B-757-200WL	B-757-300	
46A - IAF	B-747-400ER	B-777-300ER	
47 - IAF	B-757-200WL	B-757-300	
47A - IAF	B-747-400ER	B-777-300ER	
48 - IAF	A-321-NEO	A-321	
49 - IAF	A-321-NEO	A-321	
49A - IAF	B-747-400	B-777-300ER	
50 - IAF	A-321-NEO	A-321	
50A - IAF	A-330-300	A-330-300	
51 - IAF	B-747-400ER	B-777-300ER	
1	B-737 Max 8	A-321	
2	B-737 Max 8	A-321	
3	B-737 Max 8	A-321	
4	B-737 Max 8	A-321	
5	B-737 Max 8	A-321	
6	B-757-200	B-757-200	
7	B-737 Max 8	A-321	
8	B-737 Max 8	A-321	

Start of Ana	lysis Day																						Analysis Day
I2 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	ļ., <u></u>			2 PM		4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
						A-321B-757-20 DL I /ATL /JI)L	A-321 DI /ATI		E175 DL LAS/LAS	A-3 D ATL		B-717-200 DL SEA/SEA		A-320 DL SLC/SLC	A-321 DL JFK/JFK		321 W/		B-737-8 DL DTW/	00	A-321 DL /DTW	A-321 DL ATL/
1-321)L						-321 E175 DL DL /SLC /LAS				B-757-300 DL			B-737-90 DL					E175 DL	A-3; DL ATL	21 A-2 DL / MS	DL		A-321 DL SLC/
1SP/						/SLC /LAS 0-300 DL				ATL/ATL A-S	321		A-321 DL		A-321 DL		A-321	SEA/SEA	AIL	/ IVIS	A-321 DL	B-75	7-200
						/MSP 737-900					DTW B-757-200V		ATL/DTW A-32	1	ATL/MSP		DL ATL/			B-757-200	/ATL B-757-20	DL JFK/	
						DL /MSP					DL JFK/JFK		DL MSP/N	1SP						DL JFK/) 	FK DAL/	<u> </u>
														A-321 DL DTW/ATL								57-300 E DL / L/ATL F	S-737-800WL S PDX/
										//											E175 AS		B-737-90 AS
	//////	//////	//////	//////	//////	//////		//////	A- <mark>330</mark>												SMF/	///://	EWR/
						A 23				HA /HNL		1.,,,	,,,,,,,		B <mark>-737-700V</mark> 1					221	A-32		
						A-321 H/ /OGG									WN SJD/LAS				H _A	321 A GG/	DL DTW	1	
													B-777-200 BA						1//				
						A-321	A-321 DL				-321 DL		LHR/LHR										/////
/////	,,,,,,	//////	//////	//////	//////	DL /DTW	/ATL				P/MSP		A-34	0-300 A-34	0-300				B-787-8	//////		//////	/////
							///.						LH FRA		LH /FRA				DY LGW/				
						B-7	DY .GW				JL.	787-8 T/	B-787-8 JL /NRT					B-7 BA LHI		B-777-300 BA /LHR		HA	30-200 L/
						A-321-NEO AA /DFW	B-737-800 AA /DFW				737-800 AA HL/ORD				A-321-NEO AA DCA/DCA			A-32 AA PHX/P	1 HX	B-737-800 AA DFW/	В-7	737-800 AA /JFK	B-737- AA DFW/
							A-321 AA			E175 AA		3-737-800 AA			В	-737-800 AA		A-321 AA CLT/			A	A-321 E175 AA AA	
						A-3	/PHL	A-321-NEO		PHX/PHX 321		PHX/PHX				PRD/PHX	B-737-80	<u></u>		4			3-737-800
						A-3 /C	LT C	AA DFW/DFW		A /CLT	R-73	7-800			A-321		AA DFW/DF	N	A-321-NEO		A-321 AA PHL/ -737-800	A-321 E AA A /CLT J B-737-800	A-321-NEC
							AA /ORD				PHL	A /PHL			AA PHX/DFV	,			AA CLT/CLT	A	A /IIA/	AA /MIA	AA DFW/
						E175 AA /LAX				B-737-800 AA JFK/JFK				321-NEO AA W/DFW								3-737-800 AA JFK/ORD	A-321 AA PHL/
							3-737-800 AA /JFK		B-757-200 AA	AA	IEO A-321-NE	O IA						-321-NEO A FW/					
					B-73	7-800 AA	/JFK		PHX/PHX	DFW/	/DF					A-321-NEO AA DFW/		FW/			A-321 AA PHX/	B-73	7-800 /
					 	AA /PHL 1-NEO	A-321-NEO			A-321-NEO				B-737-8	00	DFW/	AA /DFW		B-737-800		PHX/ B-737-800	B-737-8	
						AA /DFW	AA JFK/JFK			AA DFW/DFW				AA ORD/OF					AA ORD/		AA /MIA	AA MIA/	

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
9	B-737 Max 8	A-321	
10	B-737 Max 8	A-321	
11	B-737 Max 8	A-321	
12	B-737 Max 8	A-321	
13	B-737 Max 8	A-321	
14	B-737 Max 8	A-321	
15	B-737 Max 8	A-321	
16	B-737 Max 8	A-321	
17	B-737 Max 8	A-321	
18	B-737 Max 8	A-321	
19	B-737 Max 8	A-321	
20	B-737 Max 8	A-321	
21	B-737 Max 8	A-321	
22	B-737 Max 8	A-321	
R_01	B-757-300	B-757-300	
R_02	B-757-300	B-757-300	
R_03	B-757-300	B-757-300	
R_04	B-757-300	B-757-300	
R_05	B-757-300	B-757-300	
R_06	B-757-300	B-757-300	
R_07	B-757-300	B-757-300	
R_08	B-757-300	B-757-300	

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: AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM 4	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
					A	-321			37-800			A-321					A-321-NE	0				-321	
					/	AA 'PHX			AA K/JFK			AA DFW/DFW					AA ORD/ORI	D			C	A LT/	
						B-	737 <mark>-800WL</mark> B- <mark>7</mark> WN	WN	B-737-700WL WN	, i	7-700WL WN		737-700WL WN		WN	L B-7 <mark>37-700</mark> W WN	L	B- <mark>737-700</mark> WN			7-700WL WN		B-737-800W WN
					B-737-	700WL737 Ma		JC/LAS	SJC/SJD B-737-700		F/LAS B-737-700W		LAS/LAS B- <mark>737-700W</mark> L		STL/SJC -737-800WL	SJC/SJC	B-737-800W	/L	B- <mark>737-7</mark>		A/TUS B-	737-700WL	BNA/ B-737-700WI
						WN 1	WN WN LAS/SE		WN HOU/SM		WN TUS/OAK		WN PDX/BWI		WN MDW/DAL		WN HOU/HOU		WI SMF/	u i		WN	WN ABQ/
					B-737	7 <mark>-700WL</mark> WN	B-737-800WI		7-800WL WN	B-737-800WL WN	В	<mark>-737-700W</mark> L WN	B- <mark>737-</mark> W		7-700WL WN		B- <mark>737-7</mark>	00WLB-737-70 N WN		B- <mark>737-700</mark> WL WN	B-737-800\ WN	WL	
					P 727 70	/SFO 0WL B-737 <mark>-7</mark>	DAL/OAK	B-737-800\	K/STL	DEN/SJC B-737-80	0\A/I P 727	SJC/AUS -800WL B-737	<mark>EWR,</mark>	OAK BW	/I/PDX	D 727	OAK/		<mark>-737-700WL</mark>	PHX/RNO	AUS/ B-737-800WL	B-737-800V	VI
						WN /SJC	WN /OAK	WN MCI/EWF		WN MDW/B	v	VN 1	WN K/DEN	W SFO/	'N	W	'N	WN	WN PDX/PDX		WN SMF/PDX	WN LAS/	
					B-737	7 <mark>-700WL</mark> B	- <mark>737-700W</mark> L WN	B- <mark>737-700W</mark> L	. B- <mark>737-7</mark>		737-800WL WN	В	-737-800WL WN	B- <mark>737-7</mark> 0	00WL B-737-80		737-700WL WN		B-7 <mark>37-700</mark> WL WN		B-	737-700WL WN	B-737-700 WN
						/SMF	OAK/SJC	RNO/DEN	AUS/	DAL	BWI/TPA		MDW/HOU	SMF/	SJC DAL/P	HX S	MF/PHX		SFO/SFO			SMF/SMF	PHX/
						B-737 <mark>-700WL</mark> WN /PHX	WN	B-737-700WL WN DAL/DAL	B-737-700W WN SEA/OAK		WN SFO/SFO	B-737-700 WN SMF/SF		WN MCO/MDW	WN SAT/BOI		-737 Max 8 WN MKE/DAL	B-737-80 WN SMF/	u v	VN	7-700WL WN N/ABQ	WI PD	
					B-73	37 <mark>-700WL</mark>	B- <mark>73</mark>	7-700WL	B-73	7-800WL		737-800WL	B- <mark>737-700W</mark> L	B- <mark>737</mark>	-700WL	B <mark>-737-70</mark>	OWL B-7	37-700WL		737-700WL		B-737-700WL	B-737-800V
						/DEN		WN K/HOU		WN K/MDW	n	WN NKE/MKE	SMF/SJC		VN (/PDX	OAK/S		WN EN/SMF		WN DAL/SJC		WN SJC/LAS	WN BWI/
					B-737	7 <mark>-700WL</mark>		WN	WN	B-737-8	N			737-700WL WN		/N	B-737-	'N		B-737-800WL WN		B-737-70 WN	00WL
					B-737 <mark>-80</mark>	/EWR	B-737-700WL	SFO/SFO B- <mark>737-700</mark>	SMF/PHX DWL	BNA/ B <mark>-737-800W</mark>		B-737-800W		OAK/PHX 7-800WL		/SJC B-737-800WL	B <mark>-737-700</mark>		37-700WL	OAK/OAK	B-737-700V	OAK/	B-737-70
						WN 'AUS	WN PHX/SAT	WN PDX/SJ	c	SJC/MCO		WN ATL/RNO		WN N/BNA		WN BWI/SMF	UN LAS/LA		WN TUS/LAS		WN SFO/DEN		WN OAK/
					B-73	37 <mark>-800WL</mark> WN		7-700WL WN	B- <mark>737-700</mark> WN		B-737-700W WN	L	В	737-700WL WN	v	700WL /N		B-737-800 WN		Е	-737-700WL WN		B-737-70 WN
					B-737	/MDW 7 <mark>-700WL</mark>	OA	K/DAL B-737-700\	<mark>LAS/LA</mark>	B- <mark>737-700W</mark>	DAL/PHX /L	B- <mark>737-700</mark>	WL B- <mark>737-700</mark>	SJC/SLC VL B-737-700		-/LAS B-	<mark>737-800WL</mark>	SJC/SJ		WL B- <mark>737-700V</mark>	BOI/SFO VL B-737-	-700WL	LAS/ B-737-700V
						WN /LAS		WN LAS/ATL		WN OAK/DEN		SFO/MK	WN E IND/TUS	WN SLC/SM	F		WN MSY/SAT		WN OAK/OA	WN LAS/LAS		/N /PHX	WN EWR/
					B-737	WN	737-700WL WN	B- <mark>737-7</mark> W	'N	B- <mark>737-70</mark> WN	w	N .	B- <mark>737-700</mark> WI WN	В	737-700WL WN		B <mark>-737-700</mark> WN	V	VN		B-737-700WL WN	WN	WL B-737-7 WN
					B-737-		DEN/BNA -737-700WL	PHX/ B-737	/SMF 7-700WL	B-737-70		'SJC B-737-70	OAK/SMF	-700WL	SJC/DEN B-737-700WL		B-737-70		J/SMF B- <mark>737-700W</mark> L		MCI/OAK 3-737-700WL	STL/ B-737 Max 8	SFO/ B-737-7
						WN /SMF	WN ABQ/MCI		WN N/ABQ	WN SFO/M	SY	WN LAS/LA		VN :/SMF	WN LAS/OAK		SJC/M		WN RNO/AUS		WN SJC/SMF	WN MDW/	WN DEN/
			3-737-900WL AS																A-321 DL			B-737-800 DL	+
			PDX/SEA B-737-8	ROOM															DTW/D1	rw	A-321	DTW/DTW	37-800WL
			AS EWR/0	ogg																	HA OGG/OGG		AS OS/OGG
			B-737-800V AS																			B-737-900 DL	
			KOA/BOS																			MSP/MSP	
			175 AS F/SJC																			A-321 DL ATL/ATL	
			E175																			A-320	
			AS STS/MRY																			AS SEA/SFO	
			7-900WL AS R/EWR																				A-321 DL DTW/ATL
		B-737	'-800WL																				B- <mark>73</mark> 7
			AS (/HNL																				U. EWR
	,		A-321 DL																			В-1	737-900 DL

			T.	< Start of Ana	alysis Day					1													1			End of	Analysis Day >
Position	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
R_09	B-757-300	B-757-300					B-737-900 DL MSP/MSP																			A-220-3 DL MSP/M	
R_10	B-757-300	B-757-300				u	7-800WL AS H/LIH																				E175 AS S/MRY
R_11	B-757-300	B-757-300				CRJ- A YVR,	-900 IC /YVR																			A-321 AA PHX/PH	AA
R_12	B-757-300	B-757-300					A-321 DL DTW/ATL																				B-737-900 UA ORD/ORD
R_13	B-757-300	B-757-300					B-737- UA LAX/D	900																			A-220- DL MSP/I
R_14	B-757-300	B-757-300		E175 AA LAX/LAX			B-737-800 AA DFW/DFW																			U	7-800 IA I/IAD
R_15	B-757-300	B-757-300																									B-737-800WL AS EWR/BOS
R_16	B-757-300	B-757-300				JF	757-200 DL :K/JFK																				B-737-900 UA SFO/DEN
R_17	B-757-300	B-757-300				B-737 V STL,	-700WL VN /OAK																				E175 AS MF/SJC
R_18	B-757-300	B-757-300				B-73	37 Max 8 WN W/PDX																				B-757-2 DL JFK/JF
R_19	B-757-300	B-757-300			ļiii	 	B-737- UA ORD/0	900																			B-737-700W WN STL/OAK
R_20	B-757-300	B-757-300				B-73	7-800 IA																				B-737 Max 8 WN MDW/PDX

	2024 - Alternative 4

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
20	A-321-NEO	B-737-900WL	
21	A-321-NEO	B-737-900WL	
22	DC-8-55	B-747-400ER	
23	B-757-200	B-757-200	
24	B-767-300ERWL	B-787-9	
25	B-757-200	B-757-200	
26	B-757-200	B-757-200	
27	B-757-200	B-757-200	
28	B-767-200	B-767-200	
29	DC-10-40	DC-10-40	
30	B-757-200	B-757-200	
31	MD-11	MD-11	
32	B-757-200	B-757-200	
33	B-757-200	B-757-200	
34	B-737-700	A-320	
35	B-757-200	B-757-200	
36 - IAF	B-737-Max9	B-757-200	
37 - IAF	B-757-200	B-757-200	
38	B-757-200	B-757-200	
39	B-757-200	B-757-200	
40	A-321-NEO	B-737-900WL	
41	A-321-NEO	B-737-900WL	

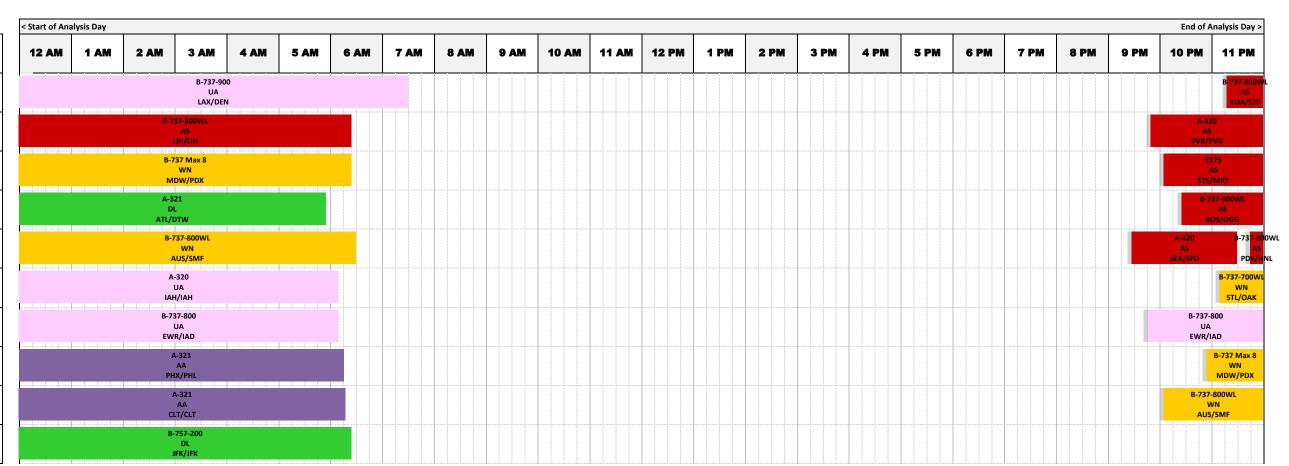
2 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AN	и 10 А	M 11 A	W 12 PK	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
							B-737-800			B-737-80		B-737-800				3-737-800			B-737-80		B-737-800	B-737-80	
							A/ /ORE	۱		AA JFK/JFK		AA PHX/PHX				AA DRD/PHX			AA ORD/		AA /MIA	AA MIA/	AA DFW/
						E175 AA /LAX	B-737-800 AA /DFW		B-737-800 AA JFK/JFK	E175 AA PHX/PHX		737-800 AA HL/PHL		B-737-8 AA ORD/O			B-737-800 AA DFW/DFW			B-737-800 AA DFW/	B-7:	37-800 AA /JFK	
						1-NEO A-	321 AA		JRVJIK	A-321-NEO				OKD/O				321-NEO		PIFWV/	A-321 AA	B-737	-800
					B-737	/DFW /	'CLT			DFW/DFW								w/		A-320-NEO	PHX/	ORD/	
					3,3,	AS /PDX														NK LAS/BWI			
						A-321 AA /PHX	B-737-800 AA /JFK				B-737-800 AA PHL/ORD							A-321 AA CLT/				-321 E175 AA AA 'PHL LAX/	
						A-3 <mark>21-NEC</mark>	>	A	-320-NEO NK	A-320-NEO		4	NK		A-321-NEO NK		A-320-NEO NK		A-320-NEC			A-321-I NK	NEO
						/IAI	<u> </u>	A-321-NEO	LAS/LAS	DTW/DTV	<mark>, </mark>	A-321	ORD/ORD		LAS/LAS A-321-NEO	A-321-NEO/	DFW/DFW	A-321	BWI/LAS	F	-737-800	IAH/ B-737-800	A-321-NEO
						AA /DFW		AA DFW/DFW		AA CLT/CLT		AA DFW/DFW			AA DCA/DCA	AA DFW/	AA /DFW	AA PHX/PH			A /IA/	AA /MIA	AA DFW/
						CRJ-900 A0 /YVI					A-321 AC YYZ/YYZ		V-800WL WS R/YVR			CRJ-900 AC YVR/YVR		B-737-800W WS YYC/YYC				CR. AC YV	I-900 R/
					B-73	7-800	A-321 AA		B-757-200 AA) A-32	l-NEO A-321-		A-32	1-NEO	A-321 AA		A-321-	NEO	A-321-NEO AA		A-321	A-321 B-	737-800
						AA /PHL A-33	/PHL		PHX/PHX A-32		/ /I A-321	A-320		/DFW	PHX/DFV	v	ORD/C		CLT/CLT E175		NA PHL/		A K/
						/TI			F9 DEN/(F9	F9 AUS/AUS	AC YVR/YVR						AC YVR/YVR		F9 TUL	/	
											A-320 B6 BOS/BOS									A-320 B6 K/BOS		-737-800 AA FK/ORD	A-321 AA PHL/
												B-737-80 SY	0 B-737-			A-3				A-320 B6			
							A-321-NEO					MSP/MS A-320	P YYC,	/YYC		EUG/	EUG			BOS/JFK A-320	A	-321 A	
							AA JFK/JFK					B6 JFK/JFk								B6 FLL/FLL	CI	LT/	
					/s	175 B-737 AS SMF	800WL7-900W AS AS SJD /SEA	5	AS SEA/MCO			E175 AS BOI/SJC			B-737-900WL AS SEA/SEA		175 AS A/SMF	B-737-900WL AS SLC/SLC	B-737- A PDX/		B-737- AS BOS/	-800WL A-320 AS SFO/	
						A-320 AS	E175 AS	A	75 S		A-320 AS		E17		E175 AS	E175 AS	E175			E175 AS	E175 AS	E175 AS	
900WL					B-737 <mark>-9(</mark>	/SFO	SLC/DAL E175		175		SFO/SFO E175		ABQ/	321-NEO	MSP/ABQ	SMF/STS	STL/B	B-73	7-900WL	SJC/SJC	STS/ B-737-800WIB-	737 <mark>-800WL</mark>	<mark>B-737-9</mark> 00
						AS /EWR	AS /MRY	SJ	AS C/STL		AS MRY/FAT			AS FO/SFO	s	JC/SJC	AS AUS/MCI	SE	AS A/SEA		AS OGG/	AS /BWI	AS EWR/
						A-320 AS /SEA	AS	AS F/OMA	B-7 AS BW	37-800WL B-7	AS /SEA		B-737-8 <mark>00⊞∕</mark> ¥37- AS SJD/	AS /SJD		B-737-900W AS SJD/SJD			AS FO/SFO		A-320 AS PVR/	B-737-80 AS KOA/	OWL B-737-800 AS HNL/
						B-737 <mark>-800</mark>	WL B-737	900WL AS	B-737-90 AS					B-737-90 AS				B-7 AS	37-9 <mark>00WL</mark>			B-737-800WL AS	B-737-800WL AS
						E17!	LIH B-737 <mark>-8</mark>	/MZT BOOWL	SEA/S	SEA		E175			-800WL	B-737-9		-737-800WL		A-320		EWR/	137-8 <mark>00WL</mark>
						A: /SJ0			AS AT/FAT			AS SJC/SMF			AS (/PDX	SEA/	SEA	AS MCO/PDX		AS SEA/		Pi	ox/
21 P/						-321 B-737-8 DL /SLC	OOWL B AS /HNL	-737 <mark>-800WL</mark> AS /OGG	B-737-80 AS PDX/K			В	-737-900WL AS SEA/SEA		AS FAT/SLC		-320 AS D/SFO	AS FAT/	E175 AS /FAT		E175 AS SMF/		B A
						B-737 <mark>-900WL</mark>		-320 AS													A-320 DL		
						/EWR	B-737-900)/SFO		320	A-220-100	B-737-80		E175		B-717-200	A-320			37-900 A-	SEA/SEA 220-100		

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
42	B-757-200	B-757-200	
43	B-767-300	B-767-300	
44	B-757-200	B-757-200	
45 - IAF	B-757-200WL	B-757-300	
46 - IAF	B-757-200WL	B-757-300	
46A - IAF	B-747-400ER	B-777-300ER	
47 - IAF	B-757-200WL	B-757-300	
47A - IAF	B-747-400ER	B-777-300ER	
48 - IAF	A-321-NEO	A-321	
49 - IAF	A-321-NEO	A-321	
49A - IAF	B-747-400ER	B-777-300ER	
50 - IAF	A-321-NEO	A-321	
50A - IAF	A-330-300	A-330-300	
51 - IAF	B-747-400ER	B-777-300ER	
1	B-737 Max 8	A-321	
2	B-737 Max 8	A-321	
3	B-737 Max 8	A-321	
4	B-737 Max 8	A-321	
5	B-737 Max 8	A-321	
6	B-737 Max 8	A-321	
7	B-737 Max 8	A-321	
8	B-757-200	B-757-200	

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2 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AN	11 AM	12 PN	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
						A-321B-757-2 DL /ATL /J	DL	A-321 DL /ATL		E175 DL LAS/LA		A-3 D SLC/	L	A-321 DL TW/ATL	A-321 DL ATL/MSP	E175 DL LAS/LAS	A-3 DL DT\			B-737-8 DL DTW/	300	A-321 DL /DTW	
					A- <mark>220</mark>			AIL		B-757-300 DL			A-321 DL	W/AIL	A-320 DL		A-321 DL			DIW/	A-321 DL		7-200
					B-737-800	'MSP			A-2	ATL/ATL	A-3		TL/DTW 3-717-200	B.7	SLC/SLC		ΛΤL/ A-3	20	A-32	1	/ATL	JFK/	A-321
					DL /DTW	DL /DTW				DL V/DTW	D ATL/		DL SEA/SEA		DL K/JFK	DL JFK/JFK	D SLC/	L	DL ATL/	DL	DL SP/ MS		DL SLC/
						E175 DL /LAS					N-321 DL N/DTW		B-737-900 DL ATL/ATL					E175 DL SEA/SEA		B-757-200 DL JFK/	B-757-20 [/JF	DL DL	220-300 SP/
						A-220-300	A-321 DL				A-321 DL		A-321 DL							E175 DL	B-7!	57-300 DL	A-321
,,,,,	,,,,,,	,,,,,,	//////	//////	/////	DL /MSP	/ATL				SP/MSP		MSP/MSP					/////		LAS/LAX		L/ATL	DL ATL/
							////							4									
											B-757-200W DL JFK/JFK	4							A-3 HA OG		A-32: DL DTW	/	
							////			1///													
		//////	//////		//////	A-32	1				//////			1	B <mark>-737-700V</mark>						(). E175		B-737-9
						H /OG	A G								WN SJD/LAS						DL SEA/		AS MZT/
													B-777-200 BA								////		/////
								//////	/////	//			LHR/LHR	/////		1			/////	/////			
	//////				//////	//////	//////								<u> </u>					//////	//////		
									A-330	HA /HNL			A-340-3 LH FRA/	00 A-340	LH /FRA				B-787-8 DY LGW/				
							787-8 DY				JL.	87-8	B-787-8 JL					BA		B-777-300 BA		HA	
							-737-900 B-1 UA	737-900 UA			B-737-900 UA	7		37-900 UA		CRJ-700 UA					B-737-800 UA		-320 IA
					F17	'5W	/SFO B-737-8	/DEN		B-737-900	IAH/IAH	R		O/ORD	B-737-900	LAX/LAX	A-32	n			EWR/		PRD/ E175W
						UA LAX		UA AD		UA ORD/ORD			UA FO/DEN		UA IAD/IAH		UA SFO/S			UA BOS/BOS		UA ORD/	UA LAX/
						UA	E175W B-73 UA LAX/LAX	7-900 UA /ORD		ı	37-800 UA D/SFO		-737-900 UA DEN/SFO		A-320 UA ORD/DEN				E175 UA LAX/LAX	ı	3-737-900 JA :WR/	B-737-900 UA /EWR	UA
w					Α-	319 UA	A-320 UA		A-32 UA	20	B-737-900 UA				37-900 UA		A-319 UA			B-737-900 UA		A-319 UA	
7-800						SFO	/IAH B-737-900		SFO/I		ORD/ORD		A-319		O/SFO E175		DEN/DEN	B-737-900		IAD/LAX	20	SFO/ A-320 B-7	37-900 B-7
						UA ORD	UA /IAH			UA DEN/DEN			UA ORD/IAH		UA DEN/DEN			UA ORD/SFO		UA DEI		UA UA /ORD EW	UA
						A-320 UA /ORD		A-319 UA SFO/	A-319 UA /SFO	\	A-320 UA EWR/EWR		B-737-900 UA IAH/ORD			37-900 UA I/SFO				737-900 UA h/EWR		B-737-900 UA SFO/	B-737-9 UA DEN/
					B-73	7 <mark>-700WL</mark> B-7	37 <mark>-800WL</mark> WN	B- <mark>737-700W</mark> L WN	B- <mark>737</mark>	/-700WL WN	B <mark>-737-700</mark> WN		B <mark>-737-800W</mark> L	E	- <mark>737-700W</mark> L	B-737-800V WN		7-700WL WN	B-7 <mark>37-700</mark> WL WN		B-737-800WL WN		B-737-700WL WN
						/BWI	/SMF	RNO/DEN		S/DAL	TUS/OA		MDW/HOU		SMF/SJC	BWI/SMF		K/SJC	S <mark>FO/SFO</mark>		SMF/PDX		ABQ/

				< Start of Ana	alysis Day																					End of A	Analysis Day >
Position	Max Wingspan	Max Length	Depend	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AN	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
	Acrft	Acrft	Group						B-737	-700WL737 Ma	ax 8 B	3- <mark>737-700W</mark> L	B <mark>-737-7</mark>	00WL B-7	37-700WL	B <mark>-737-70</mark>	OWL B	3- <mark>737-700W</mark> L	B-737-700	OWL	B <mark>-737-800W</mark>	L B-7 <mark>37-7</mark>	700WL	B- <mark>737-700W</mark> L	B-7	37-700WL	B-737-700WL
9	B-737 Max 8	A-321								WN	WN PDX	WN SJC/LAS	HOU/	N I	WN MF/LAS	WN SMF/SF		WN SMF/SMF	WN LAS/OA		WN HOU/HOU	WI PHX/	N I	WN PHX/RNO		WN AS/OAK	WN PHX/
10	B-737 Max 8	A-321							B-73	7 <mark>-700WL</mark> WN	B-737-800V WN		-737-700WL WN	B-737-8	N I	B- <mark>737-700</mark> WN		B-737-700WL WN	B-737-70 WN		B-737-700 WN		/37-700WL WN		7-700WL WN	B-737 Max 8 WN	B-737-700WL WN
									B-737 <mark>-7</mark> (/SFO 00WL B-737 <mark>-7</mark>		B- <mark>737-700W</mark> L			3-737-800WL		<mark>7-700W</mark> L	OAK/PHX B-737-800		7-800WL	LAS/LAS B-737-700		rus/LAS -737-700WL		<mark>A/TUS</mark> 3 <mark>-737-700W</mark> L		DEN/ DWL <mark>B-737-7</mark> 00WL
11	B-737 Max 8	A-321								/SJC	/OAK	SFO/SFO	WN SEA/O		WN BWI/TPA	PH	WN X/DEN	MCO/MD		WN AL/PHX	WN PHX/OA	uK .	WN PDX/PDX		WN BOI/SFO	WN STL/	SFO/
12	B-737 Max 8	A-321							B-73	7 <mark>-700WL</mark> B WN /SMF	3- <mark>737-700</mark> WL WN OAK/SJC	B-737-7 W LAS/	N	-737-800WL WN PHX/MDW	B-737-700V WN DAL/PHX		B- <mark>737-700V</mark> WN PDX/BWI		B-737-700WL WN BWI/PDX		WN FO/SFO	B-737-80 WN SJC/SJ		B-737-800WL WN OAK/OAK		'37-700WL WN MF/SMF	B-737-800WL WN BNA/
13	B-737 Max 8	A-321								B-737 <mark>-700WL</mark>		737-700WL WN	B-737-800WL WN	B- <mark>737-7</mark>	00WL I	B-737-700WL WN		B-737-800WL WN	B-737-700		B- <mark>737-700W</mark> L	B-737-8	800WL	B- <mark>737-700V</mark>		B-737-700WL WN	B-737-700WL
- 15	D-737 IVIAX O	A-321								/РНХ		OAK/DAL	SMF/PHX	SAT/	SFO	SJC/AUS	D	DEN/BNA	SAT/BOI		SMF/PHX	SMF/	'STL	LAS/LAS		SJC/LAS	OAK/
14	B-737 Max 8	A-321							B-7	/37 <mark>-700WL</mark> WN /DEN	B-737-1 W LAS/	/N	WN HX/SMF	B-737-700 WN OAK/DE	V	-700WL VN A/SJC	B-737-700 WN SMF/SJ		-737-700WL WN SFO/SFO	B-737-70 WN SJC/SJ		7-700WL WN IS/AUS	B-737-7 WN SMF/#		B-737-700W WN SFO/DEN		B-737-700WL WN EWR/
15	B-737 Max 8	A-321							B-73	7 <mark>-700WL</mark> WN	B-737-700WL		-700WL VN	B-737-800W		7-800WL WN	B- <mark>737-70</mark>		B- <mark>737-700W</mark> L WN			37-700WL WN		-700WL VN	B-737-800V WN	/L	<mark>B-737-7</mark> 00WL WN
									B-7	/EWR /37 <mark>-800WL</mark>	PHX/SAT B-	737-700WL	K/SJC B-737-700W	DEN/SJC B-737-7		S/SMF B-737-800W	OAK/S	<mark>MF</mark> 737-700WL	PHX/PDX B-737-700WL	OAF	K/SEA DE B-737-800WL	EN/SMF B- <mark>737-70</mark> 0		<mark>/PHX</mark> /37-700WL	AUS/ B-737-	700WL	LAS/ B-737-800WL
16	B-737 Max 8	A-321								WN /MDW	F	WN PHX/HOU	WN SJC/SJD	SFO/I		WN ATL/RNO	E	WN EWR/OAK	WN SJC/DEN		WN MSY/SAT	WN LAS/PH		WN DAL/SJC	OAK	'N /PHX	WN BWI/
17	B-737 Max 8	A-321							B-737 <mark>-8</mark> 0	WN	737-700WL WN DEN/BNA	B <mark>-737-700</mark> WN DAL/DA	w	N	B-737-700WL WN		737-700WL WN LAS/LAS		WN	737-700WL WN	B-737-70 WN		B-737-700WL WN		B-737-700WL WN	B-737-700 WN	OWL
										7 <mark>-700WL</mark>	B <mark>-737-700</mark>		737-800WL	B-737	SFO/SFO -800WL	B- <mark>737-70</mark>	00WL	B- <mark>737-700W</mark> L		SJC/SJC 737-700WL	B <mark>-737-7</mark>	700WL	B-737-700	WL	SJC/SMF B-737-700WL		<mark>737-7</mark> 00WL
18	B-737 Max 8	A-321								/LAS	SMF/PH)		WN OAK/STL	BN	VN A/IND	LAS/L	AS	SJC/SLC		WN SMF/LAS	AUS/	MCI .	OAK/OA		MN MCI/OAK	PD	ox/
19	B-737 Max 8	A-321							B-737	WN	-737-700WL WN ABQ/MCI	B-737-8 W MCI/	N	B <mark>-737-800</mark> WN SJC/MC		-737-800WL WN MKE/MKE		-700WL VN V/TUS	B-737-800W WN MDW/DAL	<u> </u>	B-737 Max 8 WN MKE/DAL	1	V-800WL WN J/SMF		37-700WL WN EN/ABQ	B-737-800W WN LAS/	/L
R_01	B-757-300WL	B-757-300WL				В	3-737-900 DL																		B-737		B-737-900 UA
							MSP/MSP B-737-800WL																A-321		DTW/		EWR/IAH
R_02	B-757-300WL	B-757-300WL				, , , , ,	AS KOA/BOS			, , , ,													DL DTW/D1				AA X/PHL
R_03	B-757-300WL	B-757-300WL					B-737-900 AS																			3-737-900 DL	
							PDX/SEA A-320																			A-321	
R_04	B-757-300WL	B-757-300WL				P\	AS VR/PVR																			DL ATL/ATL	
R_05	B-757-300WL	B-757-300WL					A-321 DL ATL/ATL																	A-321 A/ DFW/	A		B-757-200 DL JFK/JFK
R_06	B-757-300WL	B-757-300WL					A-321 DL				T														A-321 HA		A-321 DL
K_00	B-737-300WL	B-737-300WL				D 72	DTW/ATL			<u></u>															ogg/ogg	D'	DTW/ATL B-737-900
R_07	B-757-300WL	B-757-300WL				SE	7-800WL AS EA/SJD																				UA ORD/ORD
R_08	B-757-300WL	B-757-300WL					E175 AS																				B-737-900 UA
						ļiii	TS/MRY 																			A-220-300	SFO/DEN
R_09	B-757-300WL	B-757-300WL				PD	AS X/HNL																			DL MSP/MSF	
R_10	B-757-300WL	B-757-300WL				B-73	37-700WL WN																				B-737-800WL AS
						\$1	TL/OAK B-737-800V	VL																	B-737-900		EWR/BOS
R_11	B-757-300WL	B-757-300WL					AS EWR/OGO		1 1 1															1 1 1	AS SJD/SE	A	

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
R_12	B-757-300WL	B-757-300WL	
R_13	B-757-300WL	B-757-300WL	
R_14	B-757-300WL	B-757-300WL	
R_15	B-757-300WL	B-757-300WL	
R_16	B-757-300WL	B-757-300WL	
R_17	B-757-300WL	B-757-300WL	
R_18	B-757-300WL	B-757-300WL	
R_19	B-757-300WL	B-757-300WL	
R_20	B-757-300WL	B-757-300WL	
R_21	B-757-300WL	B-757-300WL	



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Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
1A	A-321-NEO	A-321	
1	A-321-NEO	B-737-Max9	
2	A-321-NEO	B-737-Max9	
3	A-321-NEO	B-737-Max9	
4	A-321-NEO	B-737-Max9	
5	B-757-200	B-757-200	
6	DC-10-30	DC-10-30	
7	B-757-200	B-757-200	
8	B-767-300	B-767-300	
9	A-321-NEO	B-737-Max9	
10	A-321-NEO	B-737-Max9	
11	A-321-NEO	B-737-Max9	
12	A-321-NEO	B-737-Max9	
13	A-321-NEO	A-321-NEO	
14	A-321-NEO	A-321-NEO	
15	A-321-NEO	A-321-NEO	
16	B-757-200	B-757-200	
17	A-321-NEO	A-321-NEO	
18	A-321-NEO	A-321-NEO	
20	A-321-NEO	B-737-900WL	
21	A-321-NEO	B-737-900WL	
22	DC-8-55	B-747-400ER	

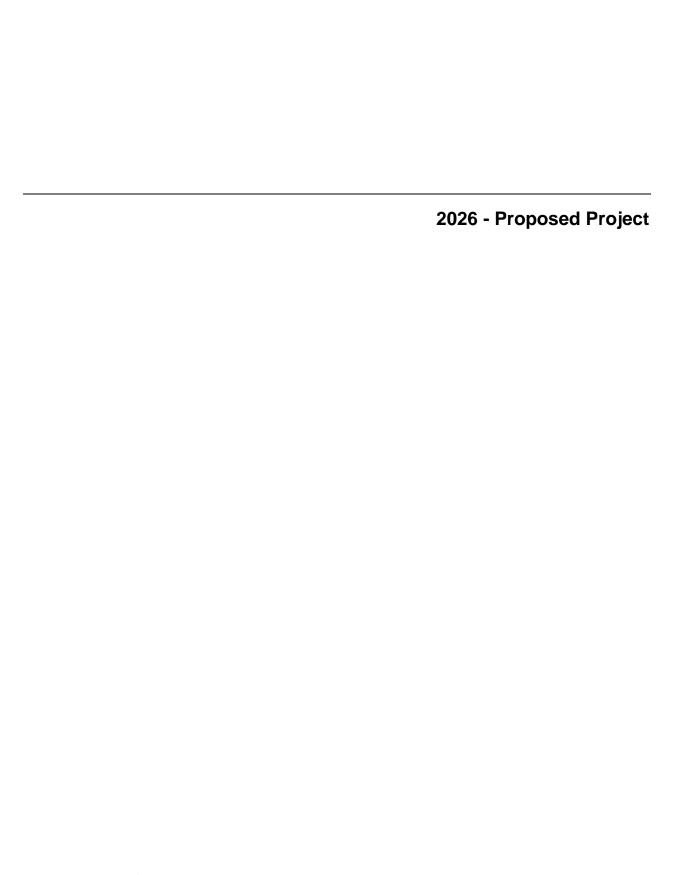
177 178	End of Analysis Day >												_									nalysis Day	Start of A
Barrier Barr	10 PM 11 PM	9 PM	8 PM	7 PM	6 PM	5 PM	4 PM	3 PM	2 PM	1 PM	12 PM	11 AM	10 AM	9 AM	8 AM	7 AM	6 AM	5 AM	4 AM	3 AM	2 AM	1 AM	12 AM
Second S	<mark>B-737-7</mark> 00						L							L				B-73					
March Marc	WN DEN/																						
\$\begin{array}{c c c c c c c c c c c c c c c c c c c	B-737-800WL WN BWI/	WN	В	ı i	WN	WN	WN	WN		WN	WN	'N	w	WN	WN	WN	WN	B-737					
March Marc	B-737-800WL	BOIJSIO		37-800WL B-7	700WL B-73	00WL B-737-7	B-7 <mark>37-7</mark> 0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	3-737-800WL	0WL	B <mark>-737-7</mark> 0	B <mark>-737-700W</mark> I		B-737-700WL	B- <mark>737-700W</mark> L	B-737-700WL	37 <mark>-700WL</mark>	B-73					
March Marc	MN LAS/																						
Delivery	N WN	WN V		WN		WN	WN	WN		WN		WN		WN	WN	WN	WN	B-73					
PATE	B-737-700WL		B <mark>-737-800W</mark> L	- <mark>737-700W</mark> L	<mark>737-700W</mark> L B-	737-700WL B-		- <mark>737-700W</mark> L		7-700WL	B- <mark>7</mark> :	OWL .	'-700WL B- <mark>737-70</mark>	B- <mark>737</mark>	737-700WL		7 <mark>-700WL</mark>	B-73					
Windows Wind	WN OAK/			TUS/LAS	AUS/AUS	SFO/SFO		SFO/SFO		IX/DEN	PI	SY	S/DAL SFO/M	AUS	DAK/DAL		/SMF						
\$\begin{array}{c c c c c c c c c c c c c c c c c c c	B-737-700WL WN EWR/	WN		N .	wr	WN		w	WN		WN		WN	WN	N \	wn w	WN						
B-77-7000 B-77	7-700WL B-737-700W WN WN				7-700WL	B <mark>-73</mark>	737-700WL	7-700WL B			7-800WL	VL B-73	B-737-800V	37-700WL	B-73	B <mark>-737-700W</mark> L	7 <mark>-700WL</mark>						
No.	C/LAS LAS/				JS/MCI	AU	SMF/LAS	C/SMF	St		S/SMF	LA	SJC/MCO	N/ABQ	DEI	ABQ/MCI	/LAS						
PART	37 Max 8 B-737-700 WN DW/ SFO/	. i i M		WN	N .	w w		WN	WN		WI	WN			WN	WN	WN	B-7					
	<mark>B-737-7</mark> 00WI WN					В				В								B-737					
Windows Wind	PHX/ B-737-700WL B-737-700W				DEN/SMF			LAS/O			SJC/AUS	BWI	MDW/E	/SMF	PHX/		/SMF						
PROPERTY	WN WN STL/ OAK/	WN		WN		WN		WN		WI	/N	V	ı	WN	WN	'N WN	w						
B-737-800WL B-737-800WL B-737-700WL B-737-	NL B-737-700WL WN										В			B-7		В-		B-7					
WIND				T					700WL		B- <mark>737-70</mark>							B-737 <mark>-80</mark>					
P		WN V	, i i i i														WN /AUS						
A-321-NEO NK PMP/MSP B-737-800W, AS		F9		NK			G4				F9		NK	NK		F9							
B-737-800WL	A-321-NEO	TUL/	A-320-NEO				EUG/E								LAS								
AS A	NK IAH/											EN				1 1 1							
B-737-800WL A320 A5	A-320 AS							NK		NK						OOWL AS	B-737-8						
A-320 A-32	800WL B-737-800WL	<mark>8-737-8</mark> 00WIB-73				B-		A-320		уско	UKI			-320	-800WL A-	B-737	-800WL	B-737					
AS AS SEA/SEA BOI/SIC B-737-80WL B-737-80WL AS SEO/SEO BWI/ SEO/SEO BWI/ SEO/SEO B-737-80WL AS SEO/SEO B-737-80WL B-737-90WL B-737-9	AS AS /BWI LIH/	ogg/															AS /PDX						
E175 AS AS SIC/STL B-737-800WL B-737-800WL A-320 AS SIC/SIC B-737-800WL A-320 AS SIC/SIC B-737-800WL A-320 AS SIC/SIC B-737-800WL A-320 B-737-900WL B-			A-320 AS	A-320 AS	A-320 AS	AS		AS			AS			AS	E175 AS	AS /SID	A-32073 AS						
MRY SIC/STL PDX/PDX DMA/SMF SIC/STC BOS/	WL <mark>B-737-8</mark> 00WL	B-737-80		- JFAI		320	A-3	DOWL	B-737-8		1/3JC		-	.75		E175	/370						
AS AS AS AS AS AS SFO/SFO BWI/ / SEA SFO/SFO SFO/SFO LAS/LAS SMF/ SEA SFO/SFO B-737-900WL	AS PDX/	AS BOS/	AS SJC/SJC													/MRY							
A-320 B-737-900WL B-737-900WL B-737-900WL B-737-900WL B-737-900WL B-737-900WL B-737-900WL B-737-900WL B-737-900WL	A-320 AS	E175 AS SME/	AS	AS					AS			AS	800WL B-737 <mark>-86</mark>	B-737-1 AS	AS	AS	E1						
												37-900WL	B-										
AS AS AS SFO/SFO SEA/SEA SMF/STS STL/BOIL					OI .	AS STL/BO			/SJD			FO/SFO			/MZT	AS /PVR							
00WL B-737-900WL B-737-900WL B-737-800WL A-320 E175 B-737-900WL E175 E175 B-737-900WL B-737-900WL B-737-800WL B-737-800WL B-737-800WL B-737-800WL B-737-800WL B-737-800WL B-737-800WL B-737-900WL B-73				AS	AS	AS				AS		AS			AS AS	7-800WL37-900\ AS /HNI	OOWL B-737 AS	B-737 <mark>-90</mark>					00WL
	37-8 <mark>00WL B-737-9</mark> 00			37-900WL	B-73					A-3:			<u> </u>	3-737-800WL									

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
23	B-757-200	B-757-200	
24	B-767-300ERWL	B-787-9	
25	B-757-200	B-757-200	
26	B-757-200	B-757-200	
27	B-757-200	B-757-200	
28	B-767-200	B-767-200	
29	DC-10-40	DC-10-40	
30	B-757-200	B-757-200	
31	MD-11	MD-11	
32	B-757-200	B-757-200	
33	B-757-200	B-757-200	
34	B-737-700	A-320	
35	B-757-200	B-757-200	
36 - IAF	B-737-Max9	B-757-200	
37 - IAF	B-757-200	B-757-200	
38	B-757-200	B-757-200	
39	B-757-200	B-757-200	
40	A-321-NEO	B-737-900WL	
41	A-321-NEO	B-737-900WL	
42	B-757-200	B-757-200	
43	B-767-300	B-767-300	
44	B-757-200	B-757-200	

Start of Ana	lysis Day				ı	ı		1										T				End of	Analysis Day
12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AN	12 PM	1 PN	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
						A-321-NEO				A-321 AA		A-321 AA			A-321-NEO AA						A-321 AA PHX/		
					4	/DFW <mark>ABS 26</mark> 7-900WL	В-	-737 <mark>-800WL</mark>	B-737-800W	JFK/JFK /L		DFW/DFW			DCA/DCA		900WL				E175	B-737-8	00WL <mark>B-737-8</mark> 0
						AS AS /SEA /EWR		/OGG	AS PDX/KOA		s	AS IC/SMF					/SEA				AS STS/	KOA/	AS HNL/
							A-321 AA /PHL			A-321-NEO AA DFW/DFW									A-321 AA ORD/		A-321 AA /MIA	A-321 AA MIA/	
							A-321 AA /JFK				A-321 AA HL/ORD			21-NEO AA W/DFW		A-321-NEC AA DFW/	A-321-NEO AA /DFW	A-32 AA PHX/F		B-737-800 AA DFW/	В-	-737-800 AA /JFK	A-321 AA PHL/
						Α-321 A-3	21 /	A-321-NEO AA		321 AA	HL/ORD			Wybrw		Drw/	B-737-80 AA			Drw/	A-321 AA	A-321	3-737-800
						AA /PHX /0	B-737-800	DFW/DFW	CLT	B-737-800		A-321	E175		A-321		DFW/DF\		A-321-NEO		PHL/ B-737-800	/CLT J	FK/ A-321-NEO
						AC /YVR	AA			AA ORD/ORD		AA PHX/PHX	AC YVR/YV		AA PHX/DFV		AA ORD/	\	AA CLT/CLT		AA MIA/	AA /MIA	AA DFW/
					B-731	7-800 AA /PHL					A-321 AC YYZ/YYZ			7-700WL WS C/YYC		CRJ-900 AC YVR/YVR		B-737-800V WS YYC/YYC				B-737-800 AA CLT/	
					B-737-800 AA		A-321-NEO AA		A-321-NEO AA	A-321-N AA		AA I	'-800WL WS			A-321 AA		A-321 AA		A-320 B6		A-321 A-32 AA AA /PHL ORD	1
					/CLT A-321	1-NEO	JFK/JFK		PHX/PHX		320	A-320	R/YVR			ORD/PHX		CLT/		FLL/FLL A-320		A-321	
						AA /DFW					B6 S/BOS	B6 JFK/JFK								B6 FK/BOS		AA CLT/	
							A-321 AA /ORD		737-800 AA FK/JFK			37-800 AA L/PHL		A-321 AA ORD/OF				-321-NEO A FW/		A-320 B6 BOS/JFK		A-321 AA JFK/ORD	B-737 AA DFW/
-321 L						-321 A-220-300 DL DL /SLC /MSP		A-32	L	A-3	L		A-321 DL		37-800 DL	A-220-100 DL	A-321 DL ATL/				A-321 DL	B-75 DL JFK/	7-200
MSP/						/SLC /MSP E175 DL		/AT	A-320 DL	DTW,	/DIW	A-3		E175 DL	K/JFK	SLC/SLC E175 DL	5 A-	320 DL		E175 DL	/ATL	5	
					B-737-800	/LAS B-757-2	00		SLC/SLC		321		SLC SLC	SEA/SEA	A-321	LAS/L	AS SLC	/SLC		LAS/LA	DL SEA, A-220-100	/ A-321	A-321
					DL /DTW		DL				DL P/MSP	DL JFK/JFK		DL DTW/ATL	DL ATL/MSP		DL DT				DL LAS/LAS	DL /DTW	DL SLC/
								B-737-80 D /MS	4	DL	-220-100 DL SEA/SEA		B-737-8 <mark>00WL</mark> AS SJD/	B-737-900 AS SJD/SJ	OWL	B-737-900\ AS SJD/SJD	VL	AS SJ	737-9 <mark>00WL</mark> D/		A-320 AS PVR/		B-737-9 AS MZT/
						A-321 DL	B-737-900 DL			E175 DL	A	-321 DL	B-717-200 DL	B <mark>-737-700V</mark> WN	ı.	A-321 DL	A-320 DL		B-7 DL	737-900 A	A-220-300 B- DL DI	-737-900 L	B-737-80 DL
						/ATL A-320	/MSP			LAS/LAS	A-320		SEA/SEA -737-900	CUN/CUN		JFK/JFK B-737-900	MSP/MSF	B-737-900	MS	B-737-900	MSP/ M	A-319	MSP/
						UA /ORD				-+	UA WR/EWR	S	UA FO/DEN			UA IAD/IAD		UA ORD/SFO		UA IAD/LAX		UA SFO/	
						-900 B-737 UA U EWR IAD/	Α	37-900 UA /ORD		B-737-900 UA ORD/ORD				3-737-900 UA DRD/ORD	A-320 UA ORD/DEN					A-320 UA BOS/BOS		B-737-900 UA ORD/	B-737- UA DEN/
							A-320 UA		A-32 UA				A-319 UA DRD/IAH		B-737-900 UA		A-319 UA			U	-320 IA DEN/	A-320 B-7 UA UA /ORD EW	U
						B-737-900 UA	/IAH B-737-8	B00 UA	SFO/I	B-737-900 UA		737-900 UA	JKD/IAH		1AD/IAH 37-900 UA		DEN/DEN A-32 UA	20		3-737-900 UA	CIN	B-737-900 UA	R/ SF B-737-90 UA
					A-	/BOS	/1	737-900		DEN/DEN		D/IAD	A-320		O/SFO E175		SFO/S			IAH/EWR	B-737-900	SFO/ B-737-900	BOS/
						UA SFO		UA /DEN			UA ORD/ORD		UA AD/IAD		UA DEN/DEN						UA EWR/		UA
						В	-737-900 UA /SFO				B-737-900 UA IAH/IAH		B-737-9 UA IAH/OI							737-800 UA :O/SFO	B-737-800 UA EWR/		3-737-900 JA AH/
37-800					B-737-	-800 UA	B-737-900 UA	A-319 UA	A-319 UA		-800	E	3-737-900 UA			37-900 UA				B-737-900 UA			1-320 JA

				< Start of An	alysis Day																					End of	Analysis Day >
Position	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PN	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
45 - IAF	B-757-200WL	B-757-300							В-	737-900 DL /MSP				B-757-300 DL ATL/ATL			B-737-900 DL ATL/ATL		A-320 DL SLC/SLC					B-757-200 DL JFK/	B-757-200 DL /JFK		A-321 DL ATL/
46 - IAF	B-757-200WL	B-757-300																									
46A - IAF	B-747-400ER	B-777-300ER														,		1//									
47 - IAF	B-757-200WL	B-757-300															A-321 DL MSP/MS		B-737-700V/L WN SJD/LAS				A	-321 A GG/	B-757 D ATL/	7-300 L ATL	
47A - IAF	B-747-400ER	B-777-300ER											A-33	0-200 HA /HNL													
48 - IAF	B-747-400ER	B-777-300ER									787-8 DY LGW				B-787 JL NRT/	7-8	B-787-8 JL /NRT						B-787-8 DY LGW/				
49 - IAF	A-321-NEO	A-321							A-220	D-300 DL /MSP												E175 DL SEA/SEA	E175 AC YVR/YVF	B-737-8 DL DTW/	00 A-321 DL DTW/	E: A: Y'	175 C VR/
50 - IAF	A-321-NEO	A-321								A-321 DL /DTW	A-321 DL /ATL				B-737-900 DL JFK/JFK								A-3 DL AT	21 /	A-320 DL SEA/SEA	A- DI M	220-300 IL ISP/
50A - IAF	A-330-300	A-330-300									///.						A-340- LH FRA/	00 A-340-	300 LH FRA								
51 - IAF	B-747-400ER	B-777-300ER								A-32 H. /OG	A I I						B-777-200 BA LHR/LHR					B. B.	-777-3 <mark>00</mark> A HR/	B-777-300 BA /LHR		A-3 HA HN	330-200 IL/
R_01	B-757-300	B-757-300					B-737-900 DL MSP/MSP																	A-321 AA T/PHL			A-321 DL DTW/ATL
R_02	B-757-300	B-757-300					A-321 DL ATL/ATL																		A-321-NEO AA DFW/DFW		
R_03	B-757-300	B-757-300				В	-737-800WL AS SEA/SJD																	321 DL V/DTW			3-737-900 DL MSP/MSP
R_04	B-757-300	B-757-300					B-737-900V AS PDX/SEA	VL																		737-900 DL SP/MSP	
R_05	B-757-300	B-757-300					37-800WL AS DX/HNL																			A-321 DL ITL/ATL	
R_06	B-757-300	B-757-300					220-300 DL SP/MSP																		A-321 HA OGG/OGG		B-737-900 UA ORD/ORD
R_07	B-757-300	B-757-300					B-737-800W AS EWR/OGG			ļļ																B-737-800 DL DTW/DTW	B-737-900 UA EWR/IAH
R_08	B-757-300	B-757-300			-		B-737- UA LAX/[-900 A																		A-220-30 DL MSP/MS	
R_09	B-757-300	B-757-300					A-321 DL DTW/ATL																			SIV	E175 AS MF/SJC
R_10	B-757-300	B-757-300				B-	737-700WL WN STL/OAK																				E175 AS S/MRY
R_11	B-757-300	B-757-300		h	-	B-7	737-900 UA VR/IAH																				E175 AC YVR/YVF
R_12	B-757-300	B-757-300																								E	737-800WL AS BOS/OGG

				< Start of	Analysis Da	ay																					End of	Analysis Day >
Position	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AI	4 1 A	AM 2	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
R_13	B-757-300	B-757-300						757-200 DL FK/JFK																			B-737 U EWR	A
R_14	B-757-300	B-757-300						B-737-80 DL MSP/MS																				B-737 <mark>-8</mark> 00 AS LIH <mark>/</mark> LIH
R_15	B-757-300	B-757-300		B-737-800 AA CLT/CLT				B-737-800 AA DFW/DFW	,																			B-757-200 DL JFK/JFK
R_16	B-757-300	B-757-300					B-73 AL	37-800WL WN JS/SMF																				B-737-700WL WN STL/OAK
R_17	B-757-300	B-757-300					В	-737-800 UA :WR/IAD																				
R_18	B-757-300	B-757-300					EW	87-900WL AS VR/EWR																				B-737 Max 8 WN MDW/PDX
R_19	B-757-300	B-757-300			;			B-737-90 UA ORD/OR	0 D																			7-800WL WN S/SMF
R_20	B-757-300	B-757-300			;		V	7 Max 8 WN W/PDX		<u> </u>																		B-737-900 UA SFO/DEN
R_21	B-757-300	B-757-300			i		КО	7-800WL AS DA/BOS																				B-737-800WL AS EWR/BOS
R_22	B-757-300	B-757-300				iii	Α-	-321 AA T/CLT																				B-737-800WL AS KOA/SJD



-				< Start of Ana	lysis Day			1																		End of A	nalysis Day >
Position	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
20	A-321-NEO	B-737-900WL														A-320 B6 JFK/JFK								A-320 B6 FLL/FLL			
1	A-321-NEO	B-737-900WL												A-3 Bi BOS/										1-320 B6 K/BOS			
2	DC-8-55	B-747-400ER															21-NEO NK D/ORD							A-320 B6 BOS/JFK			
3	B-757-200	B-757-200		B-737- <mark>9</mark> 00WL AS SEA/					B-737-9	00WL B-737-80 AS 'EWR	DOWL <mark>37-900W</mark> AS A /HNL /SE/		AS O/SFO			AS C/SMF			737-900WL AS SEA/SEA		E175 AS AUS/MCI		-321-NEO AS SFO/SFO		3-737-8 <mark>00WIB-7</mark> AS DGG/	37-800WL AS /BWI	B-737-800WL AS LIH/
4	B-767-300ERWL	B-787-9								E175 AC /YVR					A-321 AC YYZ/YYZ	B-737-8 W YVR/	;						E175 AC YVR/YVR			E1'	
i	B-757-200	B-757-200								B-737 <mark>-800\</mark>	NL E	B-737 <mark>-800WL</mark> AS /OGG	B-737-900WI AS SEA/SEA					21-NEO AS O/SFO		,	900WL S /SEA	B-737-900WL AS SLC/SLC	B-737-8 AS PDX/		B-737- AS BOS/	B-A-P-I	-737-800WL S DX/
5	B-757-200	B-757-200								A-32 F /TU	0 9 IL		A-321 F9 DEN/CVG	A-32: F9 CVG/D		B-737-800 SY MSP/MSP	B-737-7 WS YYC/Y	5		CRJ-900 AC VR/YVR	A-320-NEO NK DFW/DFW		A-320-NEO NK BWI/LAS		A-32 F9 TUL/	0	
,	B-757-200	B-757-200								E175 AS /SJC	B-737	7-800WL AS O/SFO	B-737-800WI AS PDX/KOA				37-900WL AS EA/SEA		SJO	AS C/SJC		B-737-800WL AS MCO/PDX		A-320-NEO AS LAS/LAS		B-737-8 <mark>00WL</mark> AS EWR/	B-737-900W AS EWR/
3	B-767-200	B-767-200								A-3 <mark>21-NEO</mark> NK /IAH			NK	A-320-NEO NK DTW/DTW		A-320 F9 JS/AUS	E175 AC YVR/YVR		21-NEO NK S/LAS		319 64 /EUG	B-737-800W WS YYC/YYC		A-320-NEO NK LAS/BWI		A-321-I NK IAH/	IEO
	DC-10-40	DC-10-40								A-320 AS /SEA		E175 AS IF/OMA	B-737-8 AS BWI/	00WL B-737 <mark>-80</mark>	00WL AS /SEA											A-320 AS DAL/	
	B-757-200	B-757-200																									
l.	MD-11	MD-11							A-	320 B-737-8 AS SMF	BOOWL AS /SJD	FA	175 AS T/FAT													B-737-80 AS KOA/	00WL <mark>B-737-8</mark> 00V AS HNL/
	B-757-200	B-757-200																									
3	B-757-200	B-757-200							B-737	-800WL AS /PDX	B-737-8	BOOWL AS /BOS	B-737-800WL AS SEA/MCO			A-320 AS OI/SJC		F	A-320 AS AT/SLC		AS A/SMF		7-900WL AS A/SEA	A-320 AS SEA/			
	B-737-700	A-320								A-320 AS /SFO	A-320 AS SLC/DAL	A-32 AS MCI/A	O .US	M	E175 AS IRY/FAT		A-320 AS ABQ/N		A-320 AS SP/ABQ	A-320 AS SMF/STS	E11 A STL/	75 S 'BOI		E175 AS SJC/SJC	E175 AS STS/	A-320 AS SFO/	
	B-757-200	B-757-200								B-737-900WL AS /EWR	E175 AS /MRY		.75 AS /STL		737-900WL AS SFO/SFO			B-737-86 AS PDX/F		B-73	7-800WL AS O/SFO	A-320 AS FAT/	A-320 AS /FAT		E175 AS SMF/		B- AS
- IAF	B-737-Max9	B-757-200									A-320 AS /PVR					B- AS	737-8 <mark>0019/1</mark> 237-8	OOWL AS /SJD		B-737-900\ AS SJD/SJD					N-320 NS PVR/		
- IAF	B-757-200	B-757-200									B-737	-900WL AS /MZT						B-737-900V AS SJD/SJD				B-7 AS SJD	37-9 <mark>00WL</mark>				
	B-757-200	B-757-200								A-321 DL /ATL	A-321 DL /ATL			A-32 DL MSP/I			B-737-900 DL ATL/ATL			A-321 DL JFK/JFK			A-32 DL ATL		A-320 DL SEA/SEA	DL	220-300 SP/
	B-757-200	B-757-200		A-321 DL MSP/					A	321 E175 DL DL /SLC /LAS				A-32 DL DTW/D	1		717-200 DL :A/SEA		A-321 DL ATL/MSP			E175 DL SEA/SEA		B-757-200 DL JFK/	B-757-200 DI /JFR	B-757 DL JFK/	7-2 00
	A-321-NEO	B-737-900WL								A-220-300 DL /MSP	D)L	A-320 DL SLC/SLC	A-2	20-100 DL A/SEA	B-737-800 DL JFK/JFK		E175 DL SEA/SEA		A-220-100 DL SLC/SLC	A-320 DL MSP/MS		B-73 DL MSP	7-900 A-22 DL / MSF	20-300 B-73 DL P/ MSP	7-9 00	B-737-800 DL MSP/
	A-321-NEO	B-737-900WL							B-737-800 DL /DTW			B-737-80 [00 A-22	.0-300 DL	B-737-900 DL JFK/JFK			B-737 D JFK/	-800	E175 DL LAS/L	. A	-320 DL C/SLC		E175 DL LAS/LAX	E175 DL SEA/		

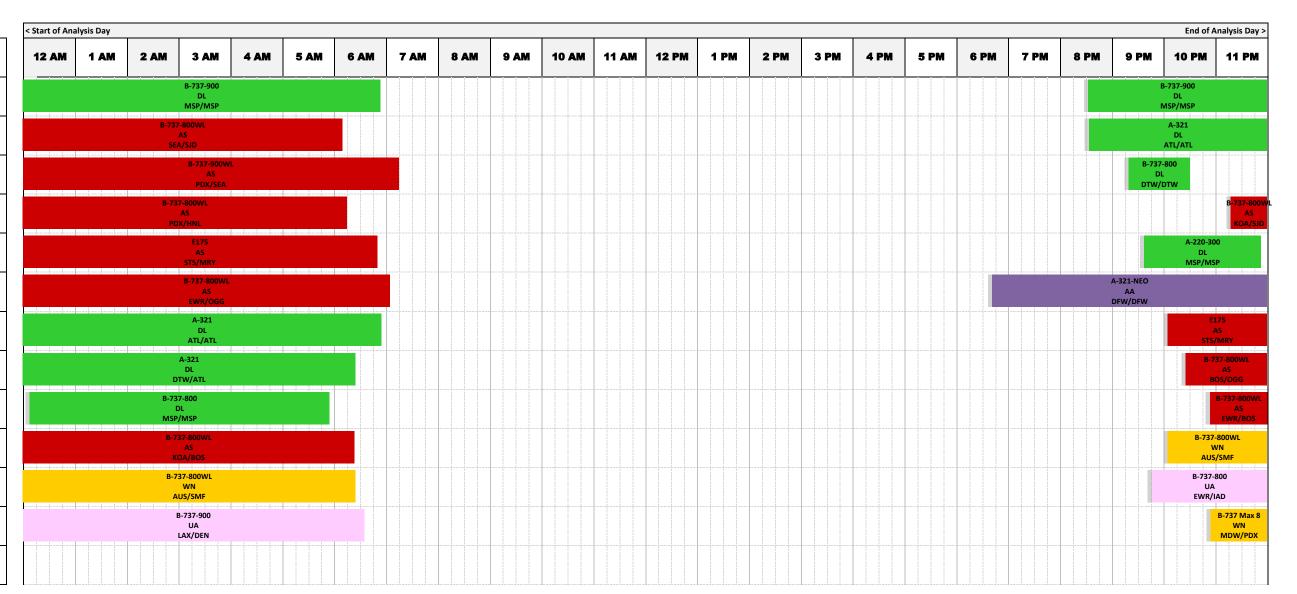
Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
42	B-757-200	B-757-200	
43	B-767-300	B-767-300	
44	B-757-200	B-757-200	
45 - IAF	B-757-200WL	B-757-300	
46 - IAF	B-757-200WL	B-757-300	
46A - IAF	B-747-400ER	B-777-300ER	
47 - IAF	B-757-200WL	B-757-300	
47A - IAF	B-747-400ER	B-777-300ER	
48 - IAF	A-321-NEO	A-321	
49 - IAF	A-321-NEO	A-321	
49A - IAF	B-747-400	B-777-300ER	
50 - IAF	A-321-NEO	A-321	
50A - IAF	A-330-300	A-330-300	
51 - IAF	B-747-400ER	B-777-300ER	
1	B-737 Max 8	A-321	
2	B-737 Max 8	A-321	
3	B-737 Max 8	A-321	
4	B-737 Max 8	A-321	
5	B-737 Max 8	A-321	
6	B-757-200	B-757-200	
7	B-737 Max 8	A-321	
8	B-737 Max 8	A-321	

Start of Anal	ysis Day																					End of A	nalysis Day
12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
						A-321		A-321			A-32 DL		A-321 DL				A-321 DL ATL/				A-321 DL		
						/DTW		/ATL			ATL/A		MSP/MS				ATL/				/ATL		
					В-7	737-900 DL /MSP				B-757-300 DL ATL/ATL				A-321 DL DTW/ATL						B-737-8 DL DTW/		57-300 DL L/ATL	
					A-220	0-300 DL				E175 DL			·321 DL		A-320 DL		A-3 DL					A-321 DL	A-321 DL
						'MSP				LAS/LAS			/DTW		SLC/SLC		DT					/DTW	ATL/
						B-757-2 /J	DL														220-100 DL AS/LAS		A-321 DL SLC/
																					A-321 DL		
,,,,,,																					DTW,	<u>, </u>	,,,,,
															B <mark>-737-700V</mark> L				A-	321			
															WN SJD/LAS				H _A	GG/	,,,,,,,		
						A-32						1////		B-737-700V									B-737
						/OG				<u> </u>				WN CUN/CUN]								MZT/
												В-	777-200										
												Ш	BA IR/LHR		1								
									A-3 <mark>30</mark>				A-340	300 A-340					B-787-8 DY LGW/				
									,	'HNL			LH FRA/		FRA								
							87-8 DY LGW				B-78 JL NRT		B-787-8 JL /NRT					B-7 BA LHF	<mark>77-3</mark> 00	B-777-300 BA /LHR		A-33 HA HNL	30-200
						A-321-NEO			A-321-NEO AA			A-321 AA					A	-321-NEO A FW/				B-737-800 AA CLT/	
						/DFW			PHX/PHX			DFW/DFW					D				L		
							A-321 AA /PHL			B-737-800 AA ORD/ORD					A-321-NEO AA DCA/DCA				A-321-NEO AA CLT/CLT		A	-321 A LT/	
						A-3	21			321				1-NEO				A-32				A-321 AA	A-321 AA PHL/
						/(CLT/	/CLT			DFW	AA //DFW				PHX/P	HX			FK/ORD	PHL/
					B-737-800 AA /CLT		B-737-800 AA /DFW			A-321 AA JFK/JFK					A-321 AA PHX/DFW				A-321 AA ORD/		A-321 AA /MIA	A-321 AA MIA/	
							A-321				ı-321					A-321				B-737-800		37-800 B	-737-800
							AA /ORD			PH	AA L/ORD					AA RD/PHX				AA DFW/		/JFK JF	A FK/
							A-321 AA /JFK			A-321-NEO AA DFW/DFW				A-321 AA ORD/ORI				A-321 AA CLT/			A	-321 A-321 AA AA /PHL ORD/	,
					B-73			A-321-NEO			B-737	-800		ORD/OR			B-737-80	<u> </u>				A-321	A-321-N
						AA /PHL		AA DFW/DFW			AA PHL/I	PHL					AA DFW/DFV			F	N-321 NA PHL/	AA /CLT	AA DFW/
					A-321	L-NEO AA /DFW			37-800 AA K/JFK			A-321 AA HX/PHX					A-321- AA ORD/0				A-321 AA PHX/		

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
9	B-737 Max 8	A-321	
10	B-737 Max 8	A-321	
11	B-737 Max 8	A-321	
12	B-737 Max 8	A-321	
13	B-737 Max 8	A-321	
14	B-737 Max 8	A-321	
15	B-737 Max 8	A-321	
16	B-737 Max 8	A-321	
17	B-737 Max 8	A-321	
18	B-737 Max 8	A-321	
19	B-737 Max 8	A-321	
20	B-737 Max 8	A-321	
21	B-737 Max 8	A-321	
22	B-737 Max 8	A-321	
23	B-737 Max 8	A-321	
24	B-737 Max 8	A-321	
25	B-737 Max 8	A-321	
26	B-737 Max 8	A-321	
27	B-737 Max 8	A-321	
28	B-737 Max 8	A-321	
29	B-737 Max 8	A-321	
30	B-737 Max 8	A-321	

tart of Ana	ysis Day																					End of A	nalysis Day >
2 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AN	8 A	M 9 AI	М 10 А	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
						A-321 AA	A-321-NEC	0		A-3	21-NEO A-321-NE	AA III				A-321-NEO	AA				B-737-800 AA	B-737-800 AA	B-737-8 AA
						/PHX 00WLB-737		B- <mark>737-700W</mark> I			/DF B-737-800WL		B- <mark>737-700W</mark> L		B- <mark>737-700W</mark> L	DFW/ B-7 <mark>37-</mark>		-737-700WL		7-700WL		7-700WL	DFW/
					P. 727		/PDX	WN SJC/LAS B-737-7		OAK	WN BWI/TPA	737-800WL	WN LAS/LAS	37-700WL	WN SMF/SJC B-737-800V	SJC/	<mark>'SJC</mark>	WN AUS/AUS B-737-	SJ SJ	WN C/PHX		WN K/PHX B-737-800V	WN BNA/
					B-/3/	7 <mark>-700WL</mark> WN /SFO	B-737 <mark>-800WL</mark> WN /SMF	B-737-7 WI RNO/	N	B-737-800WL WN PHX/MDW		WN AS/SMF		WN ID/TUS	WN MDW/DA		B- <mark>737-700W</mark> L WN SMF/PHX	W SMF	/N		WN EA/TUS	WN LAS/	/L
					B-73	37 <mark>-700WL</mark> WN /SFO	B-737-700W WN LAS/LAS		37-700WL WN DX/SJC		7-800WL WN /MCO	B <mark>-737-700W</mark> L WN SJC/AUS		B- <mark>737-700</mark> WL WN EWR/OAK	B-737-700 WN		B-737-800WL WN	. B- <mark>737-70</mark> WN LAS/PI		B- <mark>737-700</mark> WL WN PHX/RNO		-737-700WL WN SMF/SMF	B-737-700WI WN PHX/
							7-700WL WN	B- <mark>737-700V</mark> WN	VL B- <mark>73</mark>	7-700WL WN	B-737-700 WN	<mark>ow</mark> l	B- <mark>737-70</mark>		B-737-700WL WN		B-737-800WL WN	B-73	7-800WL WN		37-700WL WN	B-737-700	
					R-73	37 <mark>-700WL</mark>	/OAK	SFO/SFO		AS/LAS	TUS/OA		PDX/B\	<mark>WI</mark> B-737-800WL	BWI/PDX	00WI	MSY/SAT	но	U/SMF 737-700WL	+	EN/ABQ B-737-700WL	STL/	owi
						WN /SMF	WN DAL/O		WN PHX/SMF		WN K/DEN	WN MKE/MKE		WN DEN/BNA	WI STL/S	SIC .	WN HOU/HO	ou l	WN TUS/LAS		WN BOI/SFO	WN OAK/	
						B-737 <mark>-700V</mark> W	<mark>/N</mark>	B- <mark>737-700W</mark> L WN OAK/DAL	B-737-800W WN SMF/PHX		737-700WL WN SAT/SFO	B-737-800 WN ATL/RN		B- <mark>737-700W</mark> L WN SMF/SMF	B-737-70 WN LAS/0		B <mark>-737-</mark> W LAS/	700WL I	B-737-700WL WN PDX/PDX		B-737-800WI WN SMF/PDX		B-737-800WL WN BWI/
					B-7	737 <mark>-700WL</mark> WN	B-73	7-700WL WN	B-737-700'		B- <mark>737-700W</mark> L	B- <mark>737-</mark> W	700WL	B-737-8	DOWL B	-737-700WL WN	B-737	/-700WL WN	B- <mark>737-700W</mark> I	L	B-737-700WL	B- W	737-700WL
					B-737 <mark>-8</mark>	/DEN		B-737-70	SJC/SJD	737-700WL	SMF/LAS B-737-700	LAS		MCO/N		SJC/SJC		MDW B-737-80	RNO/AUS	B-737-800W	SJC/SMF		X/ B-737-700W
						WN /AUS	WN DEN/BNA	WN DAL/D	. I I I	WN AUS/DAL	WN DAL/PH		WN SMF/	.	WN PHX/PDX		WN SFO/SFO	SJC/S	1	WN OAK/OAK		WN SJC/LAS	WN LAS/
					B-73	37 <mark>-700WL</mark> WN /EWR	B- <mark>737-700</mark> WL WN OAK/SJC	·	7-700WL WN S/ATL	B-737- W DEN	N	B7-700WL WN PA/SJC	B- <mark>737-</mark> W OAK	<mark>/N</mark>	B-737-700W WN SJC/DEN	1	B-737 Max 8 WN MKE/DAL	B-7 <mark>37-</mark> W PHX/	<mark>/N</mark>	B- <mark>737-700</mark> WN LAS/LAS		B-737 Max 8 WN MDW/	B-737-700 WN DEN/
					B-7	737 <mark>-800WL</mark>		B- <mark>737-700W</mark> L WN	B-737	7-700WL	B-737-700V WN		B-737-800WL		B- <mark>737-700W</mark> L		<u> </u>	- <mark>737-700W</mark> L		- <mark>737-700W</mark> L		-737-700WL WN	B-737-700W WN
					B-73	<mark>/MDW</mark> 37 <mark>-700WL</mark>	B <mark>-737-700V</mark>	PHX/HOU VL	HOU B-737-800WL	U/SMF	SFO/SFO 3-737-800WL		MDW/HOU 737-700WL	B-	SFO/SFO 737-700WL	B-737-800		DEN/SMF 7-700WL	B <mark>-737-70</mark>	DAL/SJC OWL	B-737-700W	LAS/OAK	OAK/ B-737-700WL
						WN /LAS	WN PHX/SAT		WN OAK/STL		WN BNA/IND		WN PHX/DEN		WN SLC/SMF	WN BWI/SN		WN AK/SJC	WN OAK/O	AK	WN MCI/OAK		WN ABQ/
					B-73	37 <mark>-700WL</mark> WN /BWI	B <mark>-737-70</mark> WN SMF/P		B-737-700WL WN DEN/ABQ		737-700WL WN SFO/MSY	B- <mark>737-70</mark> WN SFO/N		B- <mark>737-700V</mark> WN OAK/PHX		-737-700WL WN SMF/LAS		<mark>7-700W</mark> L WN JS/MCI		700WL /N /ABQ	B-737-800 WN AUS/	WL	B-737-700 WN SFO/
					B-737	7 <mark>-700WL</mark> WN	B <mark>-737-700W</mark> L WN		7-800WL WN	В-	737-800WL WN	B <mark>-737-7</mark> WI		B- <mark>737-700</mark> WN	WL B-7	37-800WL WN	B-737-		B-7 <mark>37-700</mark> WL		B-737-700 WN	WL	B-737-700WL WN
						/SMF B-737-900	ABQ/MCI	B-737-900	I/EWR	N	1DW/BWI B-737-900	SMF/	SFO	SJC/SLC	737-900	OAL/PHX	PHX/	B-737-900	SFO/SFO		SFO/DEN B-737-800	N	EWR/ B-737-900
						/BOS		UA /DEN			ORD/ORD				UA FO/SFO			UA ORD/SFO		<u> </u>	UA EWR/		UA BOS/
7-800						-800 UA ORD		B-737-900 UA /ORD			B-737-900 UA IAH/IAH			737-900 UA RD/ORD			A-32 UA SFO/S				B-737-900 UA EWR/	B-737-900 UA /EWR	UA
						UA	B-7	737-800 UA			A-320 UA		B-737-90 UA				A-319 UA			U.A		UA L	-737-900 IA
					A		-737-900	/IAD		A-320	EWR/EWR		IAH/ORI A-319	D	B-	737-900	DEN/DEN			A-320	N/	B-7	AH/ 37-900
						UA /SFO I	UA AD/IAD			UA FO/IAH		OR	UA RD/IAH			UA AD/IAD				BOS/BOS		UA EW	R/
							B-737-90 U /IA	JA .		B-737-9 UA ORD/O			37-900 UA D/DEN		A-320 UA ORD/DEN					B-737-900 UA IAD/LAX		L	-320 A RD/
						A-320	Δ	A-319 UA		-319 UA		37-900 UA			B-737-900 UA					3-737-900 UA		B-737-900 UA	B-7 UA
						/ORI	B-737-900	SFO/		SFO B-737-900			N-320		E175				B-7	AH/EWR /37-800		ORD/ B-737-900	B-737-9
							/SFO			UA DEN/DEN		IAI	UA D/IAD		UA DEN/DEN					UA O/SFO		UA SFO/	UA DEN/
							A-32 U /IA	JA .			-737-800 UA FO/SFO		737-900 UA EN/SFO		B-73: U IAH/	Α				B-737-900 UA ORD/ORD		A-319 UA SFO/	

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
R_01	B-757-300	B-757-300	
R_02	B-757-300	B-757-300	
R_03	B-757-300	B-757-300	
R_04	B-757-300	B-757-300	
R_05	B-757-300	B-757-300	
R_06	B-757-300	B-757-300	
R_07	B-757-300	B-757-300	
R_08	B-757-300	B-757-300	
R_09	B-757-300	B-757-300	
R_10	B-757-300	B-757-300	
R_11	B-757-300	B-757-300	
R_12	B-757-300	B-757-300	
R_13	B-757-300	B-757-300	



	2026 – Altern	ative 4

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
1	B-737 Max 8	A-321	
2	B-737 Max 8	A-321	
3	B-737 Max 8	A-321	
4	B-737 Max 8	A-321	
5	B-737 Max 8	A-321	
6	B-737 Max 8	A-321	
7	B-737 Max 8	A-321	
8	B-757-200	B-757-200	
9	B-737 Max 8	A-321	
10	B-737 Max 8	A-321	
11	B-737 Max 8	A-321	
12	B-737 Max 8	A-321	
13	B-737 Max 8	A-321	
14	B-737 Max 8	A-321	
15	B-737 Max 8	A-321	
16	B-737 Max 8	A-321	
17	B-737 Max 8	A-321	
18	B-737 Max 8	A-321	
19	B-737 Max 8	A-321	
19	B-737 Max 8	A-321	
20	B-737 Max 8	A-321	
21	B-737 Max 8	A-321	

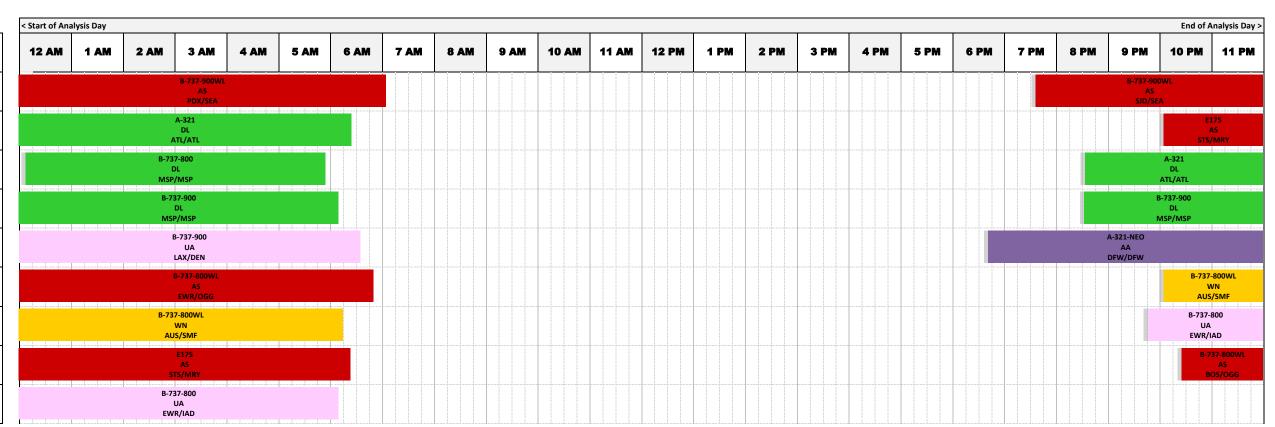
t or Ana	lysis Day																					End of A	nalysis Day
AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
						A-321-NEO			A-321-NEO			A-321 AA					A	-321-NEO A				B-737-800 AA	
						/DFW			PHX/PHX			DFW/DFW						FW/				CLT/	
							A-321 AA /PHL			B-737-800 AA ORD/ORD					A-321-NEO AA DCA/DCA				A-321-NEO AA CLT/CLT			A-321 AA CLT/	
						A-3				-321 AA				1-NEO				A-32 AA	21			A-321 AA	A-321 AA
							CLT		CL	T/CLT				/DFW				PHX/F				JFK/ORD	PHL/
					B-737-800 AA /CLT		B-737-800 AA /DFW			A-321-NEO AA DFW/DFW				A-321 AA ORD/OR				A-321 AA CLT/				A-321 A-32 AA AA /PHL ORD	
							A-32				A-321 AA					A-321 AA				B-737-800	B-	737-800 E	-737-800 A
							/ORI				HL/ORD					ORD/PHX				AA DFW/		/JFK J	FK/
							A-321 AA /JFK			A-321 AA JFK/JFK					A-321 AA PHX/DF\	N			A-321 AA ORD/		A-321 AA /MIA	A-321 AA MIA/	
					B-737	-800 AA		A-321-NEO				7-800 A					B-737-80	10			A-321	A-321	A-321-N AA
						/PHL		DFW/DFW				/PHL					DFW/DF\				AA PHL/	AA /CLT	DFW/
					A-321-	AA DFW			737-800 AA FK/JFK			A-321 AA PHX/PHX					A-321- A/ ORD/	Α			A-321 AA PHX/		
					A	-321 AA	A-321-NEO			A-321-N	IEO A-321-NI	:O				A-321-NEC	A-321-NEO				B-737-800 AA	B-737-800 AA	B-73
					B-737 <mark>-70</mark> 0	PHX	JFK/JFK 37 <mark>-800WL</mark>	B-737-700	2000	DFW/ B-737-80	/DF	W B <mark>-737-700W</mark> L		B- <mark>737-700W</mark> L	D 727	DFW/	/DFW	-700WL	B-7 <mark>37-700</mark> WL		MIA/ B-737-700	/MIA	DFV B-737-700
						WN /SJC	WN /SMF	WN LAS/AT		WN SJC/M		WN SJC/AUS		WN SMF/SMF	l v	VN _/SJC	V	VN 5/LAS	WN SFO/SFO		WN SFO/DE		WN EWR/
						B-73 <mark>7 Ma</mark>		- <mark>737-700W</mark> L WN		7-700WL WN	B-73	7-700WL WN		7-700WL WN	B-737-	700WL /N		-700WL VN	B- <mark>737-700</mark> WI	L	B-737-700W WN	r	B-737-800 WN
					B-737	/PI	B-737-800W	SFO/SFO	B-737-700WL	S/DAL	B-737-800WL	PA/SJC	INI B-737-800WL	D/TUS	LAS,	OAK .	B-737-800W	/OAK L B-7:	RNO/AUS		MCI/OAK B-737-800WI		BWI/ B-737-800
						WN /SFO	WN DAL/OAK		WN SJC/SJD		WN BWI/TPA		WN MDW/HOU		WN BWI/PDX		WN DEN/DEN		WN OU/SMF		WN SMF/PDX		WN BNA/
						B-737 <mark>-70</mark>	WN	B-737-700WI WN		737-800WL WN		37-800WL WN		- <mark>737-700W</mark> L WN	B-737-7 WI	1	B-737-80 WN		B-737-700WL WN		B-737-700WL WN	w	
					B-737		<mark>/OAK</mark> 737-700WL	DAL/DAL B-737-70		PHX/MDW B-737-	<u> </u>	AS/SMF B- <mark>737-</mark>	<u> </u>	EWR/OAK	37-700WL	B-7 <mark>37-</mark>	HOU/H	OU B- <mark>737-700W</mark> L	PDX/PDX	B- <mark>737-700W</mark> L	SJC/SMF	B-737-700WL	B-737-
						WN /SMF	WN OAK/SJC	PDX/S			/N //BWI	LAS/	N 'LAS	s	WN LC/SMF		'SJC	WN DEN/SMF		WN PHX/RNO		WN SJC/LAS	WN SFO/
						B-737 <mark>-700WL</mark> WN		737-700WL WN	B- <mark>737-7</mark> WI	N .	B-737-70 WN		B- <mark>737-70</mark> WN		B-737-700 WN		B-737 Max WN	\ \	7-700WL WN	B- <mark>737-700</mark> WN		B-737-800V WN	VL
					B-73	/PHX 87 <mark>-700WL</mark>		SJC/LAS 37-700WL	B-737-70		DAL/PI B <mark>-737-700\</mark>		SMF/S B- <mark>737-700</mark>		SJC/DEN B-737-700WL	-	MKE/DAL B-737-800W		<mark>K/OA</mark> K 3- <mark>737-700W</mark> L	LAS/LA	B <mark>-737-700W</mark> L	LAS/	<mark>B-737-7</mark> 00W
						/DEN		WN AK/DAL	HOU/S		WN SFO/SFO		WN PDX/BW	vı	WN PHX/PDX		WN MSY/SAT		WN TUS/LAS		WN BOI/SFO		WN ABQ/
						WN	37-700WL WN EN/BNA	B-737-800 WN MCI/EW		B- <mark>737-70</mark> WN OAK/D		B-737-800 WN ATL/RN0		B <mark>-737-700W</mark> WN OAK/PHX		-737-800WL WN DAL/PHX		<mark>7-700W</mark> L WN /MDW	B <mark>-737-70</mark> WN OAK/O		B-737-800 WN AUS/		B-737- WN DEN/
						-700WL I	B <mark>-737-700W</mark> L	B-73	7-800WL	B- <mark>737</mark> -	700WL	B- <mark>737-70</mark>	DOWL .	B- <mark>737-700W</mark>		B-737-700WL	B- <mark>73</mark>	87-700WL	B- <mark>737</mark> -	700WL	B-737	7-700WL	B-737-700
						WN /EWR	WN PHX/SAT		WN AK/STL		/N /MSY	SFO/N		SJC/SLC		SJC/SJC		WN AK/SJC	SMF,	/N /ABQ		WN K/PHX	WN PHX/
					B-73	87 <mark>-800WL</mark> WN /MDW		WN HX/HOU	B-7 <mark>37-700</mark> WN SEA/OA		B <mark>-737-70</mark> WN TUS/O		B- <mark>737-7</mark> WN OAK/S	N .	B-737-800 WN MDW/D		B- <mark>737-700</mark> WI WN SMF/PHX	- B- <mark>737-7</mark> WI LAS/F	N .	B-737-800W WN OAK/OAK		B-737 Max 8 WN MDW/	
					B-737-	700WL B-7	37-700WL	B- <mark>737-700W</mark>		B-737-800		B- <mark>737-800W</mark> L		B-737-800WL		B-737-700WL	B-7	37-700WL	B-73	7-700 <mark>W</mark> L		-737-700WL	B-737-7
							WN BQ/MCI	WN RNO/DEN		DEN/SJO		WN MKE/MKE		WN DEN/BNA		WN SMF/LAS	A	WN US/MCI	SJ	WN C/PHX		WN LAS/OAK	WN OAK/
					B-737	-700WL WN /LAS	B <mark>-737-700W</mark> WN SMF/PHX	V	-700WL VN (/SMF		7-800WL WN NA/IND		37-700WL WN HX/DEN		- <mark>737-700W</mark> L WN SMF/SJC		37-700WL WN AK/SEA	B-737-8 W SJC/	/N		37-700WL WN EA/TUS	B-737-700 WN STL/	WL
					B-737-		-737-700WL		37-700WL	B- <mark>737</mark> -		B <mark>-737-7</mark>		B <mark>-737-80</mark>		B-737-80		3 <mark>-737-700W</mark> L		- <mark>737-700W</mark> L		-737-700WL	B-737-7
						/SMF	WN LAS/LAS		WN EN/ABQ		/N /SFO	SMF/		MCO/M		WN BWI/SI		WN AUS/AUS		WN DAL/SJC		WN SMF/SMF	WN LAS/

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
22	B-737 Max 8	A-321	
23	B-737 Max 8	A-321	
24	B-737 Max 8	A-321	
25	B-737 Max 8	A-321	
26	B-737 Max 8	A-321	
27	B-737 Max 8	A-321	
28	B-737 Max 8	A-321	
29	B-757-200	B-757-200	
30	B-757-200	B-757-200	
31	B-737 Max 8	A-321	
32	B-737 Max 8	A-321	
33	B-737 Max 8	A-321	
34	B-737 Max 8	A-321	
35	B-737 Max 8	A-321	
62	B-737 Max 8	A-321	
36	B-737 Max 8	A-321	
37	B-737 Max 8	A-321	
38	B-737 Max 8	A-321	
39	B-737 Max 8	A-321	
40	B-737 Max 8	A-321	
41	B-737 Max 8	A-321	
42	B-737 Max 8	A-321	

are or Anar	ysis Day																							Elia di A	nalysis Day >
2 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 4	AM 8	AM	9 AM	10 A	M 11 A	AM 12	2 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
					B-73	37 <mark>-700WL</mark> WN		737-700WL WN		7-800WL WN	E	3- <mark>737-700W</mark> L WN		B-7	37-700WL WN	E	3- <mark>737-700W</mark> L WN	E	3- <mark>737-700W</mark> L WN	. v			37-700WL WN	B-737-700 WN	WL .
						/BWI B-737-900		LAS/SEA B-737-90		лғ/рнх		SMF/LAS B-737-9	100	-	AS/LAS	R_7	SFO/SFO		SFO/SFO	B-737-900			EN/ABQ B-737-800	OAK/	B-737-900
						UA /BOS		U /DE	A			UA ORD/OF					JA D/SFO			UA ORD/SFO			UA EWR/		UA BOS/
					B-737-	-900 UA		B-737-800 UA				B-737-900 UA)			7-900 JA			A-320 UA				3-737-900 JA	B-737-900 UA	
7-800					/E B-737-	WR 800		/IAD B-737-900				IAH/IAH A-320			ORD B-737-900	/ORD			SFO/SI A-319	FO		8-A	WR/	/EWR A-320 B-	IAH/ 737-900
7-800						UA ORD		UA /ORD	\			UA EWR/EWR			UA IAH/ORD				UA DEN/DEN			UA DE		UA U.	Δ
						-319 B- UA	-737-900 UA			A-320				A-3			В	-737-900 UA				A-320 UA		B-73 UA	7-900
							AD/IAD B-737	7-900		SFO/IA	AH B-737-900			ORD/ B-737-			A-320	IAD/IAD				BOS/BOS B-737-900		EWR	320
								UA /IAH			UA ORD/ORD			UA SFO/E			UA ORD/DEN					UA IAD/LAX		U	
						A-320		A-3 UA		A-319 UA			B-737-900 UA				3-737-900 UA				В-	737-900 UA		B-737-900 UA	B-7 UA
						/ORD	D B-737-900	SFC	0/	/SFO	B-737-900		IAD/IAD	A-32	20		IAD/IAH E175					AH/EWR 37-800		ORD/ B-737-900	SFC B-737-9
							U/ /SFC	Δ			UA DEN/DEN			UA IAD/I	١		UA DEN/DEN					UA D/SFO		UA SFO/	UA DEN/
							А	1-320 UA				37-800 UA		B-737				37-900 JA				B-737-900 UA		A-319 UA	
						E1		/IAH			SFC	O/SFO		DEN/ A-320	SFO B-737-70	0014/1	IAH	/SFO			E175	ORD/ORD		SFO/	15
						/Y	AC YVR							B6 FK/JFK	ws YYC/Y						AC YVR/YVR			AC YVI	
												A-320 B6		B-737-800 WS	WL			CRJ-900 AC				A-320 B6			
											В	BOS/BOS A-321		YVR/YV	E175			/VR/YVR		B-737-800W		K/BOS A-320			
												AC YYZ/YYZ			AC YVR/YVR					WS YYC/YYC		B6 FLL/FLL			
							1-320 F9			A-321 F9			A-320 F9									A-320 B6	A-3 F9 TUI	20	
						A-3 <mark>21-N</mark>	/TUL			DEN/CVG	A-320-NEO		AUS/AUS	A-321	-NFO			Δ-	319		A-320-NEO	BOS/JFK	TU	L/ A-321-N	IFO
							NK IAH				NK DTW/DTW			N ORD/	K				64 /EUG		NK BWI/LAS			NK IAH/	
									A-320-N NK			N-321 F9		737-800 SY		A-	321-NEO NK		A-320-NEO NK			A-320-NEO NK			
						B-737 <mark>-900W</mark>	VI.	B-737 <mark>-8</mark> (LAS/LA	AS	cv	G/DEN B-737-900W		SP/MSP			AS/LAS A-320		DFW/DFW E175			LAS/BWI			
						/EW	AS VR		AS /OGG			AS SFO/SFO					AS //SP/ABQ		AS STL/B			AS SEA/			
						B-737	7-800WL AS			B-737-900W AS	/_								.900WL	B-73	7-900WL AS			B- AS	737-8 <mark>00WL</mark>
7-900WL					B-737 <mark>-9</mark>	00WL	/HNL B	3-737 <mark>-800WL</mark>		SEA/SEA B-737-800W					A-3:	21-NEO			/SEA	SI	B-737-8	OOWL		B-737-80	OWL
						AS /EWR		AS /BOS		AS PDX/KOA						AS D/SFO			AS IA/SMF		AS PDX/			AS KOA/	
						B-737 <mark>-8</mark>	800WLB-737- AS	-900WL AS	E175 AS					p.	900WL \S						-321-NEO AS		B-737 AS	<mark>-8</mark> 00WL	B-737-900 AS
						A-320	/LIH	/SEA	FAT/FA		00WL B-73	37-800WI		SEA	/SEA		-737-900WL			B-737-900WL	SFO/SFO		B-737-800WIB	-737 <mark>-800WI</mark>	EWR/ B-737-800WL
						AS /SFO		AS SMF/OMA		AS BWI/	J. J. J.	AS /SEA					AS SEA/SEA			AS SLC/SLC			AS OGG/	AS /BWI	AS LIH/
					B-737	-800WL AS	E175 AS		A-320 AS				A-320 AS					A-320 AS					E175 AS		
						/PDX E1	/MRY		SFO/SF A-320	0		E127	BOI/SJC				A 220	SMF/ST		737-800WL			SMF/		
							AS		AS MCI/AUS			E175 AS MRY/FAT					A-320 AS AT/SLC			AS MCO/PDX			AS		

				< Start of Ana	alysis Day																					End of A	nalysis Day >
Position	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
43	B-737 Max 8	A-321							A-	320 AS	A-320 AS SLC/DAL		-737-800WL AS SEA/MCO				A-32 AS ABQ/N				-800WL AS D/SFO			A-320-NEO AS LAS/LAS		A-320 AS	
44	B-737 Max 8	A-321								A-320 AS	B-737-8	OOWL					ADQ	B-737-80 AS			E175 AS			E175 AS		A-320 AS	
45	B-737 Max 8	A-321								/SEA B-737-8	SFO/S	E17			E17			PDX/PI	E:	.75 IS	AUS/MCI	A-320 AS	A-320 AS	SJC/SJC		B-737-800WL	B-737-800\ AS
											/SJD A-320	SJC/S	STL		sJC/SI	MF	<mark>7-8</mark> 00₽√⊻37 <mark>-8</mark>	BOOWL	SJC	/SJC B-737-900W		FAT/	/FAT		A-320	EWR/	HNL/
46 - IAF	B-737 Max 8	A-321									AS /PVR B-737-90	IOW/I				AS SJD/		AS /SJD B-737-900W		AS SJD/SJD		R.	737-900WL		AS PVR/ A-320		B-737-9 00
47 - IAF	B-737 Max 8	A-321									ļ	AS 'MZT						AS SJD/SJD	<u> </u>			AS SJI	p/		DL SEA/SEA		AS MZT/
48	B-737 Max 8	A-321		A-321 DL MSP/						321 DL /SLC	B-737-900 DL /MSP			A-32 DL MSP/N			.7-200 DL ./SEA		A-321 DL ATL/MSP		A-3 DL DT	w/				A-321 DL /DTW	A-321 DL SLC/
49	B-737 Max 8	A-321								A-321 DL /ATL		A-321 DI /ATI			0-100 DL /SEA		B-737-900 DL ATL/ATL			-220-100 DL SLC/SLC		E175 DL SEA/SEA			220-100 DL AS/LAS	A-2 DL MS	220-300 SP/
50	B-737 Max 8	A-321							B-737-800 DL /DTW			B-737-800 DI /MSF	4		B-737-900 DL JFK/JFK		A-321 DL MSP/MSF			A-321 DL JFK/JFK			B-73 DL MSF	37-900	B-7; DL MSF	37-900	
51	B-737 Max 8	A-321							A-220	DL		7103	A-320 DL		A-321 DL			A-321 DL		E175 DL			A-3: DL ATL		A-321 DL DTW/		
52	B-737 Max 8	A-321								/MSP E175 DL			SLC/SLC	E175 DL	ATL/AT	A-320 DL	D	TW/ATL B-737- DL		LAS/LA	A-320 DL		ATL	E175	E175		
32										/LAS	A-321			LAS/LAS A-32:		SLC/SLC A-3	21	JFK/J	-320		MSP/MSP			LAS/LAX B-737-8	DL SEA/		
53	B-737 Max 8	A-321							D.	737-900	DL /ATL		A-220	DL DTW/D	w	ATL/I B-737-800			DL C/SLC			OL /SLC		DL DTW/	A-321		A-321
54	B-737 Max 8	A-321								DL /MSP			DI DTW/			DL JFK/JFK		DL SEA/SEA			DL ATL/				DL /ATL		DL ATL/
55 - IAF	B-757-200WL	B-757-300								A-220-300 DL /MSP														B-757-200 DL JFK/	B-757-20 D /JFI	B-757 L DL C JFK/	200
56 - IAF	B-757-200WL	B-757-300								A-321 DL /DTW																7-300 DL /ATL	B-737-800 DL MSP/
56A - IAF	B-747-400ER	B-777-300ER															77-200 BA R/LHR										
57 - IAF	B-757-200WL	B-757-300								B-757-20 /J	00 DL			B-757-300 DL ATL/ATL					B 737-700V/L WN SJD/LAS					A-2 DL	20-300		
57A - IAF	B-747-400ER	B-777-300ER								//////	FK .		///	ATL/ATL					SJD/LAS					MS	P/		
					//////		//////	//////	//////	A-32								B <mark>-737-700V</mark> /L	//////				A-	321			//////
58 - IAF	B-747-400ER	B-777-300ER		//////	,,,,,,,	,,,,,,,	,,,,,,	,,,,,,,	,,,,,,,	// /OG0	//////	/////					////	B <mark>-737-700V</mark> L WN CUN/CUN					H	GG/		,,,,,,,	
59 - IAF	A-321-NEO	A-321																									
60 - IAF	A-321-NEO	A-321																									
60A - IAF	A-330-300	A-330-300											A-330-2	200 HA INL			A-340-3 LH FRA/	00 A- <mark>340-3</mark> 6 I)0 				B-787-8 DY LGW/				
61 - IAF	B-747-400ER	B-777-300ER								B-7	87-8 DY LGW				B-787- JL NRT/	-8	B-787-8 JL		_			B-7 BA		B-777-300 BA /LHR		A-33 HA	<mark>30-2</mark> 00

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
R_01	B-757-300WL	B-757-300WL	
R_02	B-757-300WL	B-757-300WL	
R_03	B-757-300WL	B-757-300WL	
R_04	B-757-300WL	B-757-300WL	
R_05	B-757-300WL	B-757-300WL	
R_06	B-757-300WL	B-757-300WL	
R_07	B-757-300WL	B-757-300WL	
R_08	B-757-300WL	B-757-300WL	
R_09	B-757-300WL	B-757-300WL	



2030 - No Project

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
1A	B-737 Max 8	A-321	
1	B-737 Max 8	B-737-Max9	
2	B-737 Max 8	B-737-Max9	
3	B-737 Max 8	B-737-Max9	
4	B-737 Max 8	B-737-Max9	
5	B-757-200	B-757-200	
6	DC-10-30	DC-10-30	
7	B-757-200	B-757-200	
8	B-767-300	B-767-300	
9	A-321-NEO	B-737-Max9	
10	A-321-NEO	B-737-Max9	
11	A-321-NEO	B-737-Max9	
12	A-321-NEO	B-737-Max9	
13	A-321-NEO	A-321-NEO	
14	A-321-NEO	A-321-NEO	
15	B-737 Max 8	A-321-NEO	
16	B-757-200	B-757-200	
17	B-737 Max 8	A-321-NEO	
18	B-737 Max 8	A-321-NEO	
20	A-321-NEO	B-737-900WL	
21	A-321-NEO	B-737-900WL	
22	DC-8-55	B-747-400ER	

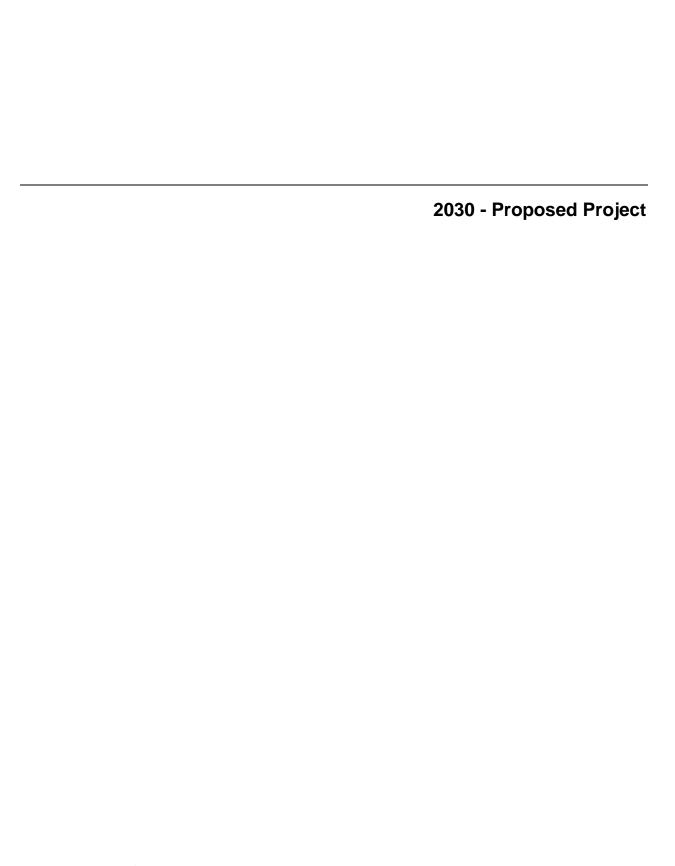
Start of Ana	lysis Day	1	1	1											_							End of A	nalysis Day >
12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
						B-737 Max 7	WN	WN		B-737-800WL WN		B-737-7	N I	B-737-700\ WN		, I	/-700WL	B-737-700WL WN		737-700WL WN		WN	x 7 B-737-700\ WN
						/PHX	737 <mark>-800WL</mark> B-73	LAS/ATL 37-700WL E	3-737-700WL WN	DEN/SJC	B <mark>-737-800</mark>	SFO/N	B- <mark>737 M</mark> WN		B-737-800 WN		B-737-	DEN/SMF 800WL /N	B- <mark>73</mark>	SJC/PHX 7-700WL WN	В-	-737-800WL WN	LAS/
					B-737 N	Max 7B-737 M	/SMF S	JC/LAS 737-700WL	SJC/SJD	1x 7 B-737-800W	TUS/OAI	C	PDX/B1	wi .	MDW/D		HOU			IF/ABQ		LAS/OAK -737-700WL B-	737 Max 7
							<mark>WN</mark>	WN SFO/SFO	WN HOU/SN	MN SJC/MCO			WI SMF/	N I	LAS/	OAK	L	WN AS/LAS	WN SFO/SFO		WN	WN W SMF/SMF PD	N I
					B-73	7 <mark>-700WL</mark> WN /SFO	B-737-700WL WN LAS/LAS		737-800WL B WN SMF/PHX	-737-800WL WN SMF/SMF	B-737-700\ WN DAL/PH>		B- <mark>737-700</mark> WL WN LAS/LAS		B- <mark>737-700W</mark> L WN SFO/SFO		B- <mark>737-700W</mark> L WN SFO/SFO	B- <mark>737-700W</mark> L WN AUS/AUS		B- <mark>737-700W</mark> L WN DAL/SJC		B-737-800WL WN SJC/LAS	B-737-800WL WN BNA/
					B-73	7 Max 8B-737 WN /SFO	Max 7 WN /OAK	B-737-800W WN MCI/EWR		B- <mark>737-700W</mark> WN OAK/DEN		7-800WL WN S/SMF		B <mark>-737-700W</mark> WN OAK/PHX	VLB- <mark>737-800W</mark> L WN PHX/PDX		B-737-800 WN DEN/DE	u v	-800WL VN /PHX	B- <mark>737-700W</mark> L WN PHX/RNO		B-737 Max 8 WN MDW/	B-737 Ma WN SFO/
					B-7	737 <mark>-800WL</mark>	B-737-800WL WN	B-737-	<u> </u>	B- <mark>737-70</mark>		B- <mark>737-</mark>		B-737-800WL WN		B-737 Max 7 WN	B-737 Ma		B- <mark>737-700W</mark> L		737-700WL WN	MDW/	B-737-800WL
					B-7	/MDW 3 <mark>7 Max 8</mark>	DAL/OAK B-737-700	OAK	B- <mark>737 Ma</mark> x	SAT/SF			/LAS	DEN/BNA B-737-80	DOW _L	SMF/LAS B-737-8	MKE/D/	AL .	TUS/LAS B-737-700WI		B <mark>-737-700W</mark> L		BWI/
						WN /LAS	LAS/SE		WN SEA/OAK		WN BWI/TPA	WN SJC/AUS		MCO/N	1DW	BWI/S	MF		WN PDX/PDX		WN SJC/SMF		WN PHX/
					B-73	7 <mark>-700WL</mark> WN /EWR	B-737-800WL WN PHX/SAT	l l	-800WL VN I/ABQ		B-737-700W WN SFO/SFO		737-800WL WN PHX/DEN		V	Max 8 VN _/SJC		737-700WL WN OAK/SJC	B-737-7 W OAK/	N	B-737-800 WN AUS/	WL	B-737 Ma WN DEN/
					В-7	3 <mark>7 Max 7</mark> WN /BWI		<mark>7-800W</mark> L WN X/HOU	B- <mark>737-70</mark> WN LAS/LA		l V	-700WL VN A/SJC		B- <mark>737-800W</mark> L WN EWR/OAK		B <mark>-737-8</mark> WN DAL/I		1	7-800WL WN C/SJC		B-737 Max 8 WN BOI/SFO		B-737 Max WN OAK/
					B-73	87 <mark>-700WL</mark> B- WN	737-800WL WN	B- <mark>737-700W</mark> L	B- <mark>737-</mark> W	800WL B- <mark>737-70</mark> /N WN	<mark>ow</mark> l B	- <mark>737-800W</mark> L WN		-700WL VN	B-737-700'	WL .	B-73	87-700WL B-	737-800WL WN	B- <mark>737-700</mark> WN	WL B-737	WN V	-737-800WL VN
						/SMF	B-737 <mark>-800WL</mark>	RNO/DEN B-737 Ma WN		DAL SFO/M B-737-80 WN	<mark>OWL</mark>	MKE/MKE	B-737-800WI	<mark>/SMF</mark>	B-737-700WL WN			737-800WL B-7 <mark>3</mark>	HOU/SMF 37-800WL WN	LAS/LA	B-737-700W WN	L	<mark>B-737-7</mark> 00WL WN
					B-7	737 <mark>-700WL</mark> B	/SFO -737-700WLB-73	PDX/SJ0		MDW/E	<mark>swi</mark>	B-737-7	MDW/HOU		BWI/PDX 3-737-800WL B		OAK/SEA S	JC/MDW PH	HX/OAK		MCI/OAK B-737-800WL		ABQ/
							ABQ/MCI OA	WN K/DAL		IX/MDW SM	WN IF/LAS	W SMF/	<mark>'SFO</mark>			WN DAL/PHX	WN MSY/SA	T Sn	WN MF/STL		WN SMF/PDX	WN LAS/	
					B-737 <mark>-8</mark> 6	OOWL WN /AUS		B-737-700WL WN DAL/DAL	WN DAL/DAL	B-737-8 W BNA/	N			WN	737-700WL WN SLC/SMF	B-737-700WL WN SJC/SJC	B- <mark>737-700\</mark> WN SMF/PH)		B-737-700V WN RNO/AUS	VL B-737-800W WN S OAK/OAK	B-737-700V WN SFO/DEN	WN	OWL .
					B-737	WN	-737-700WL WN OAK/SJC	B- <mark>737-7</mark> WI PHX/5	V .	A-3 B6 BOS/	5	A-321 B6 JFK/JFK		B- <mark>737-700W</mark> L WN SMF/SMF	B <mark>-737-7</mark> WN SAT/E			-737-800WL WN AUS/MCI		A-320 B6 FLL/FLL	B <mark>-737-800W</mark> WN HOU/HOU		B-737-700W WN EWR/
						A-3	21 F9	A-320	D-NEO IK	A-321 F9		B-737-800 SY								A-320 B6	A-3 F9 TU		
						A-3 <mark>21-NE</mark>	<mark>D</mark>	LAS	/LAS A-321 F9	CVG/DI	A	-321 F9	E175 AC			B-737-800 SY		B-737-800)WL	BOS/JFK A-321 B6	TU	E1	75
						/IA E17	<mark>H</mark>		DEN/CVG			S/AUS B-737-1	YVR/YVF	3		MSP/MSP	A-320-NE	WS YYC/YY	C	JFK/BOS A-320-NEO		A-321-	r/
						/YV					AC YYZ/YYZ	W YVR/	YVR				NK DFW/DFV	v		NK LAS/BWI		NK IAH/	
										A-320-NEO NK DTW/DTW			321-NEO NK RD/ORD		NK LAS/LAS		-320 G4 G/EUG		A-320-NI NK BWI/LA				
													1	7 Max 8 WS C/YYC		CRJ-900 AC YVR/YVR			E175 AC YVR/YV			B-737-900WL AS EWR/	
						A-320 B-737	-900WL AS AS	A-320 AS		B-7	37-900WL AS			B-737-800W AS		B-737	/-900WL AS		B-73	7-800WL AS	B-737-800WIB	3-737 <mark>-800WL</mark>	B-737-900W AS
						/SEA A- 320 37-		MCI/AU	B-737-800W		FO/SFO E175			OGG/	/OGG		A/SEA	B-737-900W	PD	A-320-NEO	DGG/ E175	/BWI B-737-9	LIH/ DOWL
						/SFO		/SFO	AS PDX/KOA 		AS RY/FAT			AS /MSP	B-737-900WL			AS SLC/SLC B-737-800WL		AS LAS/LAS	AS STS/	AS KOA/ 7-800WL A-320	
							B-737-90	AS	AS SEA/MCO				AS SEA/SEA		AS SEA/SEA			AS MCO/PDX			AS BOS/	AS SFO/	

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
23	B-757-200	B-757-200	
24	B-767-300ERWL	B-787-9	
25	B-757-200	B-757-200	
26	B-757-200	B-757-200	
27	B-757-200	B-757-200	
28	B-767-200	B-767-200	
29	DC-10-40	DC-10-40	
30	B-757-200	B-757-200	
31	MD-11	MD-11	
32	B-757-200	B-757-200	
33	B-757-200	B-757-200	
34	A-321-NEO	A-321	
35	B-757-200	B-757-200	
36 - IAF	B-737-Max9	B-757-200	
37 - IAF	B-757-200	B-757-200	
38	B-757-200	B-757-200	
39	B-757-200	B-757-200	
40	A-321-NEO	B-737-900WL	
41	A-321-NEO	B-737-900WL	
42	B-757-200	B-757-200	
43	B-767-300	B-767-300	
44	B-757-200	B-757-200	

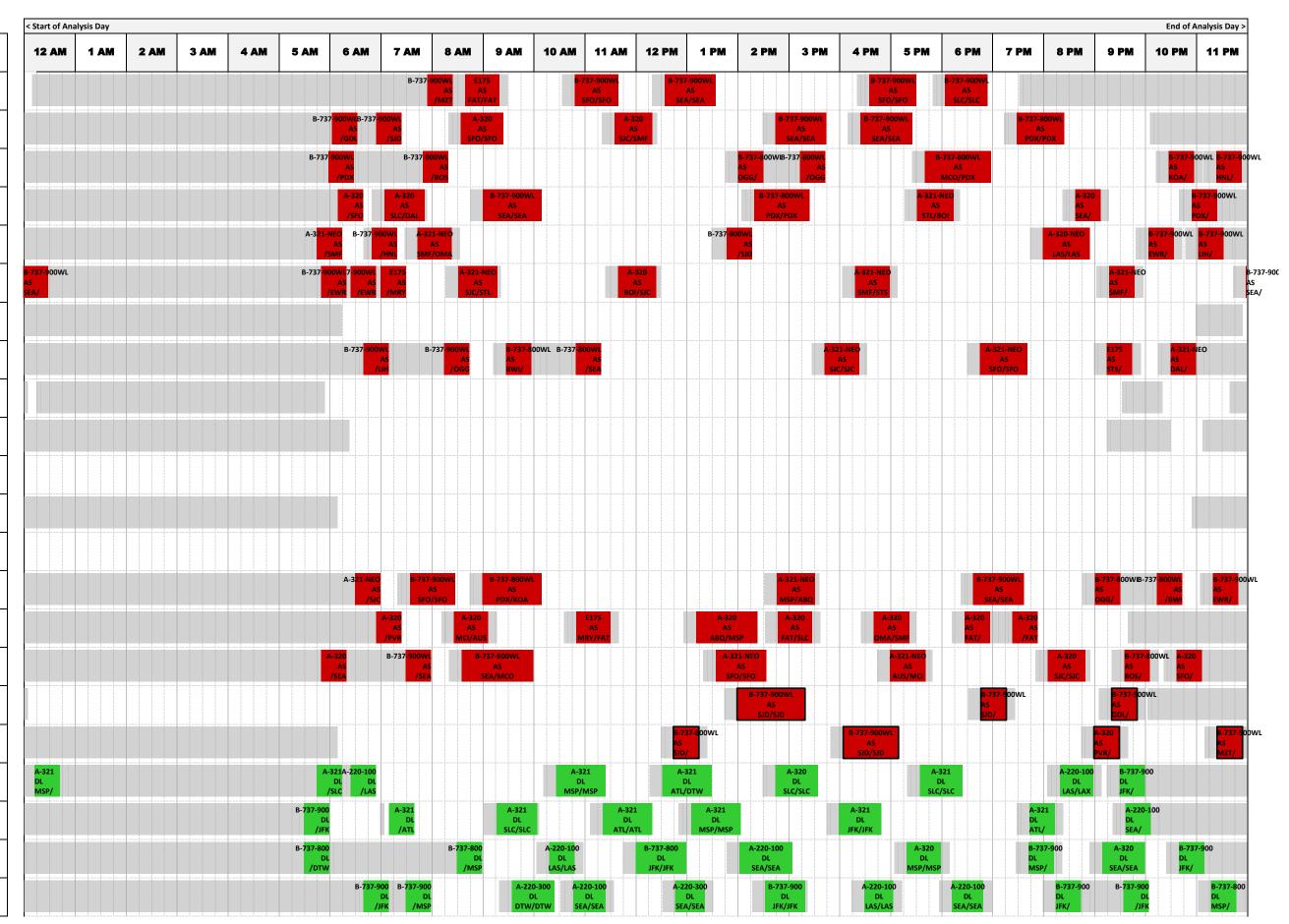
		2.455	4.635		0.535	7 411	0.614	0.47	40 412 4	4 4 14			M 0 2	4 85-		6 DT	7 812	0 834	0 5	40 577	44 555
2 AM 1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM 1	1 AM 12	2 PM 1 F	PM 2 P	PM 3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
					A-321 A-3 AA /PHL /0	AA	A-321-NEO AA DFW/DFW	A-321 AA CLT/CL		A-321 AA PHX/PH			321 AA O/ORD	A-321 AA ORD/PHX	B-737-800 AA DFW/DFW	A-321 AA CLT/				A-321 A-321 AA AA /PHL ORD/	
				A-3 <mark>21-N</mark>		A-320	E1:	75		A-320			737-800WL		37-900WL	B-737-	-900WL		1	A-321	B-737-900
				/si	MF	AS SLC/DAL	A: FAT/			AS SJC/SMF			AS PDX/PDX		FO/SFO		AS /SEA			AA CLT/	HNL/
					A-321-NEO AA /DFW	A-321 AA /JFK		A-321-NEO AA PHX/PHX	A-321-NEO A AA DFW/	A-321-NEO AA /DFW				A-321-NE AA DFW/	OA-321-NEO AA /DFW	A-321 AA PHX/PH)		A	-321 A HL/	AA A	321 .A FK/
				B-737-	900WL AS	E175 AS	A-321-I AS	VEO		A-320 AS		A-321-NEO AS			A-321-NE	:0		A-320 AS	A-321-NE		
				A-321	/PDX	/MRY A-321	SJC/S	TL	21-NEO B-	BOI/SJC 737-800		SFO/SFO	A-321		STL/BO		A-321-NEO	SJC/SJC	SMF/ -737-800	DAL/ B-737-800	A-321-NEO
					AA /DFW	AA /PHL	1	AA	AA	AA CA/DCA			AA PHX/DF				AA CLT/CLT	A		AA /MIA	AA DFW/
					A-3 <mark>21-NEO</mark>		1-NEO AS	B-737-800 AS	WL B-737 <mark>-800WL</mark> AS				4	-321-NEO AS	A-321-NEO AS	A-320 AS	A-320 AS	A-320 AS		B-737-800 AA CLT/	
				A	-321	A-321	/OMA	BWI/	/SEA	B-737-800			A-321-NEO	SJC/SJC	AUS/MCI	FAT/	/FAT A-321	SEA/	A-321	CLT/ A-321	A-321
					AA /PHX	AA /ORD			AA RD/ORD	AA PHL/PHL			AA DCA/DCA				AA ORD/		AA /MIA	AA MIA/	AA PHL/
				B-737-800 AA /CLT	B-737 <mark>-900WL</mark> AS /FWR		A-3 A: SEO/	s	A-321 AA JFK/JFK				A-320 AS FAT/SLC	A-321-N AS SMF/S	A-321-NI AA ORD/OF		AS AA	737-800 \ :W/	B-7	737-800 B- AA A: /JFK PI	-737-9 <mark>00WL B</mark> .S DX/
				B-737-8	800	A-321-NEO AA		B-737-900WL AS			321 AA		A-321-NEO AS						A-321 AA	A-321-N	
7-900WL				/N	VIIA	JFK/JFK	727 00044	SEA/SEA	A-321	DFW	//DFW	A-321-NEO	MSP/ABQ		A-320 A-3:	21-NEO			PHX/	MIA/	DFW/
7-300WL				B-737-90	AS EWR /L	AS AA IH /DFW	AS /OGG		A-321 AA PHL/ORE			AA DFW/DFW			AS AA MA/SMF DFV					AA JFK/ORD	AS EWR/
				B-7	/37-900B-737-9 DL	DL DL			A-321 DL		A-321 DL		A-320 DL	A-220-100 DL	A-321 DL				A-321 DL		A-321 DL
-321				A-3	/MSP /J	FK /MSP	A-321		MSP/MSP A-220-100	A-321	ATL/DTW A-220-300	A-220	SLC/SLC D-100	SLC/SLC	ATL/		A-321	A-2	/ATL 220-100	A-	SLC/ 220-300
L ISP/					DL SLC	DL /ATL	DL /ATL		DL LAS/LAS	DL ATL/ATL	DL SEA/SEA	D SEA,	L /SEA				DL ATL/		DL AS/LAS	DL MS	SP/
				B-737-800 DL /DTW	A-220-300 DL /MSP			A-321 DL SLC/SLC			B-737- DL ATL/A		B-737-900 DL JFK/JFK	A-321 DL JFK/JFK	A-320 DL MSP/MSP		B-737- DL MSP/	-900 A-22 DL MSI	20-30 B-737-9 P/ /J	DL DL	- <mark>9</mark> 00
					A-321 DL	A-320	B-737-800 DL		A-321 DL		B-737-800B		B <mark>-737-800V</mark>	L A-220	-100	A-220-100 DL			A-320		B-737-900
				B-737	/ATL	/PVR	/MSP	A-220-3	DTW/DTW	NO	SJD/ 737-800	/SJD	SJD/LAS		LAS	SEA/SEA	7-900WL	B-737-900	PVR/	IOWL	MZT/ B-737-800WL
				B-737	AS /GDL			DL DTW/D	DL		DL FK/JFK		AS D/SJD	AS SJD/SJI	DL	AS	7-30000	DL JFK/	AS GDL/		WN BZE/
					DL DL					737-900 DL	A-321 DL	A-321 DL	A-321 DL		A-32: DL			A-220-100 DL		A-321 DL	A-321 DL
7-900				B-737-9		B-737-900	B-737-900	B-737-900	B-737-900	FK/JFK	SLC/SLC A-320	DTW/ATL	ATL/MSP E175		DTW			A-320	B-737-		-320
					UA ORD	UA /IAH	UA SFO/	UA /SFO	UA SFO/SFO		UA IAD/IAD		UA DEN/DE	N				UA BOS/BOS	DL JFK/	U. O	IA ORD/
						A-320B- UA /IAH	UA	B-737-900 UA SFO/IAH	UA		B-737-900 UA ORD/IAH		B-737-900 UA IAD/IAH		B-737-900 UA DEN/DEN		B-737 U/ SFO/	A UA		-737-900 B-73 UA UA /ORD EWF	
				B-737-9	900 B UA	-737-900 UA		B-7	37-900 UA	B-737-900 UA	B-73	7-900 IA	B-737-900 UA		B-737-90 UA	00	B-7	37-900 UA		B-737-900 B-73 UA	
				/E\	WR	/SFO	7 000	DEI	N/DEN	IAD/IAD	IAH/	ORD	SFO/SFO		SFO/SFO		IAH	I/EWR		IAD/	/IAD
					B-737-900 UA /BOS		7-900 UA /ORD		B-737-900 UA ORD/ORD		B-737-900 UA DEN/SFO		B-737-90 UA ORD/DEI			B-737-900 UA ORD/SFO		-737-900 UA AD/LAX		B-737-900 UA SFO/	A-320 UA IAH/
					A-320 UA		UA			37-900 UA		B-737-900 UA		B-737-900 UA				B- U	-737-900 A	B-737-900 UA	
				B 727.0	/ORD	/1	AD		ORE	O/ORD	P 727 000	ORD/ORD		IAD/IAD		E17E		EV	wr/	/EWR	P 727 000
					900 B-737 UA U SFO IAD/	Α			B-737 UA IAH/I	۱	B-737-900 UA SFO/DEN			737-900 UA AH/SFO		E175 UA DEN/DEN		3-737-900 UA DRD/ORD		B-737-900 UA ORD/	B-737-900 UA BOS/

				< Start of An	alysis Day																					End of	Analysis Day >
Position	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
45 - IAF	B-757-200WL	B-757-300																							B-737-900 UA EWR/	B-737 UA SFO/	7-900 B-737-9 UA DEN/
46 - IAF	B-757-200WL	B-757-300											1//										A-I	321 G/			B-737-900 UA IAH/
46A - IAF	B-747-400ER	B-777-300ER							B-737-90 D /JF						/87-8 DL _/ATL		A-321 DL MSP/MSP										
47 - IAF	B-757-200WL	B-757-300																						B-737-1 DL DTW/	300 A-22 DL SEA	20-100 /	
47A - IAF	B-747-400ER	B-777-300ER								A-220-100 DL /LAS				B-757-300 DL ATL/ATL									1//				
48 - IAF	B-747-400ER	B-777-300ER								B-7	787-8 DY 'LGW				B-78 JL NRT		B-787-8 JL /NRT					B-7 BA LHR	77-300 V	B-777-300 BA /LHR	A-320 DL SEA/SEA		330-200 IL/
49 - IAF	A-321-NEO	A-321								B-737 <mark>-800WL</mark> WN /BZE																	B-737-800 DL MSP/
50 - IAF	A-321-NEO	A-321								A-32 H. /OG	1 B-737 A G	-900WL AS /MZT															
50A - IAF	A-330-300	A-330-300										<i>///</i> ///					A-340-3 LH FRA/	00 A- <mark>340-3</mark>	LH				B-787-8 DY LGW/		A-3. DL DTV	21	
51 - IAF	B-747-400ER	B-777-300ER												0-200 HA /HNL			-777-200 BA .HR/LHR	B <mark>-737-700V</mark> L WN CUN/CUN				B-787-8 QF SYD/	B-1	87-8 QF /SYD		757-300 DL .TL/ATL	
R_01	B-757-300	B-757-300																							B-737-9 AS SJD/S	5	
R_02	B-757-300	B-757-300					A-32: DL ATL/A																A-321 DL DTW/D			4	-900WL AS /GDL
R_03	B-757-300	B-757-300					B-737-900 DL MSP/MSP																	E	-737-900 DL JFK/JFK		B-737-90 UA SFO/SFC
R_04	B-757-300	B-757-300					B-737-900\ AS PDX/SEA																			A-3 A: PVR/	
R_05	B-757-300	B-757-300					A-321 AA ORD/JFK																			B-737-900 DL MSP/MSP	
R_06	B-757-300	B-757-300					A-321 AA PHX/PHL																			A-321 DL ATL/ATL	
R_07	B-757-300	B-757-300			·		B-737-900 DL JFK/JFK																			A-220-3 DL MSP/N	
R_08	B-757-300	B-757-300				B-7	737 Max 8 WN DW/PDX																		B-737- DL DTW/D	отw	A-220-100 DL SEA/SEA
R_09	B-757-300	B-757-300					A-321 DL DTW/ATL	-4444		+																B-737 N AU:	7-800WL WN S/SMF
R_10	B-757-300	B-757-300				S	37-900WL AS SEA/SJD																				A-321 DL DTW/ATL
_11	B-757-300	B-757-300		B-737-80 <mark>0</mark> AA MIA/MIA			B-737-900V AS MZT/MZT	VL															1		A-321-NEO AA DFW/DFW		
R_12	B-757-300	B-757-300					3-737-900WL AS PDX/HNL																			A-321 HA GG/OGG	B-737-9(AS PDX/H

				< Start of Ana	alysis Day																					End of	Analysis Day >
Position	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
R_13	B-757-300	B-757-300		B-737-90(UA SFO/SFO			B-737-8 AA DFW/DF																				A-321 AA CLT/CLT
R_14	B-757-300	B-757-300					B-737-9 UA EWR/I.																			A-320 AS SEA/SF	
R_15	B-757-300	B-757-300					B-737-9 AS EWR/	5																			B-737-900W AS KOA/SJD
R_16	B-757-300	B-757-300					A-321 AA CLT/CLT																				E175 AS S/MRY
R_17	B-757-300	B-757-300				,	A-321 DL ATL/DTW																				A-321 AA HX/PHL
R_18	B-757-300	B-757-300					B-737-900 UA IAH/SFO																				321-NEO AS MF/SJC
R_19	B-757-300	B-757-300					B-737 U LAX/	A		1 i i i																B-737 U EWR,	Α
R_20	B-757-300	B-757-300					A-321 AA MIA/ORD																				-737-800WL AS BOS/OGG
R_21	B-757-300	B-757-300					737-900WL AS WR/EWR																			D	7-900 A-32 DL UA /JFK ORD/C
R_22	B-757-300	B-757-300					A-320 AS PVR/PVR																				B-737-9 UA EWR/I <i>A</i>
R_23	B-757-300	B-757-300					B-737-8 DL MSP/M																				B-737-900 UA SFO/DEN
R_24	B-757-300	B-757-300					E175 AS STS/MRY																				B-737 Max 7 WN STL/OAK
R_25	B-757-300	B-757-300					B-737 Max 7 WN STL/OAK																				B-737-900 UA ORD/ORD
R_26	B-757-300	B-757-300					B-737-900 UA EWR/IAH		· · · · · · · · · · · · · · · · · · ·																		B-737 Max 8 WN MDW/PDX
RWB_01	A-330-300	A-330-300					B-737-900 UA ORD/ORD																		D	87-8 DY /LGW	



Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
20	A-321-NEO	B-737-900WL	
21	A-321-NEO	B-737-900WL	
22	DC-8-55	B-747-400ER	
23	B-757-200	B-757-200	
24	B-767-300ERWL	В-787-9	
25	B-757-200	B-757-200	
26	B-757-200	B-757-200	
27	B-757-200	B-757-200	
28	B-767-200	B-767-200	
29	DC-10-40	DC-10-40	
30	B-757-200	B-757-200	
31	MD-11	MD-11	
32	B-757-200	B-757-200	
33	B-757-200	B-757-200	
34	B-737-700	A-320	
35	B-757-200	B-757-200	
36 - IAF	B-737-Max9	B-757-200	
37 - IAF	B-757-200	B-757-200	
38	B-757-200	B-757-200	
39	B-757-200	B-757-200	
40	A-321-NEO	B-737-900WL	
41	A-321-NEO	B-737-900WL	



Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
42	B-757-200	B-757-200	
43	B-767-300	B-767-300	
44	B-757-200	B-757-200	
45 - IAF	B-757-200WL	B-757-300	
46 - IAF	B-757-200WL	B-757-300	
46A - IAF	B-747-400ER	B-777-300ER	
47 - IAF	B-757-200WL	B-757-300	
47A - IAF	B-747-400ER	B-777-300ER	
48 - IAF	A-321-NEO	A-321	
49 - IAF	A-321-NEO	A-321	
49A - IAF	B-747-400	B-777-300ER	
50 - IAF	A-321-NEO	A-321	
50A - IAF	A-330-300	A-330-300	
51 - IAF	B-747-400ER	B-777-300ER	
1	B-737 Max 8	A-321	
2	B-737 Max 8	A-321	
3	B-737 Max 8	A-321	
4	B-737 Max 8	A-321	
5	B-737 Max 8	A-321	
6	B-757-200	B-757-200	
7	B-737 Max 8	A-321	
8	B-737 Max 8	A-321	

Start of Ana	-	0 4	2 4	4 4	F 4	6 4	7 45-	0 4	0.4	40.41	44 4	40 815	4 855	0.517	9 844	4 815		6 P-1	7.5	0.51	0.834		f Analysis Da
12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	<u> </u>	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PN A-220-300
					A-22	DL /MSP				A-321 DL DTW/D				A-321 DL DTW/ATL			A-321 DL ATL/				A-321 DL /ATL		DL MSP/
						A-321 DL				B-757-300 DL		A-321 DL SLC/SI				A-220-100 DL SLC/SLC				B-737- DL DTW/		57-300 DL	
						/DTW A-220-300 DL		A-321 DL		ATL/ATL	B-737-900	SLC/SI	B-737-900		A-321 DL	SIC/SIC	A-	321		DIW	Al	A-321	A-321
						/MSP		/ATL			DL JFK/JFK		DL ATL/ATL		ATL/MSP		D	rw/		Δ.	220-100	DL /DTW	DL ATL/ A-321
						DL /ATL									WN SJD/LAS						DL AS/LAS		DL SLC/
					В-	-737-900 DL /MSP														A- DI M		737-900 SP/	
										B-78	87-8)L									1//			////
(/////	//////		//////	//////	//////					ATL	/ATL			B <mark>-737-700V</mark>	////// L	1			A	-321	A-32	1	B-737-8 <mark>0</mark>
				,,,,,,										WN CUN/CUN						IA OGG/	DL DTW	/	B-737-800 WN BZE/
																		1//					
															<u>/</u>								
//////	//////	///////	//////	//////	//////	//////	//////	///////	A- <mark>330</mark>)-200		В.	-777-200	/////// 					77-300	B-777-300			
										HA /HNL			BA .HR/LHR					BA LHI	<mark>777-3</mark> 00	BA /LHR			
						A-32 H/ /OG0																	
													A-340- LH		-300 LH /FRA				B-787-8 DY LGW/				
	/////		//////			B-7	87-8 DV				B-78	7-8	FRA/ B-787-8		FRA			B-787-8		-787-8 QF		A	-330-200
							.GW	A-321-NEO			NRT B-737-800		/NRT			A-321		B-787-8 QF SYD/		/SYD	B-1	H	NL/
						A-321 AA /PHL		AA DFW/DFW			AA DCA/DCA					AA PRD/PHX				B-737-800 AA DFW/			A-321 AA JFK/
						A-321-NEO AA /DFW			A-321-NEO AA PHX/PHX			A-321 AA HX/PHX					A-321 A ORD,	A			A-321 AA PHX/	A-321 AA MIA/	1-NEO
						A-321 AA /PHX	A-321 AA /PHL			B-737-800 AA				A-321 AA				A-321 AA CLT/			1	A-321 A-3 AA AA /PHL OR	
						A-3	21		A-3	ORD/ORD		A-321		ORD/OR	D			1-321-NEO					RD/
					D -07-00	/0	<u></u>		CLT,	A 224 NEO		AA DFW/DFW						AA DFW/				B-737-800 AA CLT/	
					B-737-800 A/ /CL1	A T	B-737-800 AA /DFW			A-321-NEO AA DFW/DFW			A-32 A DFW	1-NEO AA I/DFW				A-32 AA PHX/F				A-321 AA JFK/ORD	A-321 AA PHL/
							A-321 AA /ORD			Δ	321 AA /ORD				A-321 AA PHX/DFW				A-321 AA ORD/		A-321 AA /MIA	A-321 AA MIA/	
					B-737	7-800 AA	A-321-NEO			A-321-NEC	A-321-NEC				1.11/1000	. 4 i i i -	DA-321-NEO AA /DFW		SILD		3-737-800 AA WIA/	B-737-800	B-73
						AA /MIA	JFK/JFK A-321			AA DFW/ A-321	AA /DFW				A-321-NEO	DFW/	/DFW		A-321-NEO			AA /MIA A-321	DFW
							AA /JFK			AA JFK/JFK					AA DCA/DCA				AA CLT/CLT		,	A-321 AA CLT/	

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
9	B-737 Max 8	A-321	
10	B-737 Max 8	A-321	
11	B-737 Max 8	A-321	
12	B-737 Max 8	A-321	
13	B-737 Max 8	A-321	
14	B-737 Max 8	A-321	
15	B-737 Max 8	A-321	
16	B-737 Max 8	A-321	
17	B-737 Max 8	A-321	
18	B-737 Max 8	A-321	
19	B-737 Max 8	A-321	
20	B-737 Max 8	A-321	
21	B-737 Max 8	A-321	
22	B-737 Max 8	A-321	
23	B-737 Max 8	A-321	
24	B-737 Max 8	A-321	
25	B-737 Max 8	A-321	
26	B-737 Max 8	A-321	
27	B-737 Max 8	A-321	
28	B-737 Max 8	A-321	
29	B-737 Max 8	A-321	
30	B-737 Max 8	A-321	

B-737-800WL WN /AUS B-737-700W WN /AUS B-737-700W WN /AUS B-737-700W WN /AUS	B-737-700WL WN MDW SMF/PHX WN WN OAK/SJC B-737-700WL WN LAS/LAS WL WN LAS/LAS WN MF DEN/BNA B-737-800WL WN /PHX B-737-800WL WN /PHX B-737-800WL WN /SFO	WN PDX/SIC B-737-700WL WN LAS/ 000WL B-737-800WL WN DAL/DAL B-737-800WL WN OAK/STL	B-737-800WL WN SIC/MCO B-737-800WL WN DEN/SIC B-737-800WL WN SMF/SMF 700WL B-737-700WL WN	B-737-800 AA PHL/PHL B-737-700WL WN TPA/SIC B-737-800WL WN LAS/SMF 37-700WL WN ATL/RNG B-737-700WL WN ATL/RNG		B-737 Max 8 WN STL/SJC B-737-700WL WN SJC/DEN B-737-800WL WN MDW/DAL B-737-700WL WN SFO/SFO B-737-700WL WN	WN	WL B-737-700WL WN PDX/PDX B-737-800WL WN PHX/OAK B-737-800WL WN LAS/PHX 737-700WL B-737-800WL S S	WN \	A-321 AA /CLT ax 8 B-737-70 WN OAK/ B-737-800WL WN SJC/LAS B-737-700WL WN SMF/SMF -800WL VN I/HOU SS AA-321 A	A-321-NEO AA DFW/ DOWL B-737 Max 8 WN PHX/ B-737-800WL WN BNA/ WN FFO/ WL B-737 Max 8
B-737-800W M/MD B-737-700W WR //EWI B-737-700W WR //SM B-737-700W WR //SM B-737	DOWL WN SMF/PHX WN SMF/PHX WN SMF/PHX WN SMF/PHX WN SMF/PHX WN DAK/SJC B-737-700WL WN LAS/LAS WN LAS/LAS WN DEN/BNA B-737-800WL WN PHX/H B-737-800WL WN SMF DEN/BNA B-737-800WL WN SMF DEN/BNA B-737-800WL WN SFO DOWL B-737-800WL WN SFO DOWL WN WN	B-737-800WL WN PDX/SIC -737-700WL WN PHX/SMF B-737-800WL WN PDX/SIC -737-700WL B-737-800WL WN DAL/DAL B-737-800WL WN DAL/DAL B-737-800WL WN OAK/STL	### SIC/MCO B-737-800WL	B-737-700WL WN SIC/AUS B-737-700WL WN TPA/SIC B-737-800WL WN LAS/SMF 37-700WL WN ATL/RNG	B-737-700WL WN OAK/SMF B-737-700WL WN IND/TUS B-737-800WL WN MDW/HOU	B-737-700WL WN SJC/DEN B-737-800WL WN MDW/DAL B-737-700WL WN SFO/SFO B-737-700WL WN	B-737-700WL B-737-700WL B-737-700WL B-737-700WL B-737-700WL B-737-700WL B-737-700WL	WL B-737-700WL WN PDX/PDX B-737-800WL WN PHX/OAK B-737-800WL WN LAS/PHX 737-700WL B-737-800WL S S	B-737-700WL WN LAS/LAS B-737-800WL WN OAK/OAK 37-700WL B-737 WN HOL	B-737-800WL WN SJC/LAS B-737-700WL WN SMF/SMF -800WL VN	B-737 Max 8 WN PHX/ B-737-800WL WN BNA/ 3-737-800WL WN SFO/
B-737-800WL WN /AUS B-737-700W WN /AUS B-737-700W WN /AUS B-737-700W WN /SM B-737	B-737-700WL WN SMF/PHX DWL WN OAK/SJC B-737-700WL WN OAK/SJC B-737-700WL WN LAS/LAS DWL B-737-800WL WN PHX/H B-737-80WL WN /PHX B-737-80WL WN /SFO DOWL WN SFO DOWL WN	B-737-700WL WN PHX/SMF B-737-800WL WN PHX/SMF B-737-800WL WN PDX/SIC -737-700WL WN LAS/ WN LAS/ WN DAL/DAL B-737-800WL WN DAL/DAL B-737-800WL WN OAK/STL	### SIC/MCO B-737-800WL	B-737-700WL WN SIC/AUS B-737-700WL WN TPA/SIC B-737-800WL WN LAS/SMF 37-700WL WN FO/SFO B-737-800 WN ATL/RNG	B-737-700WL WN OAK/SMF B-737-700WL WN IND/TUS B-737-800WL WN MDW/HOU	B-737-700WL WN SJC/DEN B-737-800WL WN MDW/DAL B-737-700WL WN SFO/SFO B-737-700WL WN	B-737-800WL WN MSY/SAT B-737-800WL WN DEN/DEN B-737-700WL B-737-700WL B-737-700WL	B-737-800WL WN PHX/OAK B-737-800WL WN PHX/OAK B-737-800WL WN LAS/PHX 737-700WL WN S B-737-800WL	B-737-M WN BOI/SI B-737-700WL WN LAS/LAS B-737-800WL WN OAK/OAK 37-700WL B-737 WN L	B-737-70WL WN SMF/SMF	B-737 Max 8 WN PHX/ B-737-800WL WN BNA/ 3-737-800WL WN
B-737-700W WN /AUS B-737-700W WN /AUS B-737-700W WN /SM B-737	MDW SMF/PHX WN WN OAK/SJC B-737-700WL WN LAS/LAS WL B-737-800WL B-WN SMF DEN/BNA 37 Max N WN PHX/H B-737-800WL WN /SFO 00WL B-737-800WL WN /SFO 00WL B-737-800WL WN /SFO	B-737-800WL WN PDX/SIC B-737-700WL WN DAL/DAL B-737-800WL WN DAL/DAL B-737-800WL WN DAL/DAL B-737-800WL WN DAL/DAL B-737-800WL WN DAL/DAL	SIC/MCO B-737-800WL WN DEN/SIC B-737-800WL WN SMF/SMF 700WL B-737-700WL WN SAT/SFO B-737-800WL WN	B-737-700WL WN TPA/SJC B-737-800WL WN LAS/SMF 37-700WL WN FO/SFO B-737-800' WN ATL/RNG	B-737-700WL WN OAK/SMF B-737-700WL WN IND/TUS B-737-800WL WN MDW/HOU	B-737-700WL WN SJC/DEN B-737-800WL WN MDW/DAL B-737-700WL WN SFO/SFO B-737-700WL WN	B-737-700WL B-737-700WL B-737-700WL B-737-700WL B-737-700WL	B-737-800WL WN PHX/OAK B-737-800WL WN LAS/PHX 737-700WL WN S S	BOI/SI B-737-700WL WN LAS/LAS B-737-800WL WN OAK/OAK 37-700WL B-737 WN LC/PHX HOL	B-737-800WL WN SJC/LAS B-737-700WL WN SMF/SMF -800WL WN SMF/SMF	WN PHX/ B-737-800WL WN BNA/ 3-737-800WL WN SFO/
B-737-800WL WN /AUS B-737-700W Wr /SM B-737	WR OAK/SIC B-737-700WL WN LAS/LAS WL B-737-800WL B-WN MN MF DEN/BNA B-737-800WL WN /PHX B-737-800WL WN /SFO DOWL B-737-800WL WN	MCI/EWR B-737 Max 7 WN PDX/SIC -737-700WL WN DAL/DAL B-737-800WL WN DAL/DAL B-737-800WL WN OAK/STL	DEN/SIC B-737-800WL WN SMF/SMF 700WL B-73 //LAS SF WL B-737-700WL WN SAT/SF0 B-737-800WL WN	TPA/SIC B-737-800WL WN LAS/SMF 37-700WL WN FO/SFO B-737-800' WN ATL/RNC	OAK/SMF B-737-700WL WN IND/TUS B-737-800WL WN MDW/HOU	B-737-700WL WN SFO/SFO	MSY/SAT B-737-800WL WN DEN/DEN B-737-700WL B-737-700WL B-737-700WL	PHX/OAK B-737-800WL WN LAS/PHX 737-700WL WN AUS/AUS B-737-800WL	LAS/LAS B-737-800WL WN OAK/OAK 37-700WL B-737 WN LC/PHX HOL	B-737-700WL WN SMF/SMF	PHX/ B-737-800WL WN BNA/ 3-737-800WL WN SFO/
B-737-700W WY /SM B-737-700W WY /SM	WN LAS/LAS WL B-737-800WL B-WN WN DEN/BNA 37 Max 7 WN PHX/H B-737-800WL WN /SFO DOWL B-737-800WL WN	WN PDX/SIC B-737-700WL WN LAS/ 000WL B-737-800WL WN DAL/DAL B-737-800WL WN OAK/STL	WN SMF/SMF 700WL B-73 /N /LAS SF WL B-737-700WL WN SAT/SFO B-737-800WL WN	WN LAS/SMF 37-700WL WN FO/SFO B-737-800' WN ATL/RNG	WN IND/TUS B-737-800WL WN MDW/HOU	WN MDW/DAL B-737-700WL WN SFO/SFO B-737-700WL WN	B-737-700WL B- SJC/SJC B-737-700WL	WN LAS/PHX 737-700WL WN AUS/AUS \$	WN OAK/OAK 37-700WL B-737 WN N JC/PHX HOL	WN SMF/SMF -800WL VN VN I/HOU	WN BNA/ 3-737-800WL WN GFO/
Wr/sm B-737	WN WN B-737-800WL WN SMF DEN/BNA B-737-800WL WN SFO	WN DAL/DAL W LAS/ BOWL B-737-800W WN DAL/DAL B-737-800WL WN OAK/STL	/N /LAS SF WL B-737-700WL WN SAT/SFO B-737-800WL WN	WN FO/SFO B-737-800' WN ATL/RNG	WN MDW/HOU WL	WN SFO/SFO B-737-700WL WN	WN SJC/SJC B- <mark>737-700W</mark> L	WN AUS/AUS B-737-800WL	WN NO.	VN I/HOU S	WN SFO/
	37 Max 7 B-737-81 WN PHX/H B-737-800WL WN /SFO 00WL B-737-800WL WN	B-737-800WL B-737-800WL WN DAL/DAL B-737-800WL WN OAK/STL	WL B-737-700WL WN SAT/SFO B-737-800WL WN	B-737-800 WN ATL/RNC		B <mark>-737-700W</mark> L WN	B- <mark>737-700W</mark> L	B-737-800WL	B <mark>-737-700W</mark>		
	B-737-800WL WN /SFO	B-737-800WL WN OAK/STL	B-737-800WL WN		<mark>0</mark>			WN	WN	WN WN	WN
	/SFO 00WL B-737-800WL WN	OAK/STL		WN				800WL B-737-700W /N WN	L B-737-7	i	B-737-700\ WN
B-737 <mark>-700V</mark>			3-737-800WL	SFO/M			/LAS SJC/	MDW SFO/SFO	sjc/s		LAS/
/DI			WN PHX/MDW		WN SMF/SJC	WN PHX/PDX		WN DEN/SMF	WN DAL/SJC	WN OAK/PHX	WN EWR/
	-800WL B-737-700W WN WN /BZE LAS/SEA	/L B-737-800WL WN DEN/ABQ	B- <mark>737-700W</mark> L WN OAK/DEN	B- <mark>737-800W</mark> L WN MKE/MKE	B-737-800V WN EWR/OAI	WN	B-737 Max 8 WN MKE/DAL	B-737-800WL WN HOU/SMF		B-737 Max 8 WN MDW/	B-737 Ma WN SFO/
B-737 <mark>-700WL WN </mark>	<mark>vn</mark> wn	B-737-800WL WN SMF/PHX		-737-800WL WN TUS/OAK	B- <mark>737-700</mark> WN SMF/SN		WN	7-800WL WN S/MCI	B-737 Max 7 WN SEA/TUS	B-737 Ma: WN STL/	x7
	<mark>wn</mark> wn	WN	WN	-737-700WL WN	B- <mark>737 Max</mark> 7 WN	B-737-700WL WN	B- <mark>737-700W</mark> L WN	B-737-800WL WN	B- <mark>737-700W</mark> L WN	B-737-800WL WN	B-737-800WI
B-737 Max 8; WN	c 8737 Max 8 B-737-70	00WL	B-737-800W WN	DAL/PHX B-737-7 WI		BWI/PDX 37-800WL B-737-1 WN W			PHX/RNO B-737- W		B-737-700WL
	FO /PDX OAK/I		BNA/IND	LAS/		SJC/MDW SJC/			SMF	PDX PDX	ABQ/ 737 Max 7
Wi /SFC	SFO SFC	WN WN SEA/O	AK SMF/LAS	\S P	HX/DEN	SLC/SMF	OAK/SEA	OAK/0	DAK MCI		ox/
B-737 Max 7 WN /SJC	wn w	-700WL B-737 N VN WN /LAS HOU/S	N W	<mark>/N</mark>	3- <mark>737-700W</mark> L WN LAS/LAS	WN	WN 1	VN V	<mark>VN WN</mark>	7-800WL	B-737 Max WN OAK/
B-737 Max : Wr /LA:	WN WN	B-737-700WI WN SJC/SJD	B- <mark>737-700W</mark> L WN SFO/MSY	B-737-70 WN SMF/3	v v	700WL B-737-80 /N WN /SLC DAL/PI	w	WN WN		WN L	B-737-900 UA IAH/
	A-320B-737 UA	UA	B-737- UA	1	B-737-900 UA	B-737-9 UA			B-737-900 UA	B-737-900 UA	B-737- UA
B-737-9	/IAH / 7-900 B-737-900 UA UA		B-737-900 UA	B-73	IAH/ORD 37-900 UA	B-737-900 UA		E175 UA	B-737-900 UA	ORD/ B-737-900 B-7 UA UA	
	/BOS /IAD B-737-9	900	SFO/SFO B-737-90	SFO	D/DEN 237-900	IAD/IAH B-737-900		DEN/DEN	DEN/ B-737-900	/ORD EW B-737-900 B-7	7R/ 37-900 B-1
UA /EWR	/0	UA DRD	UA EWR/EW	VR DE	UA N/SFO	UA ORD/DEN	0.707		UA IAH/EWR	UA IAD/	/IAD SF
B-737-900 UA /SFO	B-737-900 UA IAD/IAD	U	7-900 JA I/IAH	B-737-900 UA IAD/IAD		B-737-900 UA SFO/SFO	B-737-9 UA SFO/SF		A-320 UA BOS/BOS	B-737- UA SFO/	
	B-737-900 UA /SFO		B-737-900 UA DEN/DEN		37-900 UA D/IAH	B-737-900 UA IAH/SFO			737-900 B-737-90 UA UA FO/SFO EWR/	L	A-320 JA ORD/
	UA	B-737-900 B-737-90 UA U	JA L	37-900 UA	B-737-900 UA		B-737-900 UA		B-737-900 UA	B-737-900 UA	B-737-90 UA
7-900 B-737-900 UA	/ORD ::	SFO/ /SF	B-737-900 UA		ORD/ORD -320 UA	E175 UA	DEN/DEN	B-737-900 UA	ORD/ORD B-737-90 UA		A-320 UA

				< Start of Ana	alysis Day	,																				End of	f Analysis Day
Position	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AM	1 AM	2 AM	I 3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
R_01	B-757-300	B-757-300					3-737-900WL AS PDX/SEA																			3-737-900 DL MSP/MSP	
R_02	B-757-300	B-757-300					B-737-90 DL MSP/MS																				B-737 Max 8 WN MDW/PDX
R_03	B-757-300	B-757-300					A-321 DL ATL/ATL																			A-321 DL ATL/ATL	
R_04	B-757-300	B-757-300					B-737-900WL AS SEA/SJD																				A-321 DL DTW/ATL
R_05	B-757-300	B-757-300					B-737-900WL AS PDX/HNL																				B-737-900 DL MSP/MSP
R_06	B-757-300	B-757-300					E175 AS STS/MRY																				B-737-900 UA SFO/DEN
R_07	B-757-300	B-757-300					B-737-900 AS EWR/OG	WL G																	A-321-NEO AA DFW/DFW		
R_08	B-757-300	B-757-300			hhh		1	37-900 UA K/DEN																			E175 AS TS/MRY
R_09	B-757-300	B-757-300				.,	A-321 DL DTW/ATL																				A-321 AA PHX/PHL
R_10	B-757-300	B-757-300					B-737 Max 7 WN STL/OAK																				AS BOS/OGG
R_11	B-757-300	B-757-300					B-737 Max 8 WN MDW/PDX																			U	7-900 JA R/IAD
R_12	B-757-300	B-757-300					B-737-800WL WN AUS/SMF																			A-320 AS SEA/SFO	B-737-9 AS PDX/
52	A-321-NEO	A-321														A-321 B6 JFK/JFK				A-3: G ² EUG/				A-321 B6 K/BOS			
53	A-321-NEO	A-321											320-NEO NK AS/LAS			l l r	1-NEO NK NOORD				A-320-NEO NK DFW/DFW			A-320 B6 FLL/FLL			
54	A-321-NEO	A-321												A-: E BOS	6	B-737-80 WS YVR/YV			Y	RJ-900 AC VR/YVR			E175 AC YVR/YVR				E175 AC YVR/
55	A-321-NEO	A-321								A-3 <mark>21-NEC</mark> NI /IAI	<mark>κ</mark>			A-320-NEO NK DTW/DTW		B-737-800 SY MSP/MSP			21-NEO NK S/LAS			B-737-800V WS YYC/YYC		A-320 B6 BOS/JFK			
56	A-321-NEO	A-321								E17:			A-321 F9 DEN/CVO		A-321 AC YYZ/YYZ		E175 AC YVR/YVR			B-737-800 SY MSP/MSP				A-320-NEO NK LAS/BWI		A-32 NK IAH/	21-NEO
57	B-757-200	B-757-200								A-3.	21 F9 UL			A-32 F9 CVG/E		-321 F9 6/AUS	B-737 N WS YYC/\						A-320-NEC NK BWI/LAS		A-3 F9 TUI	21	

2030 - Alternative 4

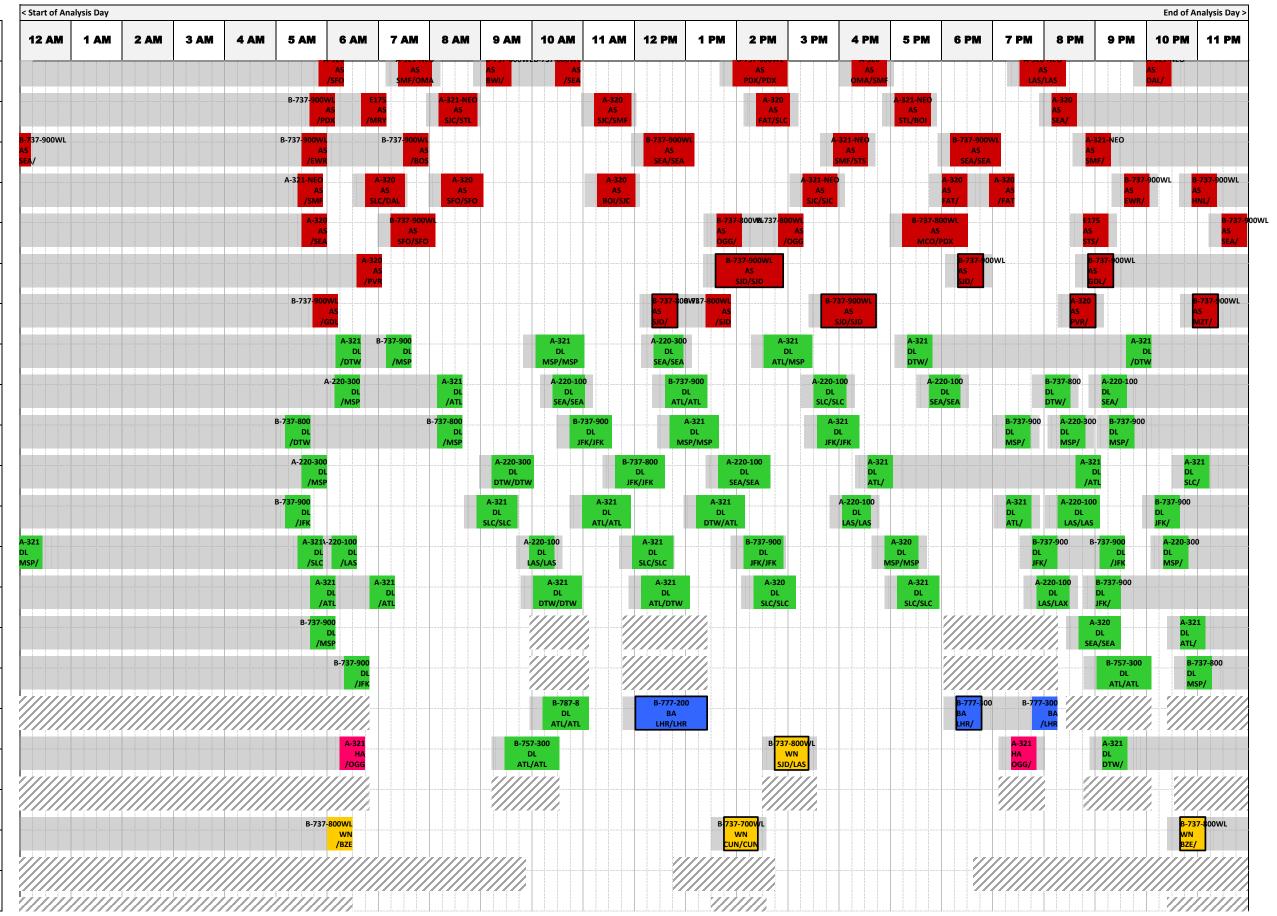
Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
1	B-737 Max 8	A-321	
2	B-737 Max 8	A-321	
3	B-737 Max 8	A-321	
4	B-737 Max 8	A-321	
5	B-737 Max 8	A-321	
6	B-737 Max 8	A-321	
7	B-737 Max 8	A-321	
8	B-757-200	B-757-200	
9	B-737 Max 8	A-321	
10	B-737 Max 8	A-321	
11	B-737 Max 8	A-321	
12	B-737 Max 8	A-321	
13	B-737 Max 8	A-321	
14	B-737 Max 8	A-321	
15	B-737 Max 8	A-321	
16	B-737 Max 8	A-321	
17	B-737 Max 8	A-321	
18	B-737 Max 8	A-321	
19	B-737 Max 8	A-321	
19	B-737 Max 8	A-321	
20	B-737 Max 8	A-321	

t of Analysis Day										Ι											End of A	Analysis D
AM 1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PN	4 5 PI	M 6 PM	7 PN	8 PM	9 PM	10 PM	11 P
					21-NEO AA /DFW		B-737-800 AA JFK/JFK			/37-800 AA A/DCA				A-321 AA HX/DFW				321-NEO AA CLT/CLT		A-321 AA JFK/OR		A-321 AA PHL/
				A-321-NEO		A-321 AA		A-321-	NEO	A	-321 AA					A-321-N AA	<u></u>		A-321 AA		1 A-3	21-NEO
				/DFW	A-321	/PHL	A-321		DFW	B-737-800	//DFW			A	-321-NEQ-3	ORD/OI	RD		PHL/ 37-800	/CL B-737-800	A-321	N/
					AA /CLT		A/ PHX/	PHX		AA PHL/PHL				A D	A FW/	AA /DFW		AA DF\		AA /JFK	AA JFK/	
				B-737-800 AA /CLT		7-800 AA /DFW			-321 AA K/JFK				A-321 AA RD/ORD				A-321 AA PHX/PHX			A-321 AA PHX/	A-321-NEO AA MIA/	
				A-321 AA /PHX		A-321 AA /ORD			A-321-NEO A- AA DFW/	321-NEO AA /DFW				A-321 AA ORD/PI				A-321 AA ORD/			A-321 AA MIA/	
				B-737-800 AA		1-NEO AA		B-737	A			A-321-NEO AA				AA				A-321 AA		
				/MIA		(/JFK \-321		A-321	ORD	A-321		DFW/DFW				B-737-800			B-737	-800 B-73	37-800	B-737-
				A-321		AA /JFK A-321	-NEO	AA CLT/CLT	A-321	AA PHX/PI	ıx		A-321	-NEO		AA DFW/DFW	A-321		AA MIA/	A-321	AA /MIA A-321	DFW/
				AA /PHL		A DFW/	A		AA PHL/ORE				DCA/	A			AA CLT/			AA /PHL	AA ORD/	
				B-737 Max 7 WN /SJC		OWL B WN SMF	-737-700WL WN LAS/ATL		-737-800WL WN SJC/MCO		737-800WL WN ATL/RNO		737-800WL WN 1CO/MDW		B-7 <mark>37-700</mark> WN SJC/SJ0		B-737-800 WN SMF/ST		١ ١	Max 8 B-737- VN AA /SFO CLT/	-800	
				В-	-737 Max 8 WN /PDX	B- <mark>737-7</mark> W SFO/	N	B-737-80 WN PHX/MI		B- <mark>737-700V</mark> WN TPA/SJC	VL	B-737-800 WN EWR/O		B-737 W	/N		37-700WL WN US/AUS		737-700WL WN PHX/RNO	B-737 WN MDW	7 Max 8	
				B-737- <mark>700V</mark>		00WL	B- <mark>737 Max</mark> 7 WN		- <mark>737-700W</mark> L WN		B- <mark>737-700W</mark> L	EWK/O/	B- <mark>737-700W</mark> WN		B-737-	700WL	B- <mark>737-800W</mark>		B- <mark>737-70</mark> WN	OWL B	-737 Max 7	
				/SI	B-737 Max 7	B- <mark>73</mark>	PDX/SJC 37-700WL	B- <mark>737-8</mark>		B- <mark>737-</mark> 8			SLC/SMF 7-700WL		OAK, 3-737-800W		B-737-800V	VL VL	DEN/A B- <mark>737 M</mark>	1x 7	<mark>TL/</mark> <mark>B-737-7</mark> 00WL	
				B-737-700V	/OAK		WN AL/DAL B-737-8	SMF/		W MKE/		OA	WN K/PHX B-737-8		WN BWI/SMF	B- <mark>737-800W</mark> L	WN SJC/SJC		WN SEA/TU		OAK/	7-700WI
					VN .	WN AL/OAK	SMF/	N	WN SMF/LA		WN LAS/L		PHX/I	N		WN DEN/DEN	WN PHX/OA			WN MF/PDX	WN EWR/	
				B-737	Max 7 WN /PHX	B- <mark>737-70</mark> WN SJC/L		B-737-800W WN AUS/DAL		B-737-800 WN LAS/SM		B-737-8 Wr DEN/E	N .	B-737- W SJC	/N		-800WL VN 5/MCI		7-700WL WN AL/SJC	B-737-8 W SJC/		
					B-73	7- <mark>800WL</mark> WN	B-737-800V WN		B-737-700WL WN		B- <mark>737-700</mark> WL WN		B-737-800 WN			7-700WL WN	B-737-80 WN			7-700WL WN	B-737 Ma WN	ax 7
				B-737- <mark>700</mark>	OWL WN	/SFO B-737-800 WN	DEN/ABO	-737 Max 7 WN	SAT/SFO B-	737-700WL WN	\$FO/MKE	3- <mark>737-700W</mark> L WN	SMF/SJ	-737-700WL WN	SF	O/SFO B-737-70 WN		B <mark>-737-700W</mark> WN		B-737-700WI WN	L B-737	7-800WL
					DEN B-737-	PHX/HC	<mark>B-737-800W</mark>	HOU/SMF	B- <mark>737-700</mark> WL	DAL/PHX	B- <mark>737-700W</mark> L	OAK/SMF	B- <mark>737-70</mark>	SAT/BOI		PHX/0 B-737-800WL	DAK	OAK/OAK		OAK/PHX -737-700WL	BWI/	
				WN /AUS	LAS	'LAS	WN OAK/STL		WN SFO/MSY		WN LAS/LAS	and process	WN SFO/SI	FO		WN MSY/SAT	TUS	VN 5/LAS		WN SFO/DEN	WN BNA/	'
				B-737-800	<mark>WN</mark>	B-737-700 WN OAK/DA		737 Max 7 WN EA/OAK		737-800WL WN TUS/OAK		B-737-700WL WN IND/TUS		B-737 Max 8 WN STL/SJC		B-737-8 WN LAS/L		B-737-700 WN SMF/AB		B-737-800 WN LAS/OA	AK OA	K/
				B-737- <mark>700V</mark> W /EW	VN \	-800WL VN K/SAT	B-737-700WI WN PHX/SMF		B-737-800W WN BNA/IND		B-737- W MDW	'N		37-700WL WN JC/DEN		B-737 Max 8 WN MKE/DAL		737-700WL WN RNO/AUS	<u> </u>	3-737-800WL VN LUS/	B. W	-737 Ma /N FO/
				B-737 Max	8 B- <mark>737-80</mark>	OWL B	-737-800WL WN		B-737-800WL WN		B-737-800 WN	WL		700WL		3- <mark>737-700WL</mark>	B-73	7-700WL WN		37-700WL WN		700WL
				/SF(B-737 Max	O DEN/B		MCI/EWR B-737-	700WL	MDW/BWI	87-700WL	PHX/DEI		BWI/	PDX		SMF/PHX B-737-	PE	DX/PDX B-737-7		ICI/OAK B- <mark>737-70</mark> 0	ABQ/	37 Max 8
				/L		WN MF/PHX		/N /SJD	1 : :	WN O/SFO		WN SMF/SJC		WN LAS/OAK		SJC/N		WN SJC/P		WN SMF/SN		

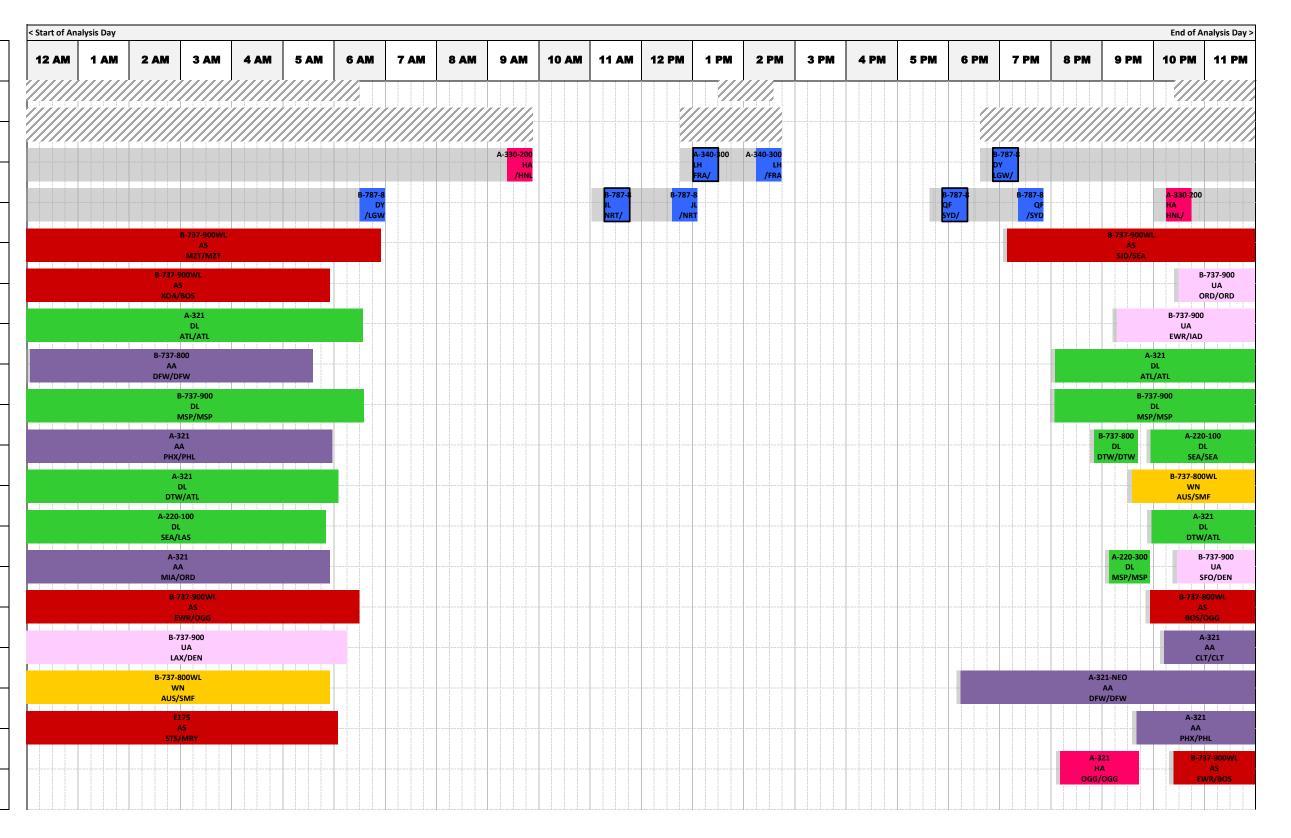
Position	Max Wingspan	Max Length	Depend
rosition	Acrft	Acrft	Group
21	B-737 Max 8	A-321	
22	B-737 Max 8	A-321	
23	B-737 Max 8	A-321	
24	B-737 Max 8	A-321	
25	B-737 Max 8	A-321	
26	B-737 Max 8	A-321	
27	B-737 Max 8	A-321	
28	B-737 Max 8	A-321	
29	B-757-200	B-757-200	
30	B-757-200	B-757-200	
31	B-737 Max 8	A-321	
32	B-737 Max 8	A-321	
33	B-737 Max 8	A-321	
34	B-737 Max 8	A-321	
35	B-737 Max 8	A-321	
62	B-737 Max 8	A-321	
36	B-737 Max 8	A-321	
37	B-737 Max 8	A-321	
38	B-737 Max 8	A-321	
39	B-737 Max 8	A-321	
40	B-737 Max 8	A-321	

Start of Anal	ysis Day						Ι		1												ı	End of A	nalysis Day
12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PN	7 PM	8 PM	9 PM	10 PM	11 PM
					B-737- <mark>700W</mark>			37-700WL WN	B-	737-800WL WN	B-737-7			7-700WL WN	E	3- <mark>737-800W</mark> L WN		7-700WL WN	В-	737-700WL WN	B-7	737-800WL N	
					/SN B-737 Ma		MCI RI B- <mark>737-700W</mark> L	NO/DEN	737-800WL	DEN/SJC B-737-	SJC/		737 Max 7	IC/SLC	-737-800WL	DAL/DAL	D <mark>E</mark> B- <mark>737-800W</mark>	N/SMF	-737-700WL	LAS/LAS	1A.	<mark>S/</mark> B-737-8	000//
						WN	WN LAS/SEA		WN DAL/DAL	W BWI	'N		WN PDX/BWI		WN MDW/DAL		WN HOU/HOU		WN SFO/SFO		WN U/HOU	WN SFO/	OOVE
					B-737	-900 UA	B-737-9	000 UA	B- <mark>737-700W</mark> L		B-737-900 UA		B- <mark>737-7</mark> WI		B-737-80		B- <mark>737-70</mark>			7-800WL WN	B-73		737 Max 8
					B-737-900	BOS	/D B-737-900	EN	LAS/LAS	B-737-9	IAD/IAD		-737-900	<mark>SMF</mark>	DAL/P B-737-9		OAK/S	<mark>SJC</mark>	OA B-737	K/OAK	ORE	D/ DI	EN/ B-737-900
					UA /EWR		UA /IAD			UA EWR/EV			UA AH/ORD		UA IAD/IA				U/ IAD/	١		UA	UA DEN/
737-900 A					B-737-900 UA		B-737-90 U			B-737			B-737-900 UA				B-737-900 UA		B-73		B-737-9 UA	900 B-737-900 UA	
0/					/ORD	D 727 000	/OR		B-737-900	IAH/I		B-737-900	ORD/ORD		B-737-900		DEN/DEN			ORD .	IAD/	/IAD B-737-9	
					B-737-900 UA /SFO	B-737-900 UA IAD/IAD			UA SFO/IAH			UA ORD/IAH			UA IAH/SFO				UA SFO/SFO	UA	,00	UA IAH/	
						В-7	737-900 UA		B-7	737-900 UA		B-737-900 UA		B-737-9 UA				E175 UA		B-737-900 UA	B-737-90		
							/IAH			RD/ORD		SFO/DEN		IAD/IA	AH			DEN/DEN		DEN/	/ORI	D ORD/	
						A-320 UA /ORD	U		B-737-900 UA /SFO		37-900 UA D/ORD			B-737-900 UA SFO/SFO			B-737-900 UA SFO/SFO			-320 UA S/BOS		B-737-900 UA EWR/	B-737-9 UA SFO/
						B-737-	900 UA		B-737			A-320 UA		В-	737-900 UA				B-737-9 UA	00	B-73 UA	87-900 B-	737-900
						/	SFO		DEN/	DEN .		IAD/IAD		OI	RD/DEN				IAH/EV		SFO	/ Bo	os/
							A-320 UA /IAH			B-737-900 UA SFO/SFO		B-737-900 UA DEN/SFO			E175 UA DEN/DEN			B-737-900 UA ORD/SFO		B-737-9 UA EWR/	00 B-7	'37-900 A-32 UA UA /EWR IAH/	
						E175 AC						-321 B6	B-737 Max 8						E175 AC			E175 AC	
						/YVR					JF	K/JFK	YYC/YYC						YVR/YVR			YVR/	
										A-320 B6 BOS/BOS		B-737-800WL WS YVR/YVR			CRJ-90 AC YVR/YV				A-321 B6 JFK/BO				
										A-3:			E175 AC				В	3-737-800WL WS		320 6			
										YYZ/	YYZ		/R/YVR					YYC/YYC	FLL	/FLL			
						A-321 F9 /TUL			A-321 F9 DEN/CVG		F9 AUS/AUS					G4 EUG/EUG				A-320 B6 DS/JFK	A-321 F9 TUL/		
					Α-	-3 <mark>21-NEO</mark> NK				20-NEO		A-321-NE	0			7-800 SY			A-320 N				
						/IAH			DTV	V/DTW		ORD/ORI	<mark>></mark>		MSP	/MSP			LAS/				
								A-320-NI NK LAS/LA		F9 CVG/DEN		37-800 SY P/MSP		A-321-NI NK LAS/LA			NK FW/DFW		A-320-NEO NK BWI/LAS			A-321-NEO NK IAH/	
					A-	3 <mark>21-NEO</mark>		A-320 AS		E175				A-321-N AS			1-NEO			-320 AS		A-320	
						/SJC		MCI/AUS		MRY/F				MSP/AI		AUS	S/MCI		SJO	C/SJC		SFO/	
						B-737-900WL AS /HNL	B-737- <mark>900W</mark> A /MZ	ls	-737-800WL AS PDX/KOA				A-321-NE AS SFO/SFO			B-737-900 AS SFO/SF0			B-737-800WI AS PDX/PDX			B-737-900WL AS KOA/	
					B-737	-900WL	B-737-9			B-737-90				B-737-9 AS			_	737-900WL AS		B-737	800VBL737- <mark>80</mark>	0WL B-737	-900WL
						/EWR		/OGG		SFO/S				SEA/S			_	SLC/SLC		OGG/		'BWI LIH/	
						B-737- <mark>900W</mark> A /SJ	S		-737-900WL AS SEA/SEA							B-737-900W AS SEA/SEA						B-737-9 AS PDX/	00WL
					В	737- <mark>900WL</mark> -7	37 <mark>-900WL</mark>	B-737	-800WL				A-320						1-NEO		B-737-800W	/LB	737- <mark>9</mark> 00WL
						AS /LIH	/SEA		AS /MCO	VL B-737 <mark>-800WI</mark>			AS ABQ/MSP						AS D/SFO	O-NEO	BOS/	AS EN	WR/

Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
41	B-737 Max 8	A-321	
42	B-737 Max 8	A-321	
43	B-737 Max 8	A-321	
44	B-737 Max 8	A-321	
45	B-737 Max 8	A-321	
46 - IAF	B-737 Max 8	A-321	
47 - IAF	B-737 Max 8	A-321	
48	B-737 Max 8	A-321	
49	B-737 Max 8	A-321	
50	B-737 Max 8	A-321	
51	B-737 Max 8	A-321	
52	B-737 Max 8	A-321	
53	B-737 Max 8	A-321	
54	B-737 Max 8	A-321	
55 - IAF	B-757-200WL	B-757-300	
56 - IAF	B-757-200WL	B-757-300	
56A - IAF	B-747-400ER	B-777-300ER	
57 - IAF	B-757-200WL	B-757-300	
57A - IAF	B-747-400ER	B-777-300ER	
58 - IAF	A-321-NEO	A-321	
59 - IAF	A-321-NEO	A-321	



Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
59A - IAF	B-747-400ER	B-777-300ER	
60 - IAF	A-321-NEO	A-321	
60A - IAF	A-330-300	A-330-300	
61 - IAF	B-747-400ER	B-777-300ER	
R_01	B-757-300WL	B-757-300WL	
R_02	B-757-300WL	B-757-300WL	
R_03	B-757-300WL	B-757-300WL	
R_04	B-757-300WL	B-757-300WL	
R_05	B-757-300WL	B-757-300WL	
R_06	B-757-300WL	B-757-300WL	
R_07	B-757-300WL	B-757-300WL	
R_08	B-757-300WL	B-757-300WL	
R_09	B-757-300WL	B-757-300WL	
R_10	B-757-300WL	B-757-300WL	
R_11	B-757-300WL	B-757-300WL	
R_12	B-757-300WL	B-757-300WL	
R_13	B-757-300WL	B-757-300WL	
R_14	B-757-300WL	B-757-300WL	



2035 - No Project

	d of Analysis Day >	End of																						ysis Day	< Start of Anal					
1 1 257 15		10 PM	9 PM	8 PM	7 PM	PM :	РМ 6	5 P	4 PM	3 PM	2 PM	1 PM	12 PM	11 AM	10 AM	9 AM	8 AM	7 AM	6 AM	5 AM	4 AM	3 AM	2 AM	1 AM	12 AM		_		Position	Terminal
Part	7 Max 7 B-737 Max 8																									Group			10	1
1 277	DEN/	STL/			FO/SFO	MF S	DEN	DAL		SJC/DEN	IF/SMF	SN			DAL	AUS/	RNO/DEN	ELP/ELP	/PHX								A-321	D-737 IVIAX O	14	1
1 2 \$77 Mod \$77 Mo		WN OAK/	WN	,	WN		WN	V		WN	В		WN		WN	WN	WN	WN	B-								B-737-Max9	B-737 Max 8	1	1
1 2 5-77 Mark 10-77 Mar	B-737 Max 7 WN ABQ/		WN		WN	WN			WN	E	WN		WN	L	WN		WN	wn wn	WN 1								B-737-Max9	B-737 Max 8	2	1
1 0 0777 Mars 6 5777 August 1				WN		WN		WN	ı w	W	WN		WN	VN		WN	WN	WN	WN	B-737							B-737-Max9	B-737 Max 8	3	1
1 5 6-77-200 6	L B-737 Max 7 WN PDX/	WN V	WN			WN	WN	W	WN		WN		WN	WN	WN		<mark>/N</mark>	WN W	WN	B-737							B-737-Max9	B-737 Max 8	4	1
1 0 DC 10 97 D	lax 8 B-737 Max 7 WN	B-737 Max 8 WN	8-737 Max 8 WN	WL B	B-737-800\ WN		B- <mark>737 Mar</mark> WN		DWL .	B-737-80 WN	- Land	B- <mark>737 Max</mark> 7 WN	SIVITYSI	B <mark>-737-700W</mark> L WN	, , , , , , , , , , , , , , , , , , ,		B <mark>-737-800\</mark> WN	- <mark>737-800W</mark> L WN	3 <mark>7 Max 7</mark> B	B-7							B-757-200	B-757-200	5	1
To Post Po	SFO/ B-737-800WL WN	737-800WL	B-7	B <mark>-737-800W</mark> L			'Max 7 B-) 	7-800WL		B- <mark>737-800W</mark> L		L B-737			B- <mark>737-8</mark>	B-737-800WL		B-737							DC-10-30	DC-10-30	6	1
The color of the	B-737 Max 8	AS/OAK	B-737-800WL	-800WL			B <mark>-737-800</mark>	SMF/		B-737 I	SI	37-800WL			B- <mark>737-80</mark>	800WL	B-737	B <mark>-737-700W</mark>		B-73										
Part	PHX/ DWL B-737 Max 7	<mark>B-737-800WL</mark>	SMF/PDX	<mark>/РНХ</mark> В- <mark>737 Мах</mark> 7	SJC/	B-737-800W	AUS/Mo	B-7	SJC 8-737 Max 7	STL/		<mark>DW/HOU</mark> 7-700WL		737-800WL	SAT/SF	/STL B <mark>-737 Ma</mark> x	OAI	SMF/PHX 737-800WL B	7 Max 7 B-	B-73									,	
1 9 A 321-NEO D-727-Max9 D-727-Max	WN OAK/	WN SJC/LAS	3-737-800WL	PHX/RNO	800WL	SJC/SJC	HOU/HOU		SMF/LAS	37-800WL	'-800WL B-7	IS/LAS		BWI/TPA		HOU/SM	SFO/SFO	DEN/BNA	/BWI C	B-737							B-767-300	B-767-300	8	1
1	WN EWR/		SJC/SMF		/N	TUS,	PHX/OAK	I MF	WN BWI/SN	FO/SFO	R/OAK S	EWI	WN KE/MKE	SY N	SFO/M	WN SMF/PHX	WN X/HOU	PH	WN								B-737-Max9	A-321-NEO	9	1
1 1 4 A-321-NEO B-737-Max9 B F737-Max9 B F737-Max9 B F737-Max9 B F737-Max8 B A-321-NEO B F737-Max8 B B-333-Max B B	B-737-800WL WN BWI/		WN				W	WN		WN	/L	WN		W	WN	WN	WN	WN									B-737-Max9	A-321-NEO	10	1
1 12 A-321-NEO B-737-Max8 B-737-Max		L	WN			WN	WN			WN		N	1 1 1		WN	WN	WN		WN	B-73							B-737-Max9	A-321-NEO	11	1
1 13 A-321-NEO A-321-NEO	B-737-800WL WN SFO/	/N	W	WN	WN		WN	W		N	V	WN	WN	u l	w	VN	١ ١	WN	WN								B-737-Max9	A-321-NEO	12	1
1 14 A-321-NEO A-321-NEO NK	B-737-800WL WN BNA/		WN	NK		4	WN	WN		WN	WN		N		WN		WN	WN	WN	B-737-							A-321-NEO	A-321-NEO	13	1
1 15 B-737 Max 8 A-321-NEO	A-321-NEO NK	NK NK			A-320-NEO NK		0-NEO NK	A-320 Ni		-NEO K	A-32				A-320-NEO NK	D-NEO	A-32	D K	A-3 <mark>21-NEC</mark>								A-321-NEO	A-321-NEO	14	1
1 16 B-757-200 B	E175 AC	1AH/ 21 E	A-37 F9		A	7-800WL WS	В-7	-320 G4	G	'LAS	LAS	AC		F	A-321	A-321	LAS	21 F9	A-3:								A-321-NEO	B-737 Max 8	15	1
1	A-320 B6	A	TUL	/BOS	E175	/c/YYC		S/EUG	E175		(8	B-737 Max	A-321	1	A-3	DEN/CVG		T	/т									P 757 200	16	
YYZ/YYZ	FLL/	B-737-800W							VR/YVR	Y			JFK/JFK B-737-800	A-321	BOS/			/FLL	NEO	A-3 <mark>21-</mark>							B-737-200	B-737-200		
	DOWL	AS BOS/ B-737-900WI		FLL/FLL					B-737-800				YVR/YV	YZ/YYZ				5	AS EWR E17	/!							A-321-NEO	B-737 Max 8	17	1
/YVR MSP/MSP MSP/MSP BOS/JFK EWR/		AS EWR/		В6					SY				SY	/VR	A(YVR/			C R	A(/YVI								A-321-NEO	B-737 Max 8	18	1
2 20 A-321-NEO B-737-900WL B-7	VL B-737-900WL AS AS VI LIH/	AS /BWI	-/5/-900WIB-7 AS DGG/	DX	B-737-90 AS PDX/P	SUUWL \S /SLC	B-73	AS FO/SFO	B-/3	AS /OGG	737-800WIB-7 S GG/	B. Q			8-7 S	S FAT	AS A	A-320 B-737- AS /MRY	AS /EWR								B-737-900WL	A-321-NEO	20	2
2 21 A-321-NEO B-737-900WL B-737-900WL	37-9 <mark>00WL</mark>	B-737-1 AS KOA/	A-320 AS STS/		A-320 AS /FAT	A-320 AS FAT/		E175 AS SOI/BOI	ВС		AS			-320 AS RY/FAT	M	20 S SFO	A-S A SFO	AS AS /HNL /SEA	900WL3-737-9 AS /PDX	B-737-							B-737-900WL	A-321-NEO	21	2
2 22 DC-8-55 B-747-400ER A-321-NEO A-321-NEO AS	B-737-900WI AS EWR/	3-737-800 AA CLT/	NEO	A-321 AS SEA/			AS	AS	A	320 IS /SLC	A. FA		AS			5	A-321-NI AS MCI/AU	A-321-NEO AS SLC/DAL	-3 <mark>21-NEO</mark> AS /SFO	A							B-747-400ER	DC-8-55	22	2
2 23 B-757-200 B-757-200 B-757-200 A-321 A-321 B-737-800 A-321 A-3	A-321 AA ORD/	321 A-3	A				AA			AA			IA		AA		AA		AA								B-757-200	B-757-200	23	2

					< Start of Ana	., 5.0 = 4 7								
Terminal	Position	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	<u> </u>	M
	24	B-767-300ERWL	B-787-9								NEO A-321-N AS SMF /S	AS	900WL AS /BOS	
2	25	B-757-200	B-757-200									A-321 AA /PHL		
	26	B-757-200	B-757-200		A-321-NEO AS SEA/					A-32:	-NEO B-73 AS /SEA	7-900WL AS /SJD	B-737 <mark>-900</mark> /O	AS GG
	27	B-757-200	B-757-200							A-32	1-NEO AA /DFW	AA	AS IF/OMA	
	28	B-767-200	B-767-200							B-7	37-800WL AS /BOS		7-900WL AS O/SFO	
	29	DC-10-40	DC-10-40								A-321 A-33 AA A /PHL /OF	AA AA		A-321 A SJC/
	30	B-757-200	B-757-200							B-737-800 A/ /CL		00WB-737-800 AS AA /LIH /DFW		
	31	MD-11	MD-11								A-321 AA /PHX	A-32 A /OR	A	B-
	32	B-757-200	B-757-200							B- 737	-800 AA MIA	A-321-NEO AA JFK/JFK		
	33	B-757-200	B-757-200							B-737	-900 B-1	737-900 UA AD/IAD		
	34	A-321-NEO	A-321								B-737-900 UA /BOS	В-	737-900 UA /ORD	
	35	B-757-200	B-757-200								A-320 UA /ORD			
	36 - IAF	B-737-Max9	B-757-200							B-737		A-320 AS /PVR		
	37 - IAF	B-757-200	B-757-200								7-900WL AS /GDL	A-320 UA /IAH	B-737 UA SFO/	
	38	B-757-200	B-757-200		B-737-900 UA SFO/						-900 UA ORD	B-737-900E UA /IAH		
	39	B-757-200	B-757-200										B-737	
	40	A-321-NEO	B-737-900WL							В	737-900 DL /MSP	B-737-900 UA /SFO		
	41	A-321-NEO	B-737-900WL								0-300 A-3	21 DL		
	42	B-757-200	B-757-200							B-737-800 D /DTW			B-7	37-80 D MS
	43	B-767-300	B-767-300							B-737-900 D /JFI)			
	44	B-757-200	B-757-200		A-321 DL MSP/					A	-321A-220-30 DL D /SLC /LA	L		
	45 - IAF	B-757-200WL	B-757-300											
	46 - IAF	B-757-200WL	B-757-300									////	113	

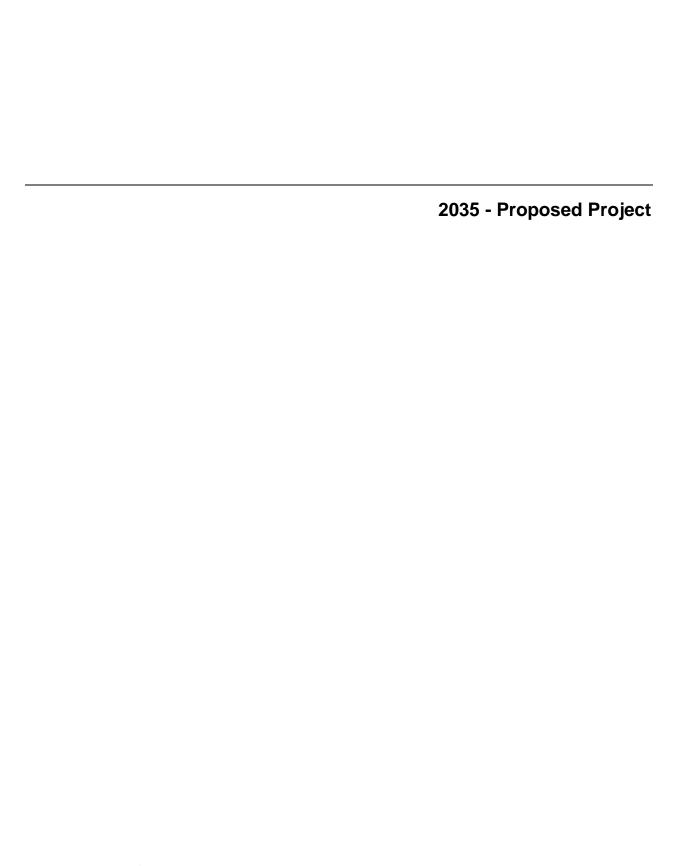
12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM 2	PM 3	PM 4 PI	И 5 РМ	6 PM	7 PM	8 PM	9 PM	10 PM	11 PN
						NEO A-321-NEO	B-737 <mark>-9</mark>		3-737-900WL			A-321-	NEO	A-321-NE0		A-321-NEO		A-321-NEO	A-320-NEO		7-900WL A-321	
					/5	AS AS	A-321	/BOS	AS SEA/MCO	B-737-800	B-737-800	AS SEA/S		AS MSP/ABC		AS OMA/SMF	-321-NEO	AS SFO/SFO	AS LAS/LAS	BOS,	A-321	B-737
							AA /PHL			AA ORD/ORD	AA DCA/DCA		AA DFW/DFW				A FW/				AA JFK/ORD	AA DFW,
-321-NEO S EA/					A-321	-NEO B-737-S AS /SEA	AS /SJD	-737-900WL AS /OGG	B-737-900W AS PDX/KOA		A-321-NI AS SJC/SM		A-321-NEO AS SFO/SFO		A-321-NEO AS SJC/SJC	A-321 AS STL/			A-321-NEO AS SJC/SJC		A-321 AA CLT/	B-737- AS HNL/
								AS F/OMA	A-3 A CLT/	Α	B-737-800 AA PHL/PHL				A-321- AA DFW/	NEOA-321-NEO AA /DFW				A-321 AA PHX/	A-321-N AA MIA/	EO
					B-73	7-800WL AS /BOS		-900WL AS D/SFO	A-321-NEO AS SEA/SEA		A-321-N AS BOI/S.		A-321-NEO AS ABQ/MSP	A-321-NI AS SEA/SE	A	-NEO S /STS		-321-NEO AS SEA/SEA		A-321-NE AS SMF/	O A-321-N AS DAL/	EO
						A-321 A-321 AA AA /PHL /ORD	A-321 AA /JFK	A-321 A SJC/	5	A-321-NEO AA DFW/DFW		A-321 AA FW/DFW			A-321 AA ORD/PHX			E175 AA PHX/PHX		B-737-800 AA MIA/	B-737-800 AA /MIA	A-321-NE AA DFW/
					B-737-800 AA /CLT		WE-737-800 AS AA IH /DFW			00WL B-737 <mark>-90</mark>				A-321 AA PRD/ORD		A-321-NEO AS AUS/MCI	A-3 A/ PHX/	21 A	A-321 AA DFW/		A-321 B	-737-9 <mark>00WL</mark> S
					,	A-321 AA	A-321		737-800 AA		-321 AA			A-321		EG9/N/CI	PHA	A-321 AA	-100/	A-321 AA	A-321 AA	A-321 AA
					B-737-	AA	/ORE 321-NEO AA	ı J	A-321-NEO AA		O A-321-NEO			DCA/	DCA	A-321		A-321-NEO		/MIA A-321 AA	AA A	-321 A
					B-737-				PHX/PHX B-737-9 UA	00 E	/DFW 3-737-900 UA				B-737-900 UA	ORD/	B-737-900 UA	CLT/CLT		PHL/ B-737-900 UA	A-321 B	-737-900 A
					/	SFO IAD, B-737-900	'IAD	37-900	SFO/IA	B-737-900	IAH/IAH		B-737-900	B-737-90	IAH/SFO	B-737	ORD/SFC			EWR/ B-737-900	ORD/ IA B-737-900	AH/ A-320
						UA /BOS A-320	B-737-	/ORD		UA ORD/ORD B-7	737-900	B-737-9	UA IAH/ORD	UA IAD/IAH	175	SFO/ B-737-900	SFO			UA EWR/ 737-900 B	UA /EWR -737-900 B-73	IAH/
					B-737-	UA /ORD		UA IAD	B-737 Max 7		UA /R/EWR	UA DEN/S		DE	UA N/DEN <mark>800V</mark> /L	UA DEN/DEN	E175	D.	737-900		UA UA /ORD EWI B-737-900	R/ S B-737-9
					/E	UA :WR	AS /PVR		WN SJD/SJD	UA SFO/SF	-o	AS SJD/	AS /SJD	V	/N /LAS		UA DEN/DEN	SF	UA O/SFO	AS PVR/	UA SFO/	UA BOS/
					B-73	7-900WL AS /GDL	A-320 UA /IAH	B-737-900 UA SFO/	B-737-900 UA /SFO	B-737-9 UA IAD/IA		A-320 UA IAD/IA		AS SJD/SJD	B-737-S A! SJD/		B A S.	-737-900WL A .S H JD/ C	-321 A IGG/	B-737-90 AS GDL/	OWL	B-737- AS MZT/
-737-900 A FO/					B-737-	900 UA DRD	B-737-900B- UA /IAH	737-900 UA /DEN			B-737-900 UA ORD/ORD	B-737-9 UA SFO/DE			B-737-900 UA IAD/IAD				B-737-900 UA ORD/ORD		B-737-900 B-73 UA IAD/	7-900 UA /IAD
								B-737-900 UA /IAD		-737-900 UA DEN/DEN	B-737-90 UA IAD/IAD		B-737-900 UA ORD/ORD		7-900 JA /DEN				A-320 UA BOS/BOS	A-32 DL DTW	U	-320 A RD/
					B-7	737-900 B DL /MSP	-737-900 UA /SFO		A-220-100 DL LAS/LAS	A-220-300 DL LAS/LAS			-737-900 DL ATL/ATL	B-737-900 UA SFO/SFO	A-320 DL SLC/SLC				3-737-900 UA IAH/EWR	A-320 DL SEA/SEA	B-7 UA	
					A-220	0-300 A-321 DL DL /MSP /DTW				A-32 DL DTW/D		A-321 DL ATL/DT		A-320 DL SLC/SLC		20-300 DL S/LAS			B-737-900 UA IAD/LAX	A-22 DL SEA/	0-300 B-737- UA SFO/	900 B-737 UA DEN/
					B-737-800 DL			B-737-80 D	L I	A	i-320 DL	A-321 DL	A-	220-300 DL		A-320 DL		A-220-300 DL	B-737-900 DL	B-737-9	00 B-737 DL DL	<mark>-9</mark> 00
					/DTW B-737-900 DL			/MS	P	SEA	B-737-900 DL	SLC/SLC	A-321 DL	EA/SEA			321 DL	SEA/SEA	JFK/ A-220-300 DL			2 <mark>20-3</mark> 00
A-321 DL					/JFK	321A-220-300 DL DL			A-22	D-300 DL	JFK/JFK	B-737-800 DL	DTW/ATI	A-3			/SLC A-220-300 DL	A-: DL	LAS/LAX	DL JFK/ -220-100 DL	B-737-900 UA	A-321 DL
MSP/		/////	//////	/////		DL DL /SLC /LAS			DTW,		//////	JFK/JFK	A-321	ATL/	MSP A-321		SEA/SEA	AT		AS/LAS	ORD/	SLC/
							////	1///	DL SLC/SLC	1111			DL MSP/MSP		DL JFK/JFK			1				A-321
										////		7					///.	////				DL ATL/

	1		Τ	,
Terminal	Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
2	46A - IAF	B-747-400ER	B-777-300ER	
2	47 - IAF	B-757-200WL	B-757-300	
2	47A - IAF	B-747-400ER	B-777-300ER	
2	48 - IAF	B-747-400ER	B-777-300ER	
2	49 - IAF	A-321-NEO	A-321	
2	50 - IAF	A-321-NEO	A-321	
2	50A - IAF	A-330-300	A-330-300	
2	51 - IAF	B-747-400ER	B-777-300ER	
zRemote	R_01	B-757-300	B-757-300	
zRemote	R_02	B-757-300	B-757-300	
zRemote	R_03	B-757-300	B-757-300	
zRemote	R_04	B-757-300	B-757-300	
zRemote	R_05	B-757-300	B-757-300	
zRemote	R_06	B-757-300	B-757-300	
zRemote	R_07	B-757-300	B-757-300	
zRemote	R_08	B-757-300	B-757-300	
zRemote	R_09	B-757-300	B-757-300	
zRemote	R_10	B-757-300	B-757-300	
zRemote	R_11	B-757-300	B-757-300	
zRemote	R_12	B-757-300	B-757-300	
zRemote	R_13	B-757-300	B-757-300	
zRemote	R_14	B-757-300	B-757-300	
zRemote	R_15	B-757-300	B-757-300	

Start of Anal	ysis Day		ı	1			1	1			Time					1					End of	Analysis Day
12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM 1 PM	4 2 PM	3 PM	4 PM	л 5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
						3-787-8 DL					B-787-8 DL		//.				-787-8 L		A	-220-300 L	B-787-8 DL /DTW	
/////	/////	//////	/////	/////	/////	DL /ATL	////				ATL/ATI	A-220-300	B <mark>-737-700W</mark> 1				L TW/	11//	N	L ISP/	/DTW	<mark>B-737-8</mark> 00\
												DL SEA/SEA	WN CUN/CUN						//2:			B-737-800\ WN BZE/
						A-220-300 DL /MSP	A-321 DL /ATL	B-787-8 DL /ATL		B-787 DL ATL/				a I I I		B-787-8 DL ATL/		B-7	87-8 P/	B-787-8 DL /ATL		
						A-321 B-7 DL /ATL /I	87-8 DY .GW		A-330-	200 HA HNL	B-787- JL NRT/	8 B-787-8 JL /NRT					B- BA	777-300 R/	B-777-300 BA /LHR			
						B-737 <mark>-800WL</mark>	- CW			/////	NKI/			<u>/</u>					////	/////		B-737-80 DL MSP/
						WN /BZE A-321												7////				MSP/
						/OGG					<u> </u>			<u> </u>						1.////		
										B-787- DL MSP/M:		A-34 LH FRA	10-300 A-340 /	LH FRA				B-787-8 DY LGW/	B-737 DL DTW/	В- АТ	-787-8 DL FL/ATL	
						B-737-90 C /JF	00 B-787-8 DL DL K /MSP			B-787-8 DL ATL/ATL		B-777-200 BA LHR/LHR		87-8 DL /JFK			B-787-8 QF SYD/	В	787-8 B- QF DI /SYD A1	787-8 B-7 DL L/ MS	737-900 A-3 . HA SP/ HN	330-2 <mark>00</mark>

Terminal	Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
zRemote	R_16	B-757-300	B-757-300	
zRemote	R_17	B-757-300	B-757-300	
zRemote	R_18	B-757-300	B-757-300	
zRemote	R_19	B-757-300	B-757-300	
zRemote	R_20	B-757-300	B-757-300	
zRemote	R_21	B-757-300	B-757-300	
zRemote	R_22	B-757-300	B-757-300	
zRemote	R_23	B-757-300	B-757-300	
zRemote	R_24	B-757-300	B-757-300	
zRemote	R_25	B-757-300	B-757-300	
zRemote	R_26	B-757-300	B-757-300	
zRemote	R_27	B-757-300	B-757-300	
zRemote	R_28	B-757-300	B-757-300	
zRemote	RWB_01	A-330-300	A-330-300	
zRemote	RWB_02	A-330-300	A-330-300	
zRemote	RWB_03	A-330-300	A-330-300	
zRemote	RWB_04	A-330-300	A-330-300	

art of Analys	sis Day		1							1	ı				ı				1			End of A	Analysis [
2 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 F



					< Start of Ana	lysis Day																					End of A	Analysis Day >
Terminal	Position	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
1	1A	B-737 Max 8	A-321								B-73 <mark>7 Max 7</mark> WN /PHX	B-737 Max 7 WN ELP/ELP	B- <mark>737-800W</mark> L WN RNO/DEN	B- <mark>737-8</mark> WI AUS/	N .	B-737-800\ WN TUS/OAK			737-700WL WN SMF/SMF	B-737 Max WN SJC/DEN	WN		B- <mark>737 Max</mark> 7 WN DEN/SMF	B-737-800WL WN SFO/SFO			B-737 Max WN STL/	x 7 B-737 Max WN DEN/
1	1	B-737 Max 8	B-737-Max9								В-7	737 <mark>-800WL</mark> B-7 WN /SMF	737-700WL WN SJC/LAS	B-737-800WL WN SJC/SJD	B-737-800WI WN DEN/SJC		B- <mark>737-80</mark> WN LAS/L/			B- <mark>737-800</mark> WL WN PHX/PDX		B-737 Max WN MKE/DAL	3	B- <mark>737-800WL</mark> WN RNO/AUS		7 Max 7 VN I/TUS	B-737-700 WN OAK/	owL
1	2	B-737 Max 8	B-737-Max9										OWL B-737 Ma	3 <mark>x</mark> 7	B-737-800V WN SJC/MCO		B-737-800W WN ATL/RNO		B- <mark>737-800W</mark> L WN SJC/SLC		B-737-700WL WN SJC/SJC		B- <mark>737-8</mark> WN LAS/F	w	Max 8 N	B-737-800W WN SFO/DEN	L E	B-737 Max 7 WN ABQ/
1	3	B-737 Max 8	B-737-Max9									3-737-700WL WN LAS/LAS		B-737 Max WN SEA/OAK	7 B- <mark>73</mark>	7 Max 7 WN MF/LAS	B-737-800WL WN SJC/AUS		B-737-800 WN MCO/MD	w	800WL B-737-7	u III	B-73	7-800WL B- WN	737-700WL WN DAL/SJC		B-737-800W WN LAS/	νL
1	4	B-737 Max 8	B-737-Max9							B-737	Max 8B-737 N WN	Max 7 B-737 WN V	Max 8 VN /DEN	B-73	7-800WL WN K/MDW	B-737-800\ WN DAL/PHX	WL B-737-800 WN		B-737-800WL WN OAK/PHX	В	-737-800WL WN DAL/PHX	B-737-800WI WN MSY/SAT	B-737 V	800WL /N	B-737	WN	37-700WL B-7 WN WN MF/SMF PD	'N
1	5	B-757-200	B-757-200							B-73	3 <mark>7 Max 7</mark> B-	- <mark>737-800W</mark> L WN OAK/SJC	B-737-800\ WN LAS/ATL	WL .		B-737-700WI WN SFO/SFO		B-737 Max 7 WN PDX/BWI		B-737-8 WN SAT/E	00WL	B- <mark>73</mark>	7 Max 7 WN AK/SJC	B-737-800 WN OAK/OA	DWL B-	-737 Max 8 WN	B-737 Max 8 WN MDW/	B-737 Max WN SFO/
1	6	DC-10-30	DC-10-30							B-737		B-737-800WL WN PHX/SAT	B-737-8 W	BOOWL N	B- <mark>737-800\</mark> WN OAK/DEN	VL B-73	7-800WL WN S/SMF	B-737-800V WN SMF/SJC		737-800WL WN SMF/SJC		B- <mark>737 Max</mark> 7 WN SMF/PHX	B-737 Max WN SAT/SAT	8	B-737-800WL WN OAK/OAK	B-7	37-800WL WN AS/OAK	B-737-800W WN LAS/
1	7	B-757-200	B-757-200							B-73	7 Max 8 WN /LAS	B-737-700W WN SMF/PHX	L B-737	-800WL VN K/STL	B- <mark>737-80</mark> WN SAT/S	OOWL	В	-737-800WL WN MDW/HOU		B-737 V	/ Max 8 VN L/SJC	B-73	B7-800WL WN JS/MCI			B-737-800WL WN SMF/PDX		B-737 Max 8 WN PHX/
1	8	B-767-300	B-767-300							B-73	7 Max 7 B-7 WN	737-800WL B	-737-800WL WN SFO/SFO	B-737 Mar WN HOU/SM	(7 B	-737-800WL WN BWI/TPA	В-	737-700WL WN LAS/LAS			B-737 Max 7 WN SMF/LAS		0WL B-737-8	00WL	B-737 Max 7 WN PHX/RNO		3-737-800WL WN SJC/LAS	B-737 Max i WN OAK/
1	9	A-321-NEO	B-737-Max9							B-737		B- <mark>73</mark>		-737-800WL WN SMF/PHX	B- <mark>737-80</mark> WN SFO/N	DOWL B	- <mark>737-800W</mark> L WN MKE/MKE	B-7	37-800WL B- WN WR/OAK	-737-800WL WN SFO/SFO	B-737-800 WN BWI/SM	WL B-737- W	800WL B	737-800WL WN TUS/LAS	B	-737-800WL WN SJC/SMF		B-737-700WL WN EWR/
1	10	A-321-NEO	B-737-Max9										B- <mark>737-700W</mark> L WN		B- <mark>737-800</mark> WN HOU/OA	WL B-737 V	-800WL VN A/SJC	B- <mark>737-800</mark> WN OAK/SN	DWL .	B-737-800 WN MDW/D	WL B-	737-800WL B				B-737-800WL WN MCI/OAK		B-737-800WL WN BWI/
1	11	A-321-NEO	B-737-Max9							B-73	7-800WL WN /MDW	B- <mark>73</mark>	87-800WL WN AK/DAL	B-737-800 WN LAS/LA	WL B-737-80 WN	OWL	B-73	7-800WL WN X/DEN		B-737-700WL WN BWI/PDX		B-737-	800WL B-737 /N V	800WL /N /OAK		B-737-800W WN AUS/	ı.	
1	12	A-321-NEO	B-737-Max9									B-737-800W WN DAL/OAK	L B-737	7-800WL WN N/ABQ	B-737- W BNA	800WL /N	B- <mark>737-800</mark> WN SFO/MK	WL B-737-8	N .	7-800WL WN C/SMF		B-737-800WI WN DEN/DEN		B-737-700WL WN PDX/PDX	B- <mark>737-800W</mark> WN LAS/LAS		N W	8-737-800WL WN SFO/
1	13	A-321-NEO	A-321-NEO							B-737-8	BOOWL B-	737-800WL WN ABQ/MCI	B-737-800V WN MCI/EWF	WL B-	737-800WL WN MF/SMF		A-32:	1-NEO B	-737-800WL WN DEN/BNA	B-737-800 WN ATL/AT		7-800WL B-737	WN			B-737-800WL WN HOU/HOU		B-737-800WL WN BNA/
1	14	A-321-NEO	A-321-NEO								A-3 <mark>21-NEO</mark> NK /IAH) (A-32		A-320-NEO NK				A-3			A-320-NEO NK DFW/DFW		A-320-NEO NK BWI/LAS			A-321-F NK IAH/	L
1	15	B-737 Max 8	A-321-NEO								A-32 F /TU	21 F9		A-321 F9 DEN/CVG	A-32 F9		-321 F9 S/AUS	E175 AC YVR/YVR			A-3: G ² EUG/	20	B-737-800W WS YYC/YYC	4	A-321 B6 K/BOS	A-32 F9 TUL	.1 E17	175 C VR/
1	16	B-757-200	B-757-200									A-320 B6 /FLL			A-3 B BOS/	221 6	A-321 B6 JFK/JFK	B-737 M WS YYC/Y			E175 AC YVR/YVR			E175 AC YVR/YVR				320
1	17	B-737 Max 8	A-321-NEO							A-3 <mark>21-</mark> 1	NEO AS					A-321 AC YYZ/YYZ	B-737-80 WS YVR/YV	DWL							A-321 B6 FLL/FLL		B-737-800WL AS BOS/	
1	18	B-737 Max 8	A-321-NEO								E175 AC /YVR	C			E1	75 .C /YVR	B-737-800 SY MSP/MSP				B-737-800 SY MSP/MSP				A-321 B6 BOS/JFK		B-737-900WL AS EWR/	
2	20	A-321-NEO	B-737-900WL							E	8-737 <mark>-900WL</mark> AS /EWR		900WL A-3 AS A /MZT FAT	320 IS /FAT		/37-900WL AS SFO/SFO			B-737-800WIB- AS OGG/	-737 <mark>-800WL</mark> AS /OGG	B-737	-900WL AS D/SFO	B-737-900WL AS SLC/SLC	B-737-9 A!	DOOWL B	8-737-900WIB-7 AS DGG/	737 <mark>-900WL</mark> AS /BWI	B-737-900WL AS LIH/
2	21	A-321-NEO	B-737-900WL							B-737 <mark>-9</mark>	900WL3-737-90 AS /PDX	00WL37-900WI AS AS	A-S	320 AS /SFO		A-320 AS RY/FAT			B-737-90 AS PDX/F		E	175 AS /BOI	A-320 AS FAT/	A-320 AS /FAT		A-320 AS STS/	B-737-90 AS KOA/	DOWL
2	22	DC-8-55	B-747-400ER							A-	321-NEO AS /SFO	A-321-NEO AS SLC/DAL	A-321-NI AS MCI/ALI	EO			E1 A DAL/	S		A-320 AS AT/SLC	A-321- AS SEA/		-737-900WL AS MCO/PDX		A-321-I AS SEA /	NEO	B-737-800 AA CLT/	B-737-900 AS EWR/
2	23	B-757-200	B-757-200								A-321-NEO AA /DFW		A-321-NEO AA DFW/DFW		A-321 AA JFK/JFK		A-321 AA HX/PHX			A-321 AA PHX/DFV	N	B-737-80 AA DFW/DFV	D A-321 AA			A-	321 A-321 AA AA PHL ORD/	

					< Start of Ana	., 5.0 = 4 7								
Terminal	Position	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	<u> </u>	M
	24	B-767-300ERWL	B-787-9								NEO A-321-N AS SMF /S	AS	900WL AS /BOS	
2	25	B-757-200	B-757-200									A-321 AA /PHL		
	26	B-757-200	B-757-200		A-321-NEO AS SEA/					A-32:	-NEO B-73 AS /SEA	7-900WL AS /SJD	B-737 <mark>-900</mark> /O	AS GG
	27	B-757-200	B-757-200							A-32	1-NEO AA /DFW	AA	AS IF/OMA	
	28	B-767-200	B-767-200							B-7	37-800WL AS /BOS		7-900WL AS O/SFO	
	29	DC-10-40	DC-10-40								A-321 A-33 AA A /PHL /OF	AA AA		A-321 A SJC/
	30	B-757-200	B-757-200							B-737-800 A/ /CL		00WB-737-800 AS AA /LIH /DFW		
	31	MD-11	MD-11								A-321 AA /PHX	A-32 A /OR	A	B-
	32	B-757-200	B-757-200							B- 737	-800 AA MIA	A-321-NEO AA JFK/JFK		
	33	B-757-200	B-757-200							B-737	-900 B-1	737-900 UA AD/IAD		
	34	A-321-NEO	A-321								B-737-900 UA /BOS	В-	737-900 UA /ORD	
	35	B-757-200	B-757-200								A-320 UA /ORD			
	36 - IAF	B-737-Max9	B-757-200							B-737		A-320 AS /PVR		
	37 - IAF	B-757-200	B-757-200								7-900WL AS /GDL	A-320 UA /IAH	B-737 UA SFO/	
	38	B-757-200	B-757-200		B-737-900 UA SFO/						-900 UA ORD	B-737-900E UA /IAH		
	39	B-757-200	B-757-200										B-737	
	40	A-321-NEO	B-737-900WL							В	737-900 DL /MSP	B-737-900 UA /SFO		
	41	A-321-NEO	B-737-900WL								0-300 A-3	21 DL		
	42	B-757-200	B-757-200							B-737-800 D /DTW			B-7	37-80 D MS
	43	B-767-300	B-767-300							B-737-900 D /JFI)			
	44	B-757-200	B-757-200		A-321 DL MSP/					A	-321A-220-30 DL D /SLC /LA	L		
	45 - IAF	B-757-200WL	B-757-300											
	46 - IAF	B-757-200WL	B-757-300									///.	113	

12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM 2	PM 3	PM 4 PI	И 5 РМ	6 PM	7 PM	8 PM	9 PM	10 PM	11 PN
						NEO A-321-NEO	B-737 <mark>-9</mark>		3-737-900WL			A-321-	NEO	A-321-NE0		A-321-NEO		A-321-NEO	A-320-NEO		7-900WL A-321	
					/5	AS AS	A-321	/BOS	AS SEA/MCO	B-737-800	B-737-800	AS SEA/S		AS MSP/ABC		AS OMA/SMF	-321-NEO	AS SFO/SFO	AS LAS/LAS	BOS,	A-321	B-737
							AA /PHL			AA ORD/ORD	AA DCA/DCA		AA DFW/DFW				A FW/				AA JFK/ORD	AA DFW,
-321-NEO S EA/					A-321	-NEO B-737-S AS /SEA	AS /SJD	-737-900WL AS /OGG	B-737-900W AS PDX/KOA		A-321-NI AS SJC/SM		A-321-NEO AS SFO/SFO		A-321-NEO AS SJC/SJC	A-321 AS STL/			A-321-NEO AS SJC/SJC		A-321 AA CLT/	B-737- AS HNL/
								AS F/OMA	A-3 A CLT/	Α	B-737-800 AA PHL/PHL				A-321- AA DFW/	NEOA-321-NEO AA /DFW				A-321 AA PHX/	A-321-N AA MIA/	EO
					B-73	7-800WL AS /BOS		-900WL AS D/SFO	A-321-NEO AS SEA/SEA		A-321-N AS BOI/S.		A-321-NEO AS ABQ/MSP	A-321-NI AS SEA/SE	A	-NEO S /STS		-321-NEO AS SEA/SEA		A-321-NE AS SMF/	O A-321-N AS DAL/	EO
						A-321 A-321 AA AA /PHL /ORD	A-321 AA /JFK	A-321 A SJC/	5	A-321-NEO AA DFW/DFW		A-321 AA FW/DFW			A-321 AA ORD/PHX			E175 AA PHX/PHX		B-737-800 AA MIA/	B-737-800 AA /MIA	A-321-NE AA DFW/
					B-737-800 AA /CLT		WE-737-800 AS AA IH /DFW			00WL B-737 <mark>-90</mark>				A-321 AA PRD/ORD		A-321-NEO AS AUS/MCI	A-3 A/ PHX/	21 A	A-321 AA DFW/		A-321 B	-737-9 <mark>00WL</mark> S
					,	A-321 AA	A-321		737-800 AA		-321 AA			A-321		EG9/N/CI	PHA	A-321 AA	-100/	A-321 AA	A-321 AA	A-321 AA
					B-737-	AA	/ORE 321-NEO AA	ı J	A-321-NEO AA		O A-321-NEO			DCA/	DCA	A-321		A-321-NEO		/MIA A-321 AA	AA A	-321 A
					B-737-				PHX/PHX B-737-9 UA	00 E	/DFW 3-737-900 UA				B-737-900 UA	ORD/	B-737-900 UA	CLT/CLT		PHL/ B-737-900 UA	A-321 B	-737-900 A
					/	SFO IAD, B-737-900	'IAD	37-900	SFO/IA	B-737-900	IAH/IAH		B-737-900	B-737-90	IAH/SFO	B-737	ORD/SFC			EWR/ B-737-900	ORD/ IA B-737-900	AH/ A-320
						UA /BOS A-320	B-737-	/ORD		UA ORD/ORD B-7	737-900	B-737-9	UA IAH/ORD	UA IAD/IAH	175	SFO/ B-737-900	SFO			UA EWR/ 737-900 B	UA /EWR -737-900 B-73	IAH/
					B-737-	UA /ORD		UA IAD	B-737 Max 7		UA /R/EWR	UA DEN/S		DE	UA N/DEN <mark>800V</mark> /L	UA DEN/DEN	E175	D.	737-900		UA UA /ORD EWI B-737-900	R/ S B-737-9
					/E	UA :WR	AS /PVR		WN SJD/SJD	UA SFO/SF	-o	AS SJD/	AS /SJD	V	/N /LAS		UA DEN/DEN	SF	UA O/SFO	AS PVR/	UA SFO/	UA BOS/
					B-73	7-900WL AS /GDL	A-320 UA /IAH	B-737-900 UA SFO/	B-737-900 UA /SFO	B-737-9 UA IAD/IA		A-320 UA IAD/IA		AS SJD/SJD	B-737-S A! SJD/		B A S.	-737-900WL A .S H JD/ C	-321 A IGG/	B-737-90 AS GDL/	OWL	B-737- AS MZT/
-737-900 A FO/					B-737-	900 UA DRD	B-737-900B- UA /IAH	737-900 UA /DEN			B-737-900 UA ORD/ORD	B-737-9 UA SFO/DE			B-737-900 UA IAD/IAD				B-737-900 UA ORD/ORD		B-737-900 B-73 UA IAD/	7-900 UA /IAD
								B-737-900 UA /IAD		-737-900 UA DEN/DEN	B-737-90 UA IAD/IAD		B-737-900 UA ORD/ORD		7-900 JA /DEN				A-320 UA BOS/BOS	A-32 DL DTW	U	-320 A RD/
					B-7	737-900 B DL /MSP	-737-900 UA /SFO		A-220-100 DL LAS/LAS	A-220-300 DL LAS/LAS			-737-900 DL ATL/ATL	B-737-900 UA SFO/SFO	A-320 DL SLC/SLC				3-737-900 UA IAH/EWR	A-320 DL SEA/SEA	B-7 UA	
					A-220	0-300 A-321 DL DL /MSP /DTW				A-32 DL DTW/D		A-321 DL ATL/DT		A-320 DL SLC/SLC		20-300 DL S/LAS			B-737-900 UA IAD/LAX	A-22 DL SEA/	0-300 B-737- UA SFO/	900 B-737 UA DEN/
					B-737-800 DL			B-737-80 D	L I	A	i-320 DL	A-321 DL	A-	220-300 DL		A-320 DL		A-220-300 DL	B-737-900 DL	B-737-9	00 B-737 DL DL	<mark>-9</mark> 00
					/DTW B-737-900 DL			/MS	P	SEA	B-737-900 DL	SLC/SLC	A-321 DL	EA/SEA			321 DL	SEA/SEA	JFK/ A-220-300 DL			2 <mark>20-3</mark> 00
A-321 DL					/JFK	321A-220-300 DL DL			A-22	D-300 DL	JFK/JFK	B-737-800 DL	DTW/ATI	A-3			/SLC A-220-300 DL	A-: DL	LAS/LAX	DL JFK/ -220-100 DL	B-737-900 UA	A-321 DL
MSP/		/////	//////	/////		DL DL /SLC /LAS			DTW,		//////	JFK/JFK	A-321	ATL/	MSP A-321		SEA/SEA	AT		AS/LAS	ORD/	SLC/
							////	1///	DL SLC/SLC	1111			DL MSP/MSP		DL JFK/JFK			1				A-321
										////		7					///.	////				DL ATL/

Terminal	Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
2	46A - IAF	B-747-400ER	B-777-300ER	
2	47 - IAF	B-757-200WL	B-757-300	
2	47A - IAF	B-747-400ER	B-777-300ER	
2	48 - IAF	B-747-400ER	B-777-300ER	
2	49 - IAF	A-321-NEO	A-321	
2	50 - IAF	A-321-NEO	A-321	
2	50A - IAF	A-330-300	A-330-300	
2	51 - IAF	B-747-400ER	B-777-300ER	
zRemote	R_01	B-757-300	B-757-300	
zRemote	R_02	B-757-300	B-757-300	
zRemote	R_03	B-757-300	B-757-300	
zRemote	R_04	B-757-300	B-757-300	
zRemote	R_05	B-757-300	B-757-300	
zRemote	R_06	B-757-300	B-757-300	
zRemote	R_07	B-757-300	B-757-300	
zRemote	R_08	B-757-300	B-757-300	
zRemote	R_09	B-757-300	B-757-300	
zRemote	R_10	B-757-300	B-757-300	
zRemote	R_11	B-757-300	B-757-300	
zRemote	R_12	B-757-300	B-757-300	
zRemote	R_13	B-757-300	B-757-300	
zRemote	R_14	B-757-300	B-757-300	
zRemote	R_15	B-757-300	B-757-300	

Start of Ana	lysis Day		ı	1					Т	1	ı				Ι				1			End of A	Analysis Day
12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
						B-787-8			//////		B-787-		////		7	/////	/ B	-787-8			-220-300	B-787-8 DL /DTW	/////
	7777		,,,,,,			DL /ATL					DL ATL/AT		///	4			D	L TW/			L ISP/	/DTW	
												A-220-3 DL SEA/SE		B <mark>·737-700W</mark> L WN CUN/CUN						///			B-737-8001 WN BZE/
						A-220-300 DL	A-321 DL	B-787-8		B-78		1///					B-787-8 DL		B-78	37-8	B-787-8 DL /ATL		
						DL /MSP	DL /ATL	DL /ATL	A- <mark>330</mark> -	ATL/	ATL	-a B-78					DL ATL/	B-	DL MSI 777-300	B- <mark>777-300</mark>	/ATL	7	
						DL /ATL /	DY LGW			HA HNL	B-787 JL NRT/		JL NRT					BA LH	777-300 R/	BA /LHR			
						B-737 <mark>-800WL</mark> WN /BZE																	B-737-8 DL MSP/
						A-32													77777				Mary
,,,,,,		,,,,,,		,,,,,,,		/OG0																	
										B-787- DL MSP/M			A-340-: LH FRA/	00 A- <mark>340-3</mark> /Fi	LH				B-787-8 DY LGW/	B-737 DL DTW/		-787-8 DL TL/ATL	
						B- 737- 9	DL DL			B-787-8 DL		B-777-3 BA		B-787				B-787-8 QF SYD/	B-	787-8 B- QF DI /SYD A1		737-900 A-3 L HA SP/ HN	330-200
						/JI	FK /MSP			ATL/ATL		LHR/L	HR	JFK/J	IFK			SYD/		/SYD A1	L/ M	SP/ HN	<u>-/</u>
							<u> </u>																

Terminal	Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
zRemote	R_16	B-757-300	B-757-300	
zRemote	R_17	B-757-300	B-757-300	
zRemote	R_18	B-757-300	B-757-300	
zRemote	R_19	B-757-300	B-757-300	
zRemote	R_20	B-757-300	B-757-300	
zRemote	R_21	B-757-300	B-757-300	
zRemote	R_22	B-757-300	B-757-300	
zRemote	R_23	B-757-300	B-757-300	
zRemote	R_24	B-757-300	B-757-300	
zRemote	R_25	B-757-300	B-757-300	
zRemote	R_26	B-757-300	B-757-300	
zRemote	R_27	B-757-300	B-757-300	
zRemote	R_28	B-757-300	B-757-300	
zRemote	RWB_01	A-330-300	A-330-300	
zRemote	RWB_02	A-330-300	A-330-300	
zRemote	RWB_03	A-330-300	A-330-300	
zRemote	RWB_04	A-330-300	A-330-300	

tart of Analy	rsis Day	-		ı			ſ	1				1		1							ı	End of A	Analysis D
I2 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 P

2035 - Alternative 4

Terminal	Position	Max Wingspan Acrft	Max Length Acrft	Depend Group
NT1	1	B-737 Max 8	A-321	
NT1	2	B-737 Max 8	A-321	
NT1	3	B-737 Max 8	A-321	
NT1	4	B-737 Max 8	A-321	
NT1	5	B-737 Max 8	A-321	
NT1	6	B-737 Max 8	A-321	
NT1	7	B-737 Max 8	A-321	
NT1	8	B-757-200	B-757-200	
NT1	9	B-737 Max 8	A-321	
NT1	10	B-737 Max 8	A-321	
NT1	11	B-737 Max 8	A-321	
NT1	12	B-737 Max 8	A-321	
NT1	13	B-737 Max 8	A-321	
NT1	14	B-737 Max 8	A-321	
NT1	15	B-737 Max 8	A-321	
NT1	16	B-737 Max 8	A-321	
NT1	17	B-737 Max 8	A-321	
NT1	18	B-737 Max 8	A-321	
NT1	19	B-737 Max 8	A-321	
NT1	20	B-737 Max 8	A-321	
NT1	21	B-737 Max 8	A-321	
NT1	22	B-737 Max 8	A-321	
NT1	23	B-737 Max 8	A-321	

tart of Anal				_																			Analysis Day
2 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM A-321-NEO	9 AM	10 AM	A-321	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM		8 PM	9 PM	10 PM A-321 A-321	11 PM
						A-321-NEO AA /DFW		AA DFW/DFW			AA PHL/ORD				A-321-NEO AA DCA/DCA			A-32 AA CLT/				A-321 A-321 AA AA /PHL ORD/	
						A-321 AA /PHL	A-321 AA /PHL			A-321 AA JFK/JFK				A-321 AA ORD/OR				,	-321 AA (/PHX		A-321 AA PHL/	A-321 AA /CLT	A-321-NEO AA DFW/
							321 AA CLT		A-321-NEO AA PHX/PHX			37-800 AA IL/PHL				A-321-NEC AA DFW/	A-321-NEO AA /DFW		A-321 AA ORD/		A-321 AA /MIA	A-321 AA MIA/	
						A-321 AA /ORD			-737-800 AA		B-737-80 AA	0			A-321 AA				A-321-NEO AA		A-321 AA	A-321-N AA	EO
					B-737-800		B-737-800 AA		IFK/JFK	A-321-NEO AA	DCA/DC	A-321 AA			PHX/DFW		A-321	I-NEO A	CLT/CLT		PHX/ B-737-800 AA	MIA/ B-737-800 AA	B-737
					/CL	A-321 AA	A-32:			DFW/DFW	NEO A-321-1	DFW/DFW				A-321 AA	ORD	/ORD	E175 AA		MIA/	/MIA A-321 AA	A-321 AA
					B-737	/РНХ	/ORI			DFW/	/0	FW	A-32	1-NEO	c	RD/PHX		4-321-NEO	PHX/PHX			JFK/ORD B-737-800	PHL/
						AA /MIA	AA JFK/JFK A-321			AA ORD/ORD A-321		A-321		AA //DFW				AA DFW/		A-321		AA CLT/ A-321 A	-321
							AA /JFK		С	AA LT/CLT		AA PHX/PHX					AA DFW/DF	:w		AA DFW/		AA A /JFK JF	A FK/
					A-32	21-NEO B-7 AA /DFW	/37 <mark>-800WL</mark> WN /SMF	B-737-800WL WN BOI/BOI		WN US/DAL	B-737-8 WN DAL/F		B- <mark>737-8</mark> W OAK/	N	B-737 Max WN SJC/DEN		B-737 Max WN MKE/DAI		WN HX/OAK		737 Max 7 WN SEA/TUS	A-321 AA ORD/	B-737 M WN DEN/
					B-73	37 Max 8737 Ma WN / SFO /F	<mark>VN</mark>	87-800WL WN AK/DAL	B-737-800WL WN SMF/PHX	l l v	-800WL VN T/SFO	B- <mark>737-</mark> 8 W SFO/	N .	B-737-80 WN MCO/M		B-737-80 WN BWI/SI		B-737 Max 7 WN DEN/SMF		B- <mark>737 Max</mark> 7 WN PHX/RNO		A-321 AA CLT/	B-737-80 WN LAS/
					B-73	WN	737-800WL B-7 WN ABQ/MCI	737-700WL WN SJC/LAS	B-737 M WN SEA/O		B-737-800WI WN BWI/TPA		B- <mark>737-700W</mark> L WN LAS/LAS		B- <mark>737-800W</mark> L WN SFO/SFO		37-800WL WN AK/SEA		7-800WL WN JC/SJC		737-700WL WN DEN/ABQ	B-737 Max 8 WN MDW/	B-737 Ma WN OAK/
					B-73 <mark>7</mark> I	Max 7 B-737 I	Max 7 B-73	87-800WL WN	B-737-800\ WN	VL B- <mark>737</mark>	-800WL VN	B- <mark>737-</mark> W	800WL /N		737-800WL WN	B- <mark>737-80</mark> WN	OWL .	B- <mark>737-700W</mark> L WN		B- <mark>737-700W</mark> L WN		-737-800WL WN	B-737-800W WN
					B-7:		/OAK PH 737-800WL WN	B- <mark>737-700W</mark>	DAL/DAL	8-737-800WL WN	/MSY B-737-8		B- <mark>73</mark>	7-800WL WN	B <mark>-737-80</mark>		B-737-8 WI		B-737-700WL WN	DAL/SJC	B-737-800WL WN	B-737-800W	BWI/
						B-73 <mark>7 Max 7</mark>		DAL/DAL Max 8	B-737-800W	PHX/MDW L B	TUS/C		737-800WL	D/TUS	SAT/B B-737-700WL	OI	HOU/I B-737-800V	HOU	PDX/PDX B-737-800WL		SJC/SMF B-737-800W	LAS/	-737-8 <mark>00WL</mark>
						WN /PHX		VN I/DEN B-737-80	SJC/SJD OWL	B-737-800	WN SMF/LAS WL B-7	<mark>/37-800W</mark> L	WN PHX/DEN	3- <mark>737-800W</mark> L	WN BWI/PDX	BOOWL	MSY/SAT	7-800WL	TUS/LAS	L	WN SMF/PDX B-737-800W	SI	FO/
							WN /SFO	LAS/AT	TL	WN DEN/SJO		WN TPA/SJC		WN EWR/OAK	W/ LAS/0 B-737	DAK	PH	WN K/OAK	SFO/SFO		WN MCI/OAK		
					В	-737 Max 7 WN /DEN	B-737-700W WN SMF/PHX	L B- <mark>737 N</mark> WN PDX/	N I	B-737-80 WN SJC/M	·	B- <mark>737-800W</mark> L WN MKE/MKE		B-737-700WL WN SMF/SMF	W			7-800WL WN S/LAS	B-737-800W WN RNO/AUS		B-737-800 WN SFO/DE		B-737 Max 7 WN ABQ/
					B-7:	37 <mark>-700WL</mark> WN /EWR	B-737-800W WN DAL/OAK	١ ١	7-800WL WN K/SMF	B- <mark>737-80</mark> WN OAK/E		B-737-800WL WN SJC/AUS		B-737-800W WN OAK/PHX		737-800WL WN DAL/PHX		37-800WL WN C/MDW	B-737-8 WN OAK/0		B-737-800 WN AUS/)WL	B-737 Max WN PHX/
					B-737 <mark>-8</mark>	WN /AUS	-737-700WL WN LAS/LAS	B- <mark>737-800W</mark> WN RNO/DEN		B- <mark>737-800W</mark> L WN SMF/SMF		-737-800WL WN LAS/SMF		B-737-800WL WN DEN/BNA		B-737 Max 7 WN SMF/LAS		7 <mark>37 Max</mark> 7 WN DAK/SJC	۱ ۱	7 Max 8 WN F/ABQ	B-737-800V WN HOU/HOU		737 Max 7 N X/
					B-	737 <mark>-800WL</mark> WN /MDW	B-737-80 WN LAS/S		37-800WL WN EN/ABQ		37-800WL WN NA/IND		B-737-800WL WN MDW/HOU		B- <mark>737-800W</mark> L WN PHX/PDX		3- <mark>737-800W</mark> L WN SFO/SFO		37-800WL WN MF/STL		B-737 Max 8 WN BOI/SFO	B-737 Max WN STL/	x 7 B-737 M WN SFO/
					В-7	73 <mark>7 Max 8</mark> WN	B- <mark>737-800W</mark> L WN	B-737-80 WN	OWL	B-737	-800WL VN	l l v	-800WL VN	В	- <mark>737-800W</mark> L WN		700WL	B-737 M WN	ax 8	B-737-800W WN	/L B	- <mark>737-700W</mark> L WN	B-737-700V WN
					B-7	/LAS 73 <mark>7 Max 7</mark> WN	B-737 Max 7		VR 37-800WL WN	B- <mark>737-</mark>	N/BWI BOOWL N	B-737-80 WN		B- <mark>737-800V</mark>	SMF/SJC VL	B-737-700WL WN	/SJC B-7	SAT/SA 737-800WL WN	B-7	OAK/OAK 37-800WL WN		B-737-800WL WN	B-737-800W
					B-73	/BWI 7 <mark>-800WL</mark> B-7	ELP/ELP	- <mark>737-800W</mark> L	AK/STL B- <mark>737-</mark>	HOU,	<mark>OAK</mark> B <mark>-737-700</mark>	ATL/RN	B- <mark>737 Ma</mark>	SJC/SLC	B-737-800	SJC/SJC	B <mark>-737-800V</mark>	<mark>AUS/MCI</mark> /L B- <mark>737</mark>	<mark>7-800W</mark> L	JC/PHX B- <mark>737-800</mark>		SJC/LAS 7-800WL B	BNA/ 3-737-900
						/SMF		WN SFO/SFO -737-900	LAS,	<mark>/LAS</mark>	WN SFO/SF B-737-900		WN PDX/BV B-737-80	vi 	WN ATL/ATI B-737-800		DEN/DEN B-737 Max	LAS	WN S/PHX -737-800WL	WN LAS/LA		K/PHX I/	JA AH/ -320
							UA	UA /DEN	HOU/	N .	UA ORD/ORD		WN SMF/S		WN MDW/DA		WN SMF/PHX		WN HOU/SMF		UA EWR/	U	IA ORD/

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Terminal	Position	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM 1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
NT1	24	B-737 Max 8	A-321								B-737-900 UA /BOS		900 UA 'IAD		B-737- UA SFO/S		A-320 UA IAD/IAD		B-737-900 UA ORD/DEN					-737-900 UA AH/EWR		B-737-900 UA SFO/	B-737-900 UA BOS/
NT1	25	B-737 Max 8	A-321								7-900 UA 'EWR	В-7	37-900 UA /ORD		B-737- UA IAD/I		B-737-900 UA DEN/SFO		E175 UA DEN/DEN			B-737-900 UA ORD/SFO			B-737-900 UA EWR/	B-737-900 UA /EWR	UA
NT1	26	B-737 Max 8	A-321								UA	37-900 UA D/IAD		B-73 U SFO			37-900 UA D/IAD		-737-900 UA FO/SFO		B-737- UA SFO/S			A-320 UA BOS/BOS		B-737- UA SFO/	900
NT1	27	B-737 Max 8	A-321									B-737-900 UA /IAH			B-737-900 UA ORD/ORD		B-737-900 UA SFO/DEN		B-737-900 UA IAD/IAH			E175 UA DEN/DEN		u	-737-900 A EN/	B-737-900 B- UA UA /ORD IA	
NT1	28	B-737 Max 8	A-321		B-737-900 UA SFO/						7-900 UA /ORD		B-737-900 UA /IAD			737-900 UA WR/EWR	B-737-90 UA IAH/ORI			737-900 UA AD/IAD				B-737-900 UA IAD/LAX		B-7 UA EW	
NT1	29	B-757-200	B-757-200								A-320 UA /ORD		B-737-900 UA SFO/	B-737-90 U /SF	A	B-737-900 UA IAH/IAH		737-900 UA RD/ORD			B-737-900 UA DEN/DEN			B-737-900 UA ORD/ORD		B-737-900 UA ORD/	B-737-900 UA DEN/
NT1	30	B-757-200	B-757-200									B-737-900 UA /SFO			B-737-900 UA DEN/DEN		B-737-900 UA ORD/IAH		B-73: U IAH,					37-900 UA D/SFO		B-737-900 B-7 UA IAD/	37-900 B-737-90 UA UA /IAD SFC/
NT2E	31	B-737 Max 8	A-321									A-320 B6 /FLL				A-321 AC YYZ/YYZ	E175 AC YVR/YVR					B-737-800W WS YYC/YYC		A-321 B6 FLL/FLL			
NT2E	32	B-737 Max 8	A-321								E17 A /YV	ıc				321 B6 S/BOS	B-737-800WL WS YVR/YVR			E175 AC VR/YVR				A-321 B6 K/BOS		A	.75 C /R/
NT2E	33	B-737 Max 8	A-321													175 AC R/YVR	B6 \	7 Max 8 WS C/YYC					E175 AC YVR/YVR			B6	320 L/
NT2E	34	B-737 Max 8	A-321								A-3	F9		A-321 F9 DEN/CV			A-321 F9 US/AUS							A-321 B6 BOS/JFK		A-321 F9 TUL/	
NT2E	35	B-737 Max 8	A-321								A-3 <mark>21-NE</mark> N /IA	<mark>ik</mark>		20-NEO NK S/LAS	A-33 F9 CVG/		B-737-800 SY MSP/MSP		A-321-NEO NK LAS/LAS		320 G4 6/EUG		A-320-NEO NK BWI/LAS			A-321- NK IAH/	NEO
NT2E	62	B-737 Max 8	A-321												A-320-NEO NK DTW/DTW		A-321-NEO NK ORD/ORD			B-737-800 SY MSP/MSP	A-320-NEO NK DFW/DFW			A-320-NEO NK LAS/BWI			
NT2E	36	B-737 Max 8	A-321		A-321-NEO AS SEA/					A-32	1-NEO B-737 AS /EWR	/-900WL B-737 AS /SJD	900WL AS /MZT	B-737-900 AS PDX/KO			A	L-NEO LS /MSP			1-NEO AS ./SEA		21-NEO AS A/SEA		A-321-I AS SMF/	NEO	A-32: AS SEA/
NT2E	37	B-737 Max 8	A-321							A-32	1-NEO AS /SEA	B-737 <mark>-900W</mark> A! /SE/	A FA	-320 AS Г/FAT						A-3	AS AA/SMF	A-320 AS FAT/	A-320 AS /FAT			A-321 AS SFO/	-NEO
NT2E	38	B-737 Max 8	A-321								B-737-	900WL AS /HNL		3-737-900WL AS SEA/MCO			A-321-NEO AS SEA/SEA			A-321-NE AS SMF/ST	S S					B-737-900WL AS EWR/	B-737-900WL AS EWR/
NT2E	39	B-737 Max 8	A-321								A-321-NEO AS /SFO	B-737	-900WL AS D/SFO	A-321-NI AS SEA/SE/				A-321-NEO AS SFO/SFO			37-900WL AS FO/SFO		B-737-9 A: PDX/	5		B-737-8 <mark>00WL</mark> AS BOS/	
NT2E	40	B-737 Max 8	A-321									A-320 AS /MRY	A-321 A SJC/	I-NEO .s /STL		A-3.	21-NEO AS C/SMF		A-321-NEO AS MSP/ABQ					A-320-NEO AS LAS/LAS		B-737-9 AS KOA/	00WL
NT2E	41	B-737 Max 8	A-321								A-321-NE A /SJ	o IS	A-321-N AS MCI/A	US IEO		A-320 AS MRY/FAT			A-321-NEO AS SEA/SEA			-737-900WL AS MCO/PDX			A-320 AS STS/		B-737-900WL AS HNL/
NT2E	42	B-737 Max 8	A-321								B-737 <mark>-90</mark> 0	OWL B	-737 <mark>-900WL</mark> AS /OGG		B	737-900WL AS SFO/SFO			7-900WL AS X/PDX	В	E175 AS OI/BOI	A	-321-NEO AS SFO/SFO		B- AS	737-900WL B	-737-9 <mark>00WL</mark> S DX/
NT2W	43	B-737 Max 8	A-321							В-7	/37-800WL AS /BOS	A-321-NEO AS SLC/DAL	A	-320 AS D/SFO		A	321-NEO AS 301/SJC		A-320 AS FAT/SLC		A-321-NEO AS AUS/MCI			A-321-NEO AS SJC/SJC		A-321-r AS DAL/	EO
NT2W	44	B-737 Max 8	A-321							B-73	7-900WL AS /PDX	B-737 <mark>-9</mark>	00WL AS /BOS				E175 AS DAL/DAL		A-32	21-NEO AS C/SJC		B-737-900WL AS SLC/SLC			B-737-900V AS OGG/	VIB-737 <mark>-900WL</mark> AS /BWI	B-737-900WL AS LIH/
NT2W	45	B-737 Max 8	A-321							A-321	-NEO 37-900WL AS AS /SMF /EWR	A-3:	21-NEO AS E/OMA	B-737 AS BWI/	7-9 <mark>00WL B-737-</mark> 9	OOWL AS /SFA		B-737-800V AS	VIB-737 <mark>-800WL</mark> AS /OGG		A-321-I AS STL/B	NEC		A-3 AS SEA	21-NEO		

				 	< Start of A	nalysis Day																					End of A	nalysis Day >
Terminal	Position	Max Wingspan Acrft	Max Length Acrft	Depend Group	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM
NT2W	46 - IAF	B-737 Max 8	A-321									A-320 AS /PVR							B-737-900 AS SJD/SJD					8-737-900WL S UD/		B-737-900\ AS GDL/	VI.	
NT2W	47 - IAF	B-737 Max 8	A-321							B-737 <mark>-9</mark>	00WL AS /GDL						B-73 AS SJD	37-90019ô37-90	OWL AS /SJD		B-737-900W AS SJD/SJD	'L				A-320 AS PVR/		B-737-9 AS MZT/
NT2W	48	B-737 Max 8	A-321							B-737-800 DL /DTW	A-321 DL /DTW				A-220-300 DL LAS/LAS			20-300 DL A/SEA			A-320 DL SLC/SLC			A-3 DL ATI	_/	A-220- DL SEA/	300	A-321 DL SLC/
NT2W	49	B-737 Max 8	A-321							A-220-3 /M	DL			A-220-100 DL LAS/LAS			B-737-800 DL JFK/JFK		A-220-300 DL SEA/SEA				-321 DL C/SLC			220-100 DL AS/LAS	A-2 DL MS	220-300 SP/
NT2W	50	B-737 Max 8	A-321							B-737-900 DL /JFK			B-737-800 DL /MSP			B-737-900 DL JFK/JFK			-321 DL W/ATL			A-320 DL MSP/MSI	P		B-737-8 DL DTW/	00 A-321 DL DTW/		
NT2W	51	B-737 Max 8	A-321		A-321 DL MSP/					A-32 D /SL	1A-220-300 L DL C /LAS				0-300 DL /DTW			321 DL DTW		A-321 DL ATL/MSP				A-220-300 DL SEA/SEA	B-737-900 DL JFK/	B-737-900 DI /JFK		A-321 DL ATL/
NT2W	52	B-737 Max 8	A-321								A-220-300 DL /MSP	DL			SI	A-320 DL EA/SEA		A-321 DL MSP/MSP			A-220-30 DL LAS/LA	00 S			A-220-300 DL LAS/LAX	B-737-90 DL JFK/	0	
NT2W	53	B-737 Max 8	A-321							B-737	7-900 DL /MSP			A-321 DL SLC/SLC			A-321 DL SLC/SLC			A-320 DL SLC/SLC			A-220-300 DL SEA/SEA		A-2 DL MS		7-900 /	B-737-800 DL MSP/
NT2W	54	B-737 Max 8	A-321							4	A-321B-737-9 DL I /ATL /JI	00 DL FK			A-3 D DTW/	L		B-737-900 DL ATL/ATL			A-321 DL JFK/JFK			A. H.	-321 A GG/	A-320 DL SEA/SEA	B-737 DL JFK/	-900
NT2W	55 - IAF	B-757-200WL	B-757-300																									
NT2W	56 - IAF	B-757-200WL	B-757-300																									
NT2W	56A - IAF	B-747-400ER	B-777-300ER							B-78	37-8 DL 'ATL	B-787-8 DL /MSP			B-787-8 DL ATL/ATL			77-200 BA R/LHR		37-8 ol /JFK		B-787-8 DL ATL/	8 L	<mark>-777-3</mark> 00 A HR/	B-777-300 BA /LHR	B-787-8 DL /ATL	A-33 HA HNL,	<mark>/</mark>
NT2W	57 - IAF	B-757-200WL	B-757-300								A-32: H/ /OG0	A	B	-737 Max 7 WN SJD/SJD						B-737-800V/L WN SJD/LAS								
NT2W	57A - IAF	B-747-400ER	B-777-300ER													B-78 Di ATL/						B-I DL DT	787-8 - FW/				B-787-8 DL /DTW	
NT2W	58 - IAF	A-321-NEO	A-321																B-737-700VL WN CUN/CUN						//.			B-737-800WI. WN BZE/
NT2W	59 - IAF	A-321-NEO	A-321																									
NT2W	59A - IAF	B-747-400ER	B-777-300ER										B-787-8 DL /ATL	A- <mark>330</mark>	-200 HA HNL									B-7 DL MS	87-8 P/	B-78 D ATL	87-8 L 'ATL	
NT2W	60 - IAF	A-321-NEO	A-321							B-7	37 <mark>-800WL</mark> WN /BZE																	
NT2W	60A - IAF	A-330-300	A-330-300													-787-8 DL FL/ATL		A-340-30 LH FRA/	0 A-340-	BOO LH FRA				B-787-8 DY LGW/	B-78 DL ATL	87-8 /		
NT2W	61 - IAF	B-747-400ER	B-777-300ER								B-7	787-8 DY 'LGW			B-76 E MSP	87-8 B-7 DL IL /MSP NR	87-8 [/	B-787-8 JL /NRT					B-787-8 QF SYD/	В-	787-8 QF /SYD			
zRemote	R_01	B-757-300WL	B-757-300WL																									
zRemote	R_02	B-757-300WL	B-757-300WL																									
zRemote	R_03	B-757-300WL	B-757-300WL																									

Terminal Position		Max Wingspan Acrft	Max Length Acrft	Depend Group
zRemote	R_04	B-757-300WL	B-757-300WL	
zRemote	R_05	B-757-300WL	B-757-300WL	
zRemote	R_06	B-757-300WL	B-757-300WL	
zRemote	R_07	B-757-300WL	B-757-300WL	
zRemote	R_08	B-757-300WL	B-757-300WL	
zRemote	R_09	B-757-300WL	B-757-300WL	
zRemote	R_10	B-757-300WL	B-757-300WL	
zRemote	R_11	B-757-300WL	B-757-300WL	
zRemote	R_12	B-757-300WL	B-757-300WL	
zRemote	R_13	B-757-300WL	B-757-300WL	
zRemote	R_14	B-757-300WL	B-757-300WL	
zRemote	R_15	B-757-300WL	B-757-300WL	
zRemote	R_16	B-757-300WL	B-757-300WL	
zRemote	R_17	B-757-300WL	B-757-300WL	
zRemote	R_18	B-757-300WL	B-757-300WL	
zRemote	RWB_01	A-330-200	A-330-200	
zRemote	RWB_02	A-330-200	A-330-200	
zRemote	RWB_03	A-330-200	A-330-200	

< Start of Analysis Day										End of A	End of Analysis Day >												
12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PN