FAA Regional Air Service Demand Study

Grant #:
3-36-0066-111-02

Task B — Forecast of Passengers, Operations and Other Activities

May 2007

Port Authority of New York & New Jersey

JFK –
John F. Kennedy
International Airport

LGA –
LaGuardia Airport

EWR –
Newark Liberty
International Airport

New York State Department of Transportation

SWF –
Stewart International
Airport

HPN –
Westchester County
Airport

ISP –
Long Island
MacArthur Airport

Delaware Valley Regional Planning Commission

ABE –
Lehigh Valley
International Airport

ACY –
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International Airport

TTN –
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Airport

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FAA Regional Air Service Demand Study

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Grants

PANYNJ: 3-36-0066-111-02

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Introduction / Purpose

This report presents comprehensive forecasts of aviation demand at John F. Kennedy International (JFK), LaGuardia (LGA), and Newark Liberty International (EWR) Airports for the years 2005 through 2015, 2020, and 2025. These forecasts were prepared as part of the Federal Aviation Administration (FAA) Regional Air Service Demand Study. This study looks at demand at nine New York City-area airports. Demand for the nine-airport region as a whole and the Port Authority of New York & New Jersey (PANYNJ) 3-airport region was taken into consideration in developing the forecasts for the individual airports.

The forecasts presented in this report represent market-driven demand for air service and are therefore considered "unconstrained." In other words, for purposes of estimating demand, the forecasts assume facilities can be provided to meet the demand. However, because each of the PANYNJ airports already has facility and/or policy constraints, historical traffic was also limited, so the forecasts inherently reflect the existing constraints.

A baseline forecast was developed that represents the most likely level of activity at the three Port Authority of New York and New Jersey (PANYNY) airports. In addition, Optimistic and Pessimistic Scenarios were developed to show the broad range of possible aviation activity that could be experienced at JFK, LGA, and EWR over the next 20 years. It is important for the PANYNJ to explore a range of possible future growth scenarios. This will allow the Port Authority to avoid being surprised by potential rapid growth or unexpected slowdowns in growth. These forecasts provide the PANYNJ with a full-range of information from which it will be able to anticipate the airport's future activity, and plan for facilities that might be needed to accommodate future air transportation demand.

Summary of Findings

Annual Forecasts of Aviation Activity

This section contains a summary of the forecast results for the baseline forecasts. **Table 1** shows a summary of the forecast of enplaned passengers through Year 2025. Total enplaned passengers for the three airports combined are forecast to grow from 49.8 million in 2005 to 74.4 million by 2025, representing average annual growth of 2.0 percent.

Table 1
ENPLANED PASSENGER FORECAST SUMMARY

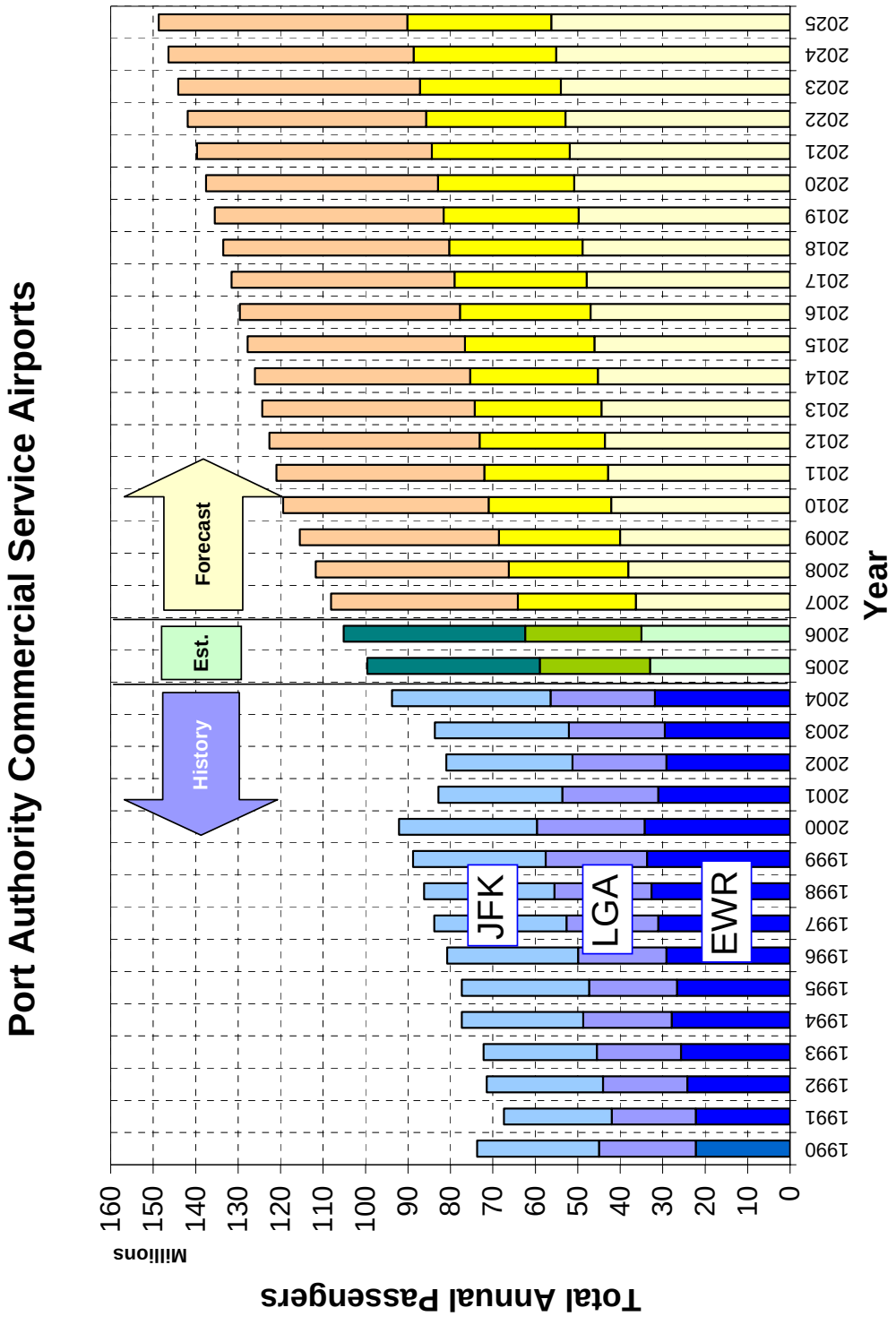
Enplaned Passenger Forecast Summary
JFK+LGA+EWR

	Year	Kennedy	LaGuardia	Newark	Total
Actual	1990	14,333,086	11,405,427	11,103,603	36,842,116
	1995	14,985,832	10,348,908	13,320,486	38,655,226
	2000	16,256,771	12,676,586	17,125,979	46,059,336
Estimated	2005	20,336,175	12,955,921	16,499,848	49,791,944
Estimated	2006	21,381,200	13,686,900	17,491,100	52,559,200
	2007	22,031,300	13,867,760	18,174,000	54,073,060
	2008	22,740,600	14,057,880	19,067,300	55,865,780
	2009	23,450,300	14,250,840	20,035,000	57,736,140
Forecast	2010	24,195,800	14,439,920	21,051,100	59,686,820
	2011	24,469,500	14,593,720	21,431,800	60,495,020
	2012	24,747,100	14,749,140	21,821,700	61,317,940
	2013	25,028,500	14,899,540	22,220,800	62,148,840
	2014	25,313,900	15,058,140	22,628,700	63,000,740
	2015	25,603,200	15,218,540	23,046,600	63,868,340
	2020	27,297,500	16,055,940	25,419,300	68,772,740
	2025	29,265,300	16,965,380	28,127,100	74,357,780
Average Annual Growth Rates					
	1990-2005	2.4%	0.9%	2.7%	2.0%
	2005-2015	2.3%	1.6%	3.4%	2.5%
	2015-2025	1.3%	1.1%	2.0%	1.5%
	2005-2025	1.8%	1.4%	2.7%	2.0%

H:\New York System Forecast\Forecasts\Master Sheets\[NY Master Sheet3.xls]PANYNJ Summary
Source: Landrum & Brown

Exhibit 1 charts the growth of total passengers (enplaned passengers times two) for each airport as well as for the three airports as a total from 1990 through 2005. Total passenger volumes at the three airports returned to Year 2000 volumes by Year 2004. Total passengers are estimated to reach 100 million by Year 2005, and are forecast to reach 130 million by Year 2016 and nearly 150 million by 2025.

Exhibit 1
FORECASTS OF TOTAL ANNUAL PASSENGERS



Source: Landrum & Brown

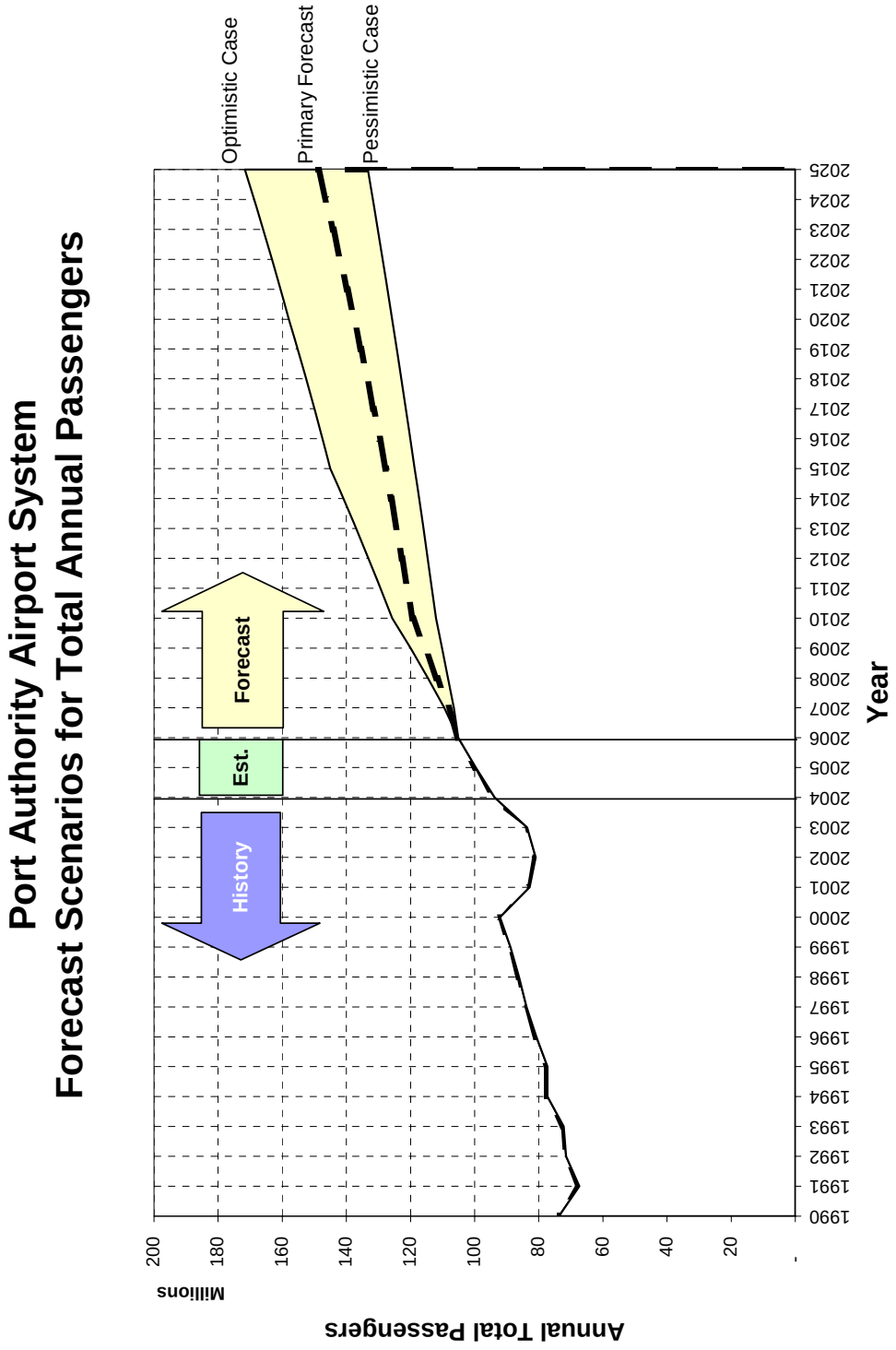
Although overall traffic levels returned to Year 2000 levels by Year 2004, the mix of traffic by airport has changed. JFK now has the largest portion of traffic. Recent growth at JFK has been fueled by the rapid expansion of low fare service by JetBlue. This forecast assumes that the rapid growth at JFK by JetBlue continues through Year 2007.

Longer term, EWR will have the largest percent increase in traffic. EWR passenger volumes are forecast to increase by 2.7 percent annually from 2005 to 2025 due to the expected surge in traffic from the introduction of service by JetBlue in October of 2005 and a vigorous competitive response by established airlines at EWR, especially Continental. This higher growth will result in EWR capturing an increasing share of the region's traffic – from 33 percent in 2005 to 38 percent by 2025. JFK and LGA enplaned passengers are forecast to grow at a slower rate than the 3-airport region as a whole.

Exhibit 2 shows both an optimistic and a pessimistic scenario for the forecast of total annual passengers at the Port Authority Airports. The Optimistic Scenario is not meant to represent the absolute maximum activity that is possible at each airport during the forecast period. By the same token, the Pessimistic Scenario does not represent a gloom-and-doom case.

The optimistic scenario for domestic originations assumes a continuation of the success of the low cost carriers to stimulate traffic above the level correlated to growth in the underlying demographic and economic variables for the airport's air service area. JetBlue will make a completely successful transition from a small, locally focused airline to a large national low cost carrier. In addition, low cost carriers would have greater market penetration at both EWR and LGA. The optimistic scenario for international passengers assumes that the business plans by Continental, American and Delta for the increased emphasis on international service will be successful in generating 2.4 million additional annual originating passengers by 2025. Sixty percent of these additional international passengers would be at JFK and 40 percent would be at EWR. The pessimistic scenario for domestic and international originating passengers assumes that the underlying demographic and economic variables for the airport service area increase at 75 percent of the original growth rate. In all scenarios (optimistic, primary, and pessimistic), connecting passengers grow in a constant proportion to originating passengers.

Exhibit 2
SCENARIO FORECASTS FOR TOTAL ANNUAL PASSENGERS



Source: Landrum & Brown

Table 2 shows that annual aircraft operations for the three airports combined are forecast to increase from nearly 1.2 million in 2005 to over 1.5 million by 2025, an average annual growth rate of 1.2 percent. This rate is just over one half of the rate of growth forecast for passenger volume. Thus, more passengers will be on each flight as passenger volume increases. In recent history, airlines have responded to increasing passenger demand by becoming more efficient in filling the seats (or increasing the "load factor") on existing flights. As average load factors increase, more aircraft run at full capacity, especially during peak travel times. As a result, future growth in passengers per flight will more likely occur as a result of increasing the size of the aircraft. High fuel prices make the inefficiencies of smaller regional jet aircraft more apparent. These aircraft are leading candidates for replacement by larger regional jet and small narrow-body jet aircraft.

Table 2
Aircraft Operations Forecast Summary

Aircraft Operations Forecast Summary
JFK+LGA+EWR

	Calendar Year	Kennedy	LaGuardia	Newark	Total
Actual	1995	340,124	345,490	420,546	1,106,160
	2000	345,311	384,555	450,289	1,180,155
Estimate	2005	351,701	403,525	434,810	1,190,036
Estimate	2006	359,075	406,096	450,781	1,215,952
Forecast	2007	368,590	412,830	466,220	1,247,640
	2008	379,170	407,510	482,840	1,269,520
	2009	390,270	402,690	500,640	1,293,600
	2010	401,930	397,970	519,330	1,319,230
	2011	406,590	395,350	526,310	1,328,250
	2012	410,840	393,030	533,390	1,337,260
	2013	415,290	390,610	540,660	1,346,560
	2014	419,930	391,790	548,120	1,359,840
	2015	424,570	393,170	555,690	1,373,430
	2020	445,310	401,170	594,450	1,440,930
	2025	468,400	418,580	636,570	1,523,550
Average Annual Growth Rates					
	1995-2005	0.3%	1.6%	0.3%	0.7%
	2005-2015	1.9%	-0.3%	2.5%	1.4%
	2015-2025	1.0%	0.6%	1.4%	1.0%
	2005-2025	1.4%	0.2%	1.9%	1.2%

H:\New York System Forecast\Forecasts\3 Overall Forecasts\EWR\[EWR Forecasts.xls]Tables
Source: Landrum & Brown

International flights to Europe and Asia will still be served predominantly by wide-body aircraft, while international flights to Latin America will be served mostly by large narrow-body aircraft. The size of aircraft on international markets is expected to increase slowly between 2005 and 2025.

Table 3 shows that total air cargo (freight plus mail) tonnage for all three airports is projected to increase from 2.9 million tons in 2005 to 4.0 million tons in 2025. JFK handles the vast majority (over 60 percent of the three Port Authority airports) of cargo. EWR handled 36 percent of the cargo volumes in 2005 and is expected to handle 38 percent in 2025. LGA has very little cargo – approximately one percent of the Port Authority cargo.

Table 3
AIR CARGO TONNAGE FORECAST SUMMARY

Air Cargo Tonnage Forecast Summary
JFK+LGA+EWR

	Year	Kennedy	LaGuardia	Newark	Total
Actual	1990	1,458,053	128,825	556,758	2,143,636
	1995	1,780,177	102,203	1,043,237	2,925,617
	2000	2,031,709	79,171	1,193,397	3,304,278
Estimate	2005	1,830,722	31,525	1,029,567	2,891,815
Forecast	2006	1,965,250	30,446	1,092,547	3,088,242
	2007	2,003,059	29,404	1,118,681	3,151,144
	2008	2,037,155	28,399	1,143,079	3,208,633
	2009	2,068,734	27,429	1,166,329	3,262,493
	2010	2,098,319	26,493	1,188,690	3,313,502
	2011	2,126,676	25,589	1,210,540	3,362,804
	2012	2,154,214	24,716	1,232,080	3,411,010
	2013	2,181,476	23,874	1,253,580	3,458,930
	2014	2,208,456	23,061	1,275,036	3,506,553
	2015	2,234,801	22,277	1,296,277	3,553,355
	2020	2,365,820	18,741	1,403,630	3,788,192
	2025	2,497,149	15,775	1,513,730	4,026,654
Average Annual Growth Rates					
	1990-2005	1.5%	-9.0%	4.2%	2.0%
	2005-2015	2.0%	-3.4%	2.3%	2.1%
	2015-2025	1.1%	-3.4%	1.6%	1.3%
	2005-2025	1.6%	-3.4%	1.9%	1.7%

H:\New York System Forecast\Forecasts\Cargo\[Cargo Forecast Template.xls]Tables
Source: Landrum & Brown

Changes in Regional Air Service Since 2005

The demand forecasts for this study are based on 2004 and 2005 data. Since that time, several significant changes to regional air service have occurred. These changes create short-term variances between actual 2006 and estimated 2007 activity and those forecast in this document. In addition, the FAA has published its 2006 Terminal Area Forecasts (TAF) which reflects many of these air service changes made in 2006. As a result, the FAA forecast shows considerably higher growth for JFK than does this regional study. Had this information about the new air service been available for this study, the short-term forecasts for the JFK in this study might have also been higher.

The most significant of these air service changes is the creation of a short-haul domestic air service element to the Delta Air Lines hub at JFK. The forecasts for this study reflect the previously announced Delta Air Lines business plan for significantly expanding its international gateway hub at JFK. The actual implementation of the plan included a significant portion of morning flights that do not have an international air service element. Most of these new morning flights are by regional jet and prop aircraft. Simultaneously, with these new flights, Delta Air Lines continued its previously announced phase-out of its low-cost subsidiary – Song. The phase-out of Song was included in the forecasts for this study.

In 2007, the Port Authority prepared new forecasts for JFK. The table below summarizes a comparison of these forecasts to those of this study.

COMPARISON OF REGIONAL STUDY AND NEW PORT AUTHORITY FORECASTS FOR JFK AIRPORT

Year	Annual Enplaned Passengers Forecasts		Annual Aircraft Operations Forecasts	
	Regional Study	2007 PANYNJ	Regional Study	2007 PANYNJ
2006	21,381,200	21,314,704[1]	359,075	378,410[1]
2007	22,031,300	22,997,921	368,590	465,228
2010	24,195,800	25,762,077	401,930	502,047
2015	25,603,200	28,997,358	424,570	542,681
2020	27,297,500	31,529,455	445,310	583,029
2025	29,265,300	33,956,103	468,400	605,984

Notes: 1 – Port Authority values for 2006 are actual traffic

As shown, the Port Authority has revised their forecast so that it shows that

passenger volumes originally forecast in this study for 2015 will now occur by 2010. 2015 passenger activity will be near the values originally forecast for 2025. Aircraft activity volumes originally forecast for 2025 will now be exceeded in 2008.

Effect of New JFK Service Patterns on Airfield Delays

Some of the new flights at JFK were added in the peak hours, where they provide connections to international air service. However, a major portion of the new flights were added during other times of the day when unused airfield capacity was available. Thus, it is not possible to directly correlate the increased airfield operations counts to the forecasts of future delays presented in this study. 2008 airfield operations counts are expected to exceed the volumes forecast for 2025. However, delay levels recorded by the FAA in the ASPM databases during the first few months of this new activity only reach the delays levels originally forecast for 2009. Since the initiation of the air service changes, FAA air traffic controllers at JFK have responded by changing the operating procedures used during previously off-peak hours to procedures that are similar to procedures used during peak afternoon and evening hours. These changes are likely to further mitigate higher delays. Thus, it is judged that delay levels are more likely to change as shown in the table below, which indicates a range of possible delays for 2015 and 2025.

IMPLICATIONS OF REVISED JFK AIRCRAFT OPERATIONS FORECASTS ON FUTURE AVERAGE DELAY LEVELS

	Arrival Delay per Aircraft (minutes)		Departure Delay per Aircraft (minutes)	
Forecast Case	2015	2025	2015	2025
Regional Forecast	41	67	29	46
2007 PANYNJ Forecast	45-50	90-120	35-40	50-60

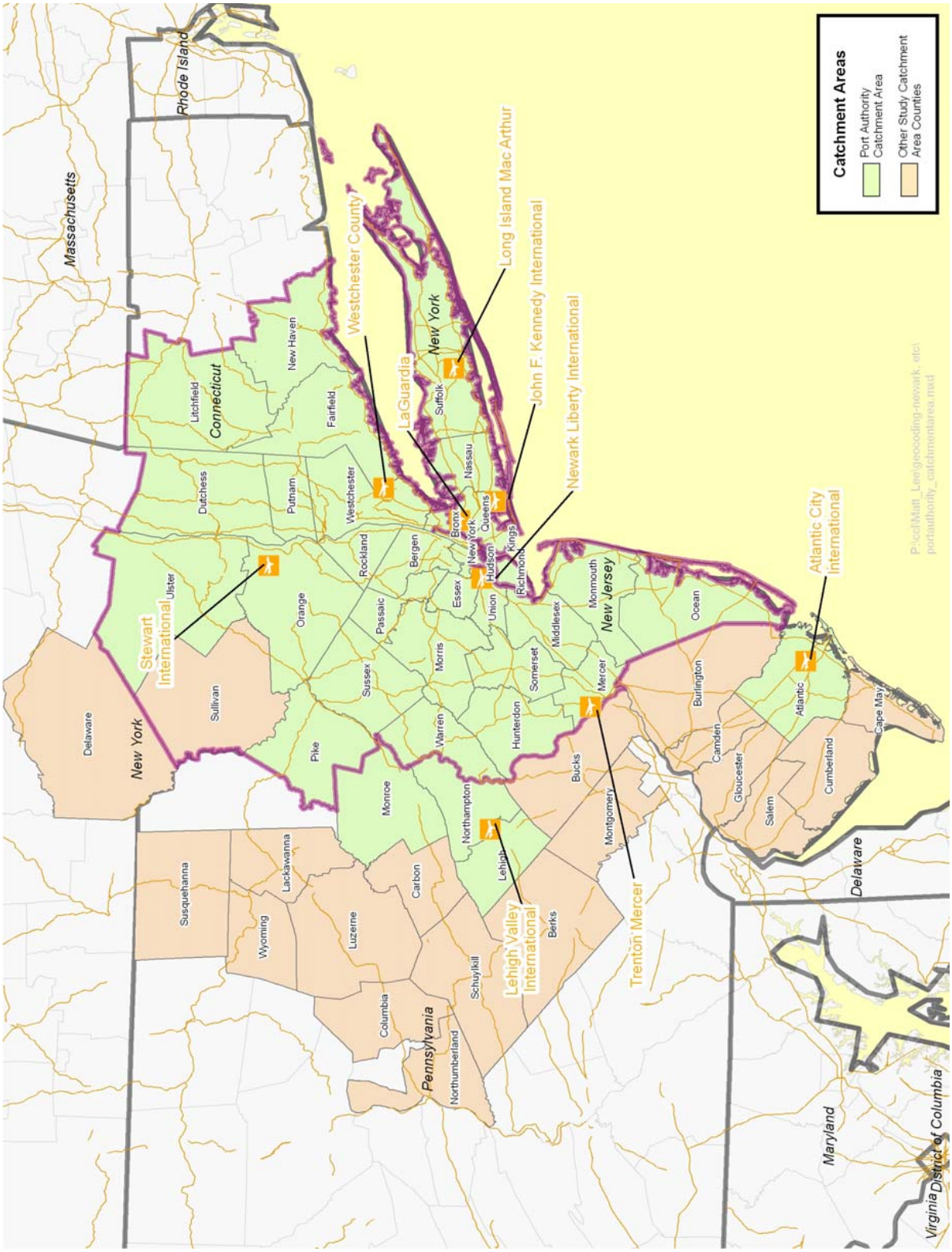
Other Regional Air Service Changes

In addition to the air service changes at JFK, AirTran Airways initiated new service at HPN and SWF, Allegiant Airlines started service at SWF and ABE, JetBlue started service at SWF, and Delta Air Lines started service at SWF and TTN. Allegiant has since discontinued its service at SWF. While these service changes at the region's airports have produced changes in the regional supply of air service, it is too early to determine which of these new services will be financially successful. Many of these competitive service changes were announced nearly simultaneously.

Overall, the recent changes to regional air service have increased the supply of air service at several of the region's airports and have resulted in lower air fares. It is

reasonable to expect that the lower fares will stimulate travel and divert travel from one airport to another. However, it is too early to determine whether actual demand has been sufficiently stimulated to sustain all the additional air service at profitable fare levels. The expectation is that some of the new air service might not be sustainable.

Exhibit I-1
AIRPORT SERVICE AREA DEFINITIONS



Source: PANYNJ 2005 Air Passenger Survey

I. Airport Service Areas

SUMMARY

The service area for the Port Authority airports is a subset of the service area for the entire FAA Regional Air Service Demand Study. These service areas are shown on **Exhibit I-1** (facing page). They were defined using the air passenger survey conducted as part of the same regional study. The purple outline on the exhibit also shows a previously defined service area base on a similar 1998 survey.

The green area on Exhibit I-1 shows the combined service area for all three Port Authority commercial service areas. The purple outline shows a previous definition of the combined service area. Compared to the previous definition, the 2005 service area includes three additional counties in Pennsylvania (Lehigh, Northampton, and Monroe) and one additional county in New Jersey (Atlantic). The 2005 service area has one less county in New York State (Sullivan). Overall, the 2005 service area has 35 counties versus 32 in the previous service area. The 35 counties are the basis of the socio-economic model for the combined Port Authority region.

The remainder of this section describes how passenger survey findings were used to define the service area for each individual Port Authority airport, as well as the service area for the three airports combined.

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I.1 ZIP CODE ANALYSIS PASSENGER SURVEYS

The surveys were conducted during a three-month period beginning in mid-March and finishing in mid-June 2005. A total of 16,090 usable surveys were collected. The definition of a usable survey included the zip code for the local trip origin and the minimum demographic information about each passenger. Surveys were self administered in the gate holdrooms at each airport.

Table I-1 shows a summary of the survey sampling plan for each of the three airports. The surveys were conducted between 6:00 am and midnight across all seven days of the week. Each day of the week was surveyed seven or eight times during the three-month survey period. As shown in the tables, the distribution of surveys across terminal concourses and airlines achieved the sampling plan.

Table I-1
SUMMARY OF SURVEY SAMPLING PLAN

Airport	Terminal	Originating	Connecting	Total	Percent Connecting	Sampling Plan	Percent of Plan
JFK	Terminal 1	398	64	462	14%	435	106%
JFK	Terminal 2-3	791	317	1,108	29%	1,020	109%
JFK	Terminal 4	754	96	850	11%	941	90%
JFK	Terminal 6	1,408	171	1,579	11%	1,519	104%
JFK	Terminal 7	625	79	704	11%	721	98%
JFK	Terminal 8	1,130	273	1,403	19%	1,439	97%
Total	**JFK**	**5,106**	**1,000**	**6,106**	**16%**	**6,075**	**101%**
LGA	CTB	2,187	37	2,224	2%	2,173	102%
LGA	USAirways	798	48	846	6%	805	105%
LGA	Delta	989	17	1,006	2%	1,080	93%
LGA	Marine	308	-	308	0%	261	118%
Total	**LGA**	**4,282**	**102**	**4,384**	**2%**	**4,319**	**102%**
EWR	Terminal A	1,129	66	1,195	6%	1,218	98%
EWR	Terminal B	949	114	1,063	11%	1,062	100%
EWR	Terminal C	2,402	940	3,342	28%	3,320	101%
Total	**EWR**	**4,480**	**1,120**	**5,600**	**20%**	**5,600**	**100%**
Total	**All Airports**	**13,868**	**2,222**	**16,090**	**14%**	**15,994**	**101%**

Source: PANYNJ 2005 Air Passenger Survey

The percent connecting passengers reported in the passenger survey is higher than the percentages reported to the US DOT in the T-100 databases. The percentage of connecting passengers at JFK is 12.7 percent according to US DOT. US DOT also shows that the percentage of connecting passengers at LGA is 5.8 percent. The percentage at EWR is 23.5 percent. The passenger survey shows that a large portion of the connecting passengers changed airlines and thus are likely to be reported to US DOT as O&D passengers since they travel on two tickets. A similar situation occurs at EWR, however the number of passengers using two airlines is less.

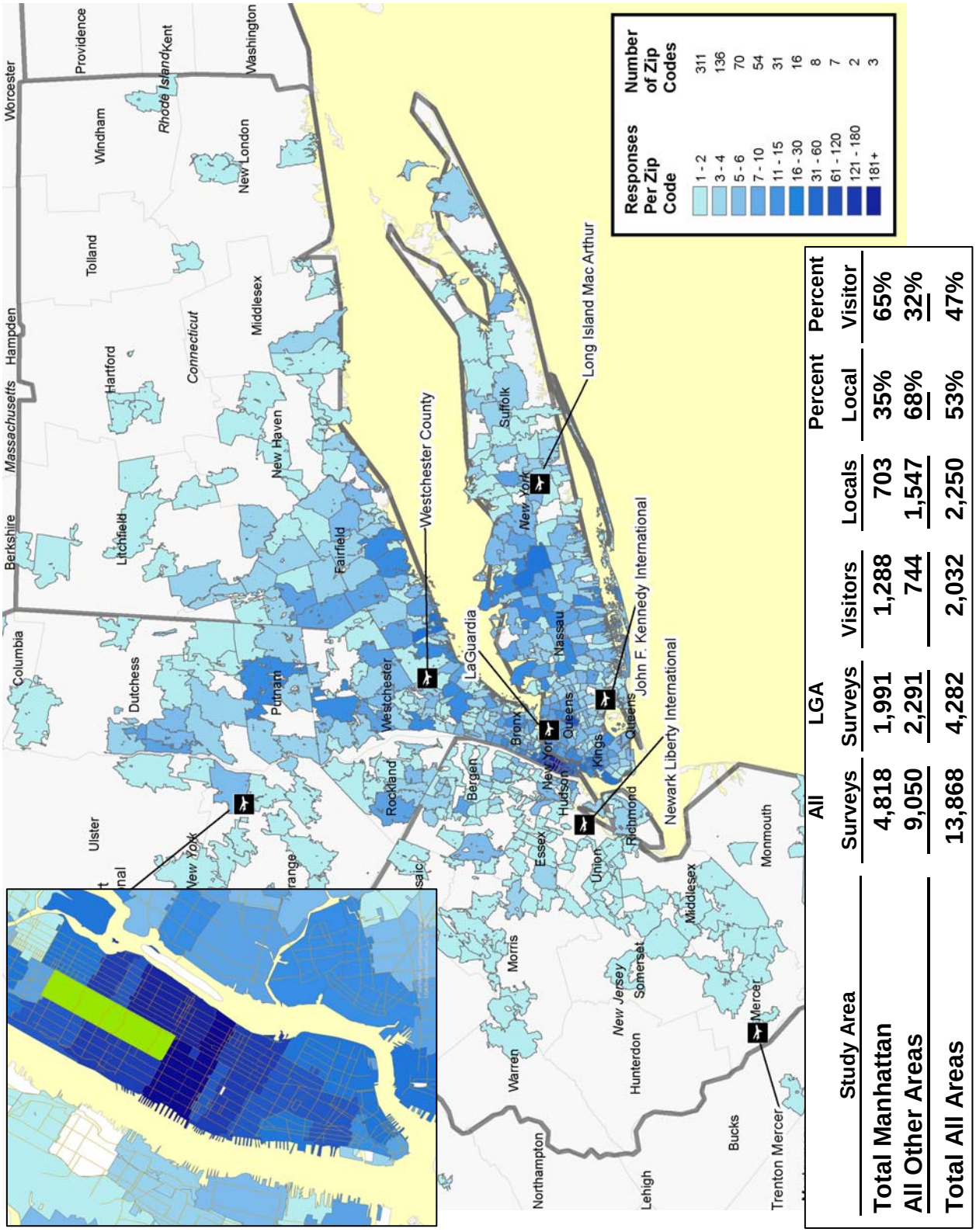
The proportion of surveys assigned to originating and connecting passengers was not predetermined, although a different survey instrument was used for connecting passengers versus originating passengers. Table III-1 also summarizes the split between originating and connecting surveys at each airport.

A key purpose of the survey was to identify at the zip code level the local origin of passenger trips to each airport. Zip codes were then assigned on a geographic basis to a county, based upon the majority of a zip code area being within that county. Survey findings were then summarized on a county-by-county basis.

Other survey questions focused on airport preferences, alternative airports used and identifying factors important for airport choice. In addition, questions covered topics about trip purpose, the passenger's place of residence, mode of ground transportation to the airport, and the ultimate destination of the trip. Basic demographic information about the passenger was also gathered. All data was tested for significance at the 95 percent confidence level plus/minus three percent.

Exhibit I-2 shows the distribution of surveys by the zip code of passenger trip origin for LGA. The greatest majority of the passenger trips for LGA originate east of the Hudson River. A total of 4,282 surveys of originating passengers were collected at LGA (31 percent of the 13,868 total surveys). Just over half (53 percent) of these surveys were collected from residents of the region. The rest of the surveys were from visitors. As shown, 46 percent of LGA trips originate in Manhattan. Almost two thirds of the Manhattan trips are made by visitors to the region. By contrast, more than two thirds of passenger trips made to areas outside of Manhattan are made by regional residents. Slightly more regional residents use LGA than visitors.

Exhibit I-2
DISTRIBUTION OF PASSENGER TRIP ORIGINS FOR LAGUARDIA

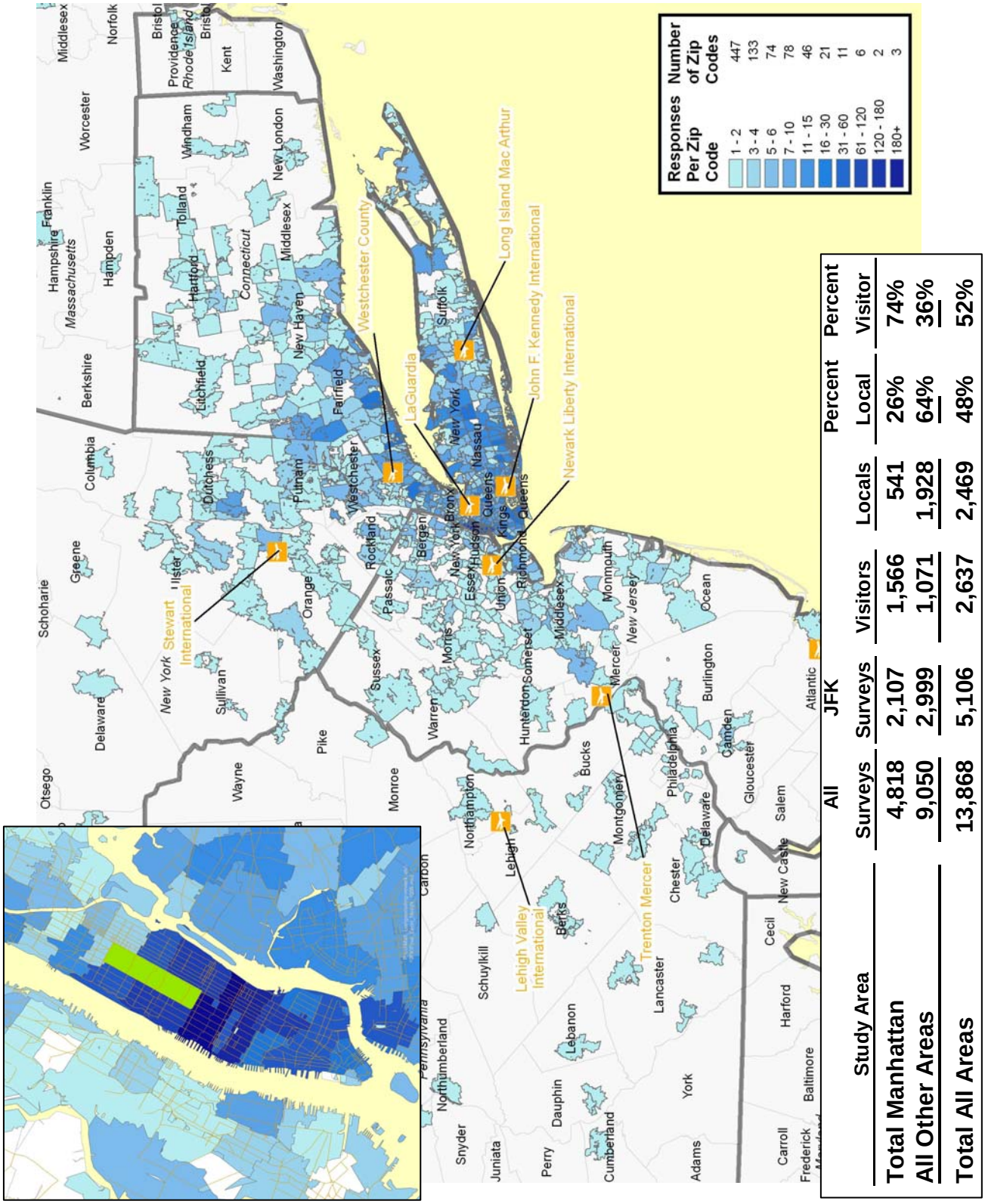


Study Area	All Surveys	LGA Surveys	Visitors	Locals	Percent Local	Percent Visitor
Total Manhattan	4,818	1,991	1,288	703	35%	65%
All Other Areas	9,050	2,291	744	1,547	68%	32%
Total All Areas	13,868	4,282	2,032	2,250	53%	47%

Source: PANYNJ 2005 Air Passenger Survey

Exhibit I-3 shows the distribution of surveys by zip code of passenger trip origin for JFK. Overall, JFK surveys have more dispersion across the region than LGA surveys. A total of 5,106 originating surveys were collected at JFK or 37 percent of the total of 13,868 originating surveys collected. Similar to LGA, 41 percent of JFK trips originate on Manhattan Island. Three quarters (74 percent) of the Manhattan trips are made by visitors to the region. This compares to almost two thirds (64 percent) of the trips from other parts of the region being made by regional residents. Slightly more visitors (52 percent) use JFK than regional residents.

Exhibit I-3
DISTRIBUTION OF PASSENGER TRIP ORIGINS FOR KENNEDY



Study Area	All Surveys	JFK Surveys	Visitors	Locals	Percent Local	Percent Visitor
Total Manhattan	4,818	2,107	1,566	541	26%	74%
All Other Areas	9,050	2,999	1,071	1,928	64%	36%
Total All Areas	13,868	5,106	2,637	2,469	48%	52%

Source: PANYNJ 2005 Air Passenger Survey

Exhibit I-4 shows the distribution of surveys by zip code of passenger trip origin for EWR. The great majority of EWR passenger trips originate west of the Hudson River. In contrast to both LGA and JFK where more than 40 percent of surveys were from Manhattan passengers, only 16 percent of EWR trips originate on Manhattan Island. Similar to LGA and JFK, 73 percent of Manhattan passengers are visitors to the region. Sixty percent of the EWR passengers from outside of Manhattan are residents of the region. Overall, 54 percent of EWR passengers are residents of the region.

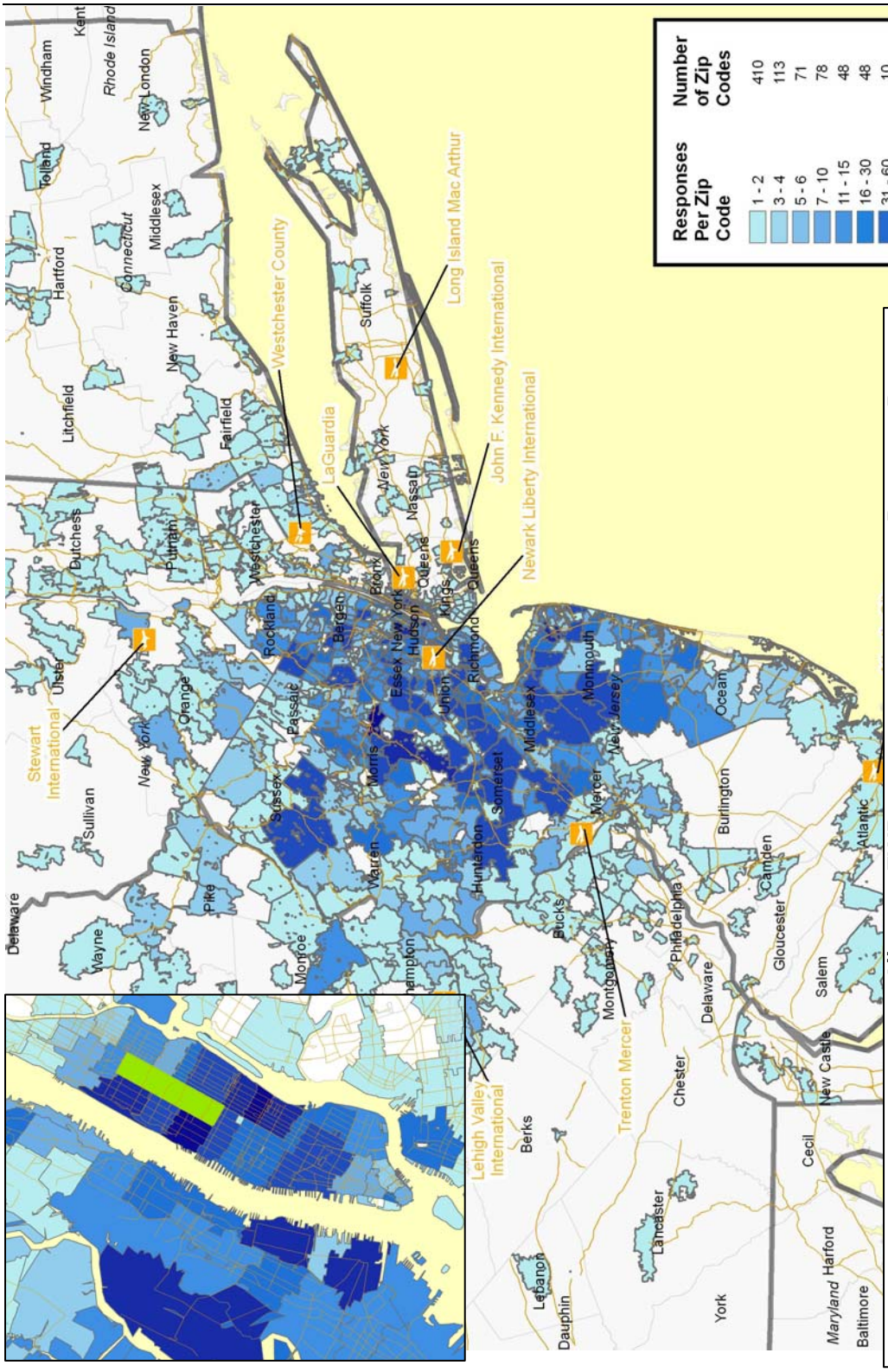
I.2 IDENTIFICATION OF AIRPORT SERVICE AREAS

To identify the counties which comprise the service areas, the survey responses by zip code were summarized by county to determine the number of survey responses for each county. The number of surveys responses from each county was compared to the total county population to determine a rate of survey response per 1,000 population. An empirically established level of significance was used to determine whether a county was part of the service area.

Each zip code was assigned to a county depending upon its location. Those zip code areas that spanned county boundaries were assigned to the county which had the larger portion of a zip code's area. The number of surveys was then tallied and compared to the county 2004 population (as described by Woods & Poole Economics). A rate of surveys per 1,000 population was established. Using a threshold of 0.05 surveys per 1,000 population gave the best results for defining airport service areas that were composed of contiguous counties; and were reasonably consistent with past definitions.

The purpose of this analysis is to define those counties that should be included in the socio-economic model of each airport's service area. While a county may generate a noticeable number of trips to an airport, the airport may not necessarily be an important part of that county's air travel market. Including a large county that generates a small number of trips in an airport service area model would distort the overall airport model towards the socio-economic factors of a county that generates only a small number of trips.

Exhibit I-4
DISTRIBUTION OF PASSENGER TRIP ORIGINS FOR NEWARK

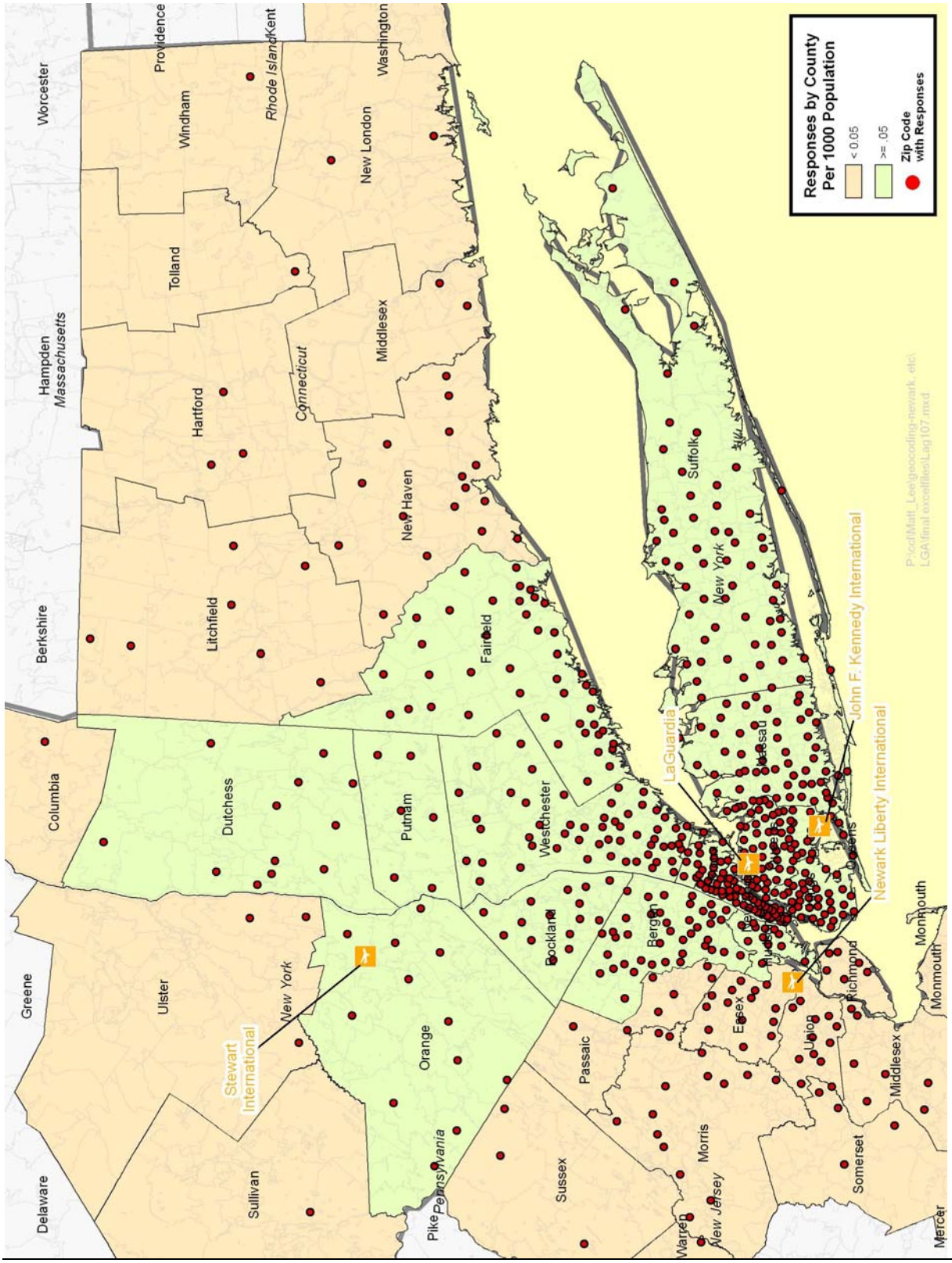


Study Area	All Surveys	EWR Surveys	Visitors	Locals	Percent Local	Percent Visitor
Total Manhattan	4,818	720	525	195	27%	73%
All Other Areas	9,050	3,760	1,518	2,242	60%	40%
Total All Areas	13,868	4,480	2,043	2,437	54%	46%

Source: PANYNJ 2005 Air Passenger Survey

Exhibit I-5 shows the service area for LGA. The LGA service area includes four of the five boroughs of New York City. Only 11 passenger surveys at LGA were from Richmond County (Staten Island). These were not enough to establish it as a significant part of the LGA service area. Only two counties from New Jersey, Hudson and Bergen are in the LGA service area. Only one county from Connecticut (Fairfield) is in the LGA service area. The LGA service area lies entirely within the JFK service area.

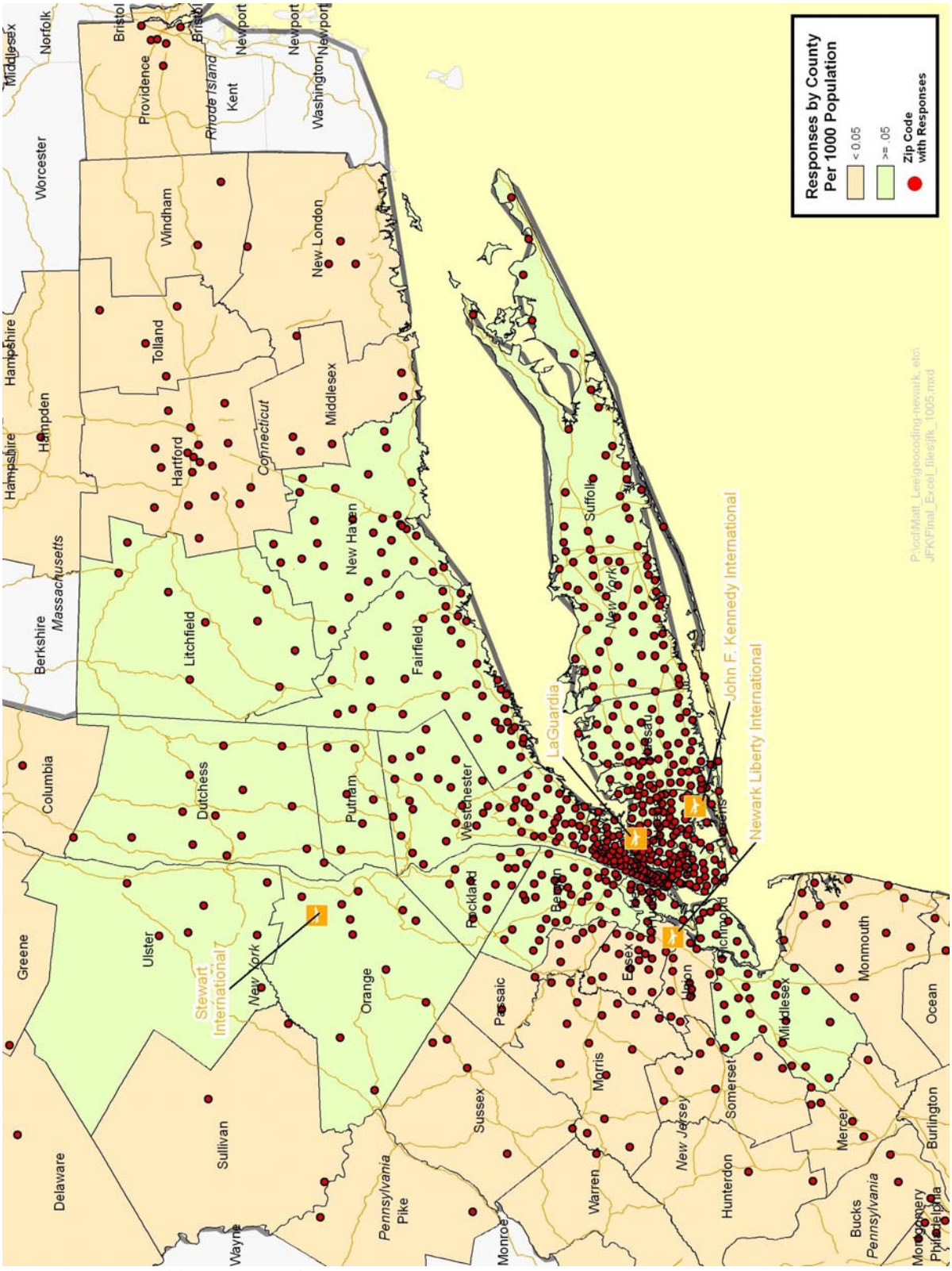
Exhibit I-5
LAGUARDIA AIRPORT SERVICE AREA



Source: PANYNJ 2005 Passenger Survey

Exhibit I-6 shows the service area for JFK. JFK is the only airport that includes all five boroughs of the City of New York within its service area. JFK has three counties in New Jersey in its service area (Bergen, Hudson and Middlesex. While Union, Morris and Monmouth Counties in New Jersey all had between 20 and 25 surveys at JFK, their relatively large populations makes this number of surveys insufficient to include them in the JFK service area. Three counties in Connecticut are in the JFK service area (Fairfield, Litchfield, and New Haven). JFK is the only airport in the Port Authority system of airports that serves Litchfield and New Haven Counties in Connecticut.

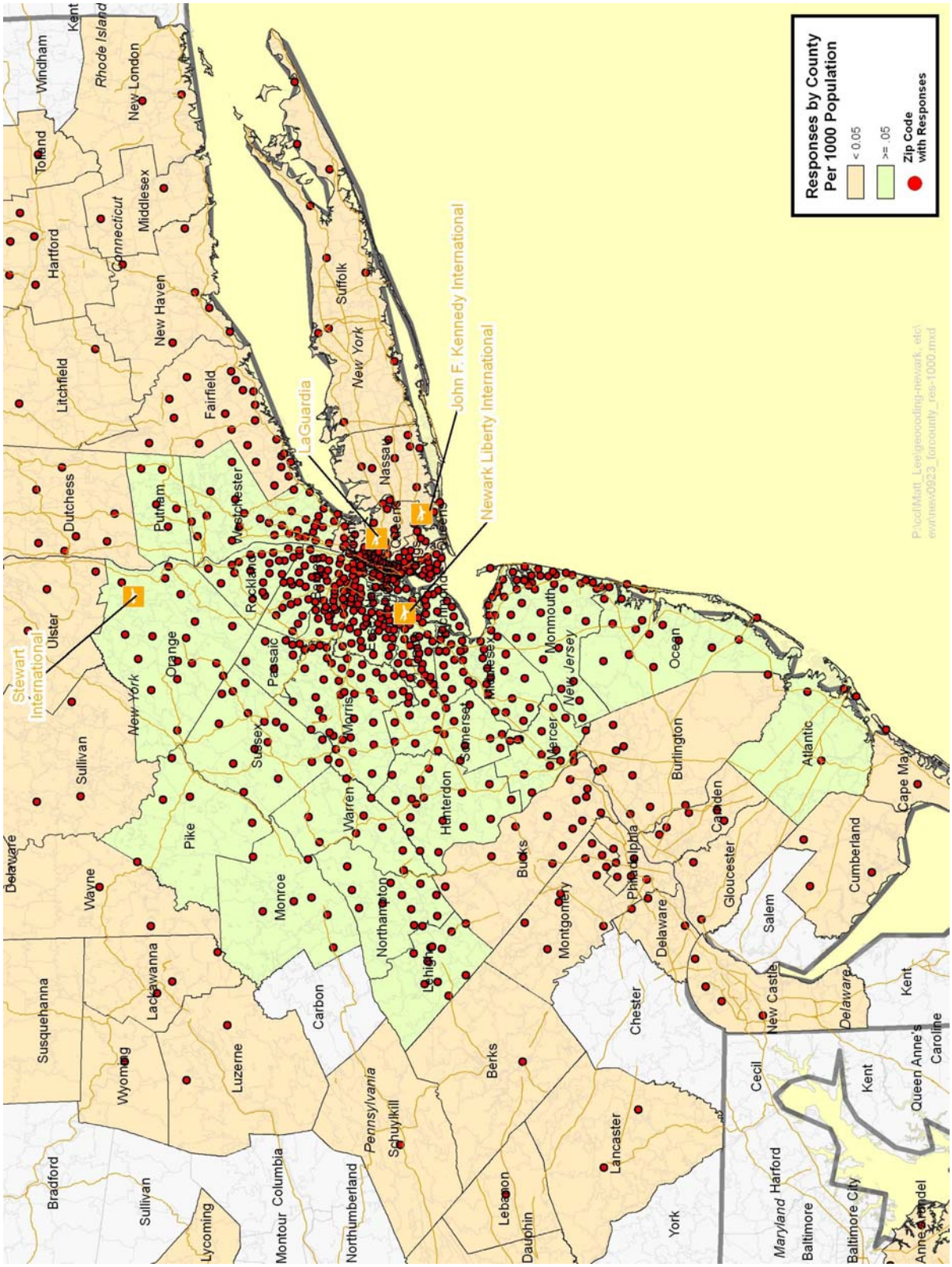
Exhibit I-6
KENNEDY SERVICE AREA



Source: PANYNJ 2005 Passenger Survey

Exhibit I-7 shows the service area for EWR. The EWR service area includes only the Richmond (Staten Island) and Manhattan boroughs of the City of New York. It does not include Brooklyn, Queens or the Bronx. Only three New York State counties that are east of the Hudson River (Westchester, Putnam, and New York) are in the service area for EWR. EWR does not have any Connecticut counties in its service area. Pike, Monroe, Northampton, and Lehigh Counties in Pennsylvania are in the EWR Service area. EWR is the only Port Authority airport that has Pennsylvania counties within its service area.

Exhibit I-7
NEWARK SERVICE AREA

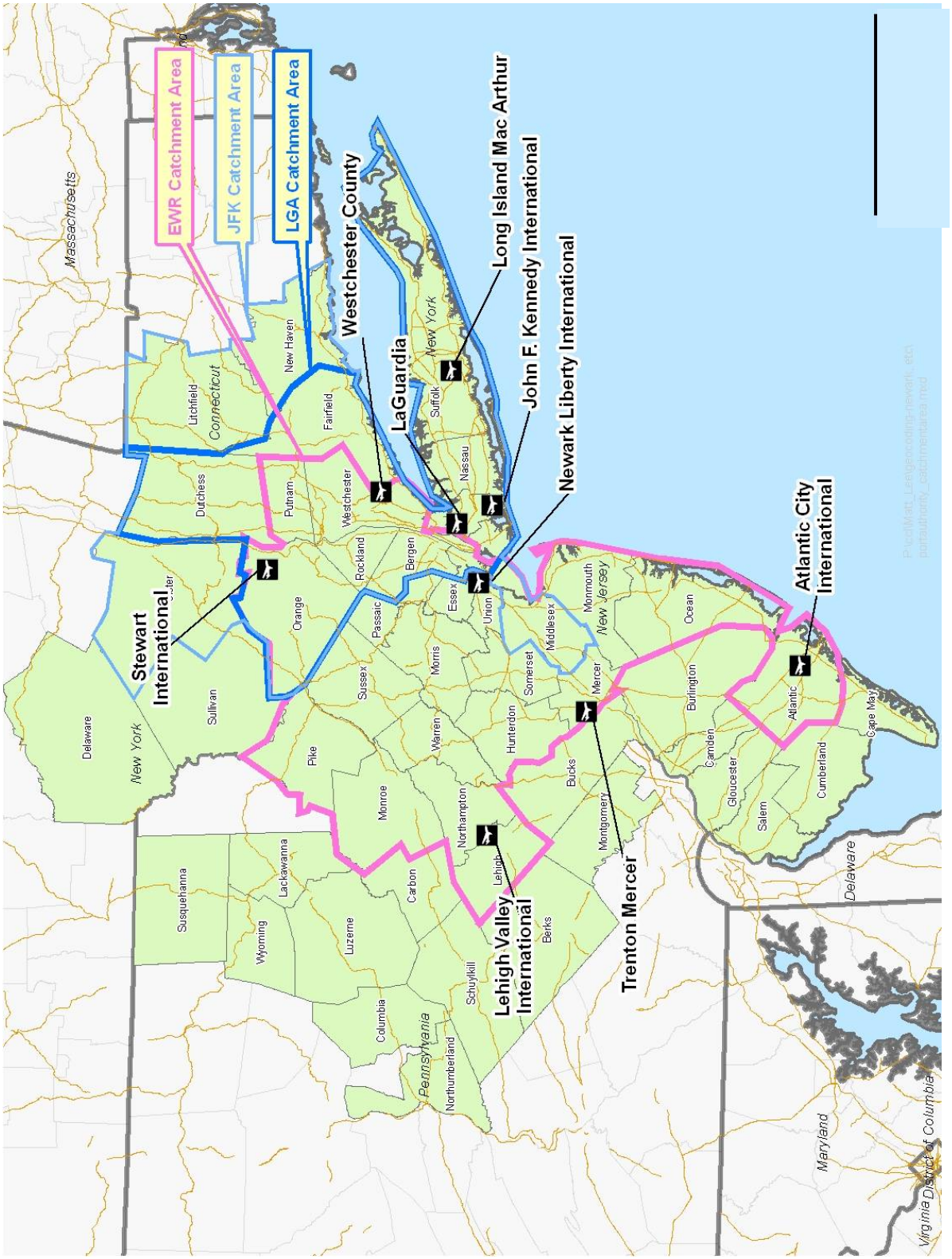


Source: PANYNJ 2005 Air Passenger Survey

Exhibit I-8 shows the outline of each airport's service area. As shown, the service area for LGA lies entirely within the service area for JFK. Only New York, Westchester, Orange and Putnam Counties in New York State, along with Bergen and Hudson Counties in New Jersey are in the service area for all three Port Authority airports. In addition to these six counties, Middlesex County New Jersey and Richmond County New York (Staten Island) are both in the service areas for EWR and JFK. Eleven counties in New Jersey and three in Pennsylvania are unique to EWR. Only one county in New York State (Ulster) and two counties in Connecticut are unique to JFK.

Several counties in the service area are relatively distant from the Port Authority airports. An examination of survey records indicates that the variety of air service available from the Port Authority's airports is the biggest reason for passengers to travel a long distance to use them. About half of the passengers traveling from Ulster County, New York and Litchfield County, Connecticut use JFK for the uniquely available of international service. New Haven County, Connecticut passengers use JFK predominantly for long-haul domestic flights, especially to Florida, Arizona, Nevada, and California. Virtually all of the survey respondents who used EWR to get to Atlantic County, New Jersey were visitors.

Exhibit I-8
COMPARISON OF AIRPORT SERVICE AREA DEFINITIONS



Source: PANYNJ 2005 Air Passenger Survey

Table II-1
PAST TRENDS IN ENPLANED PASSENGERS AT PORT AUTHORITY AIRPORTS

	Year	Kennedy	LaGuardia	Newark	Total
Actual	1990	14,333,086	11,405,427	11,103,603	36,842,116
	1991	12,676,262	9,895,459	11,106,109	33,677,830
	1992	13,699,013	9,926,675	12,106,968	35,732,656
	1993	13,343,914	9,925,196	12,842,360	36,111,470
	1994	14,269,463	10,437,901	13,937,444	38,644,808
	1995	14,985,832	10,348,908	13,320,486	38,655,226
	1996	15,415,665	10,380,046	14,577,835	40,373,546
	1997	15,549,245	10,829,853	15,521,326	41,900,424
	1998	15,349,833	11,406,168	16,330,260	43,086,261
	1999	15,613,362	11,952,284	16,837,163	44,402,809
	2000	16,256,771	12,676,586	17,125,979	46,059,336
	2001	14,569,611	11,305,202	15,537,159	41,411,972
	2002	14,859,918	11,071,275	14,562,582	40,493,775
	2003	15,767,282	11,318,042	14,745,064	41,830,388
	2004	18,686,299	12,277,138	15,922,972	46,886,409
Estimated	2005	20,336,175	12,955,921	16,499,848	49,791,944

Source: Port Authority Records

Table II-2
PAST TRENDS IN AIR CARGO TONNAGE AT PORT AUTHORITY AIRPORTS

	Year	Kennedy	LaGuardia	Newark	Total
Actual	1990	1,458,053	128,825	556,758	2,143,636
	1991	1,484,636	105,599	582,979	2,173,214
	1992	1,487,998	115,168	648,027	2,251,193
	1993	1,524,019	108,742	773,657	2,406,418
	1994	1,637,172	102,746	950,180	2,690,098
	1995	1,780,177	102,203	1,043,237	2,925,617
	1996	1,829,888	95,662	1,056,524	2,982,074
	1997	1,862,908	92,507	1,155,761	3,111,176
	1998	1,794,331	75,791	1,194,776	3,064,898
	1999	1,932,517	79,443	1,205,780	3,217,740
	2000	2,031,709	79,171	1,193,397	3,304,278
	2001	1,672,614	60,986	987,001	2,720,602
	2002	1,773,150	35,527	948,918	2,757,595
	2003	1,824,800	31,364	1,060,186	2,916,351
	2004	1,881,443	29,316	1,085,820	2,996,578
Estimate	2005	1,830,722	31,525	1,029,567	2,891,815

Source: Port Authority Records

II. Past Trends in Airline Service

This section summarizes recent historical aviation activity at JFK, LGA, and EWR. It shows how each airport's traffic has evolved and will serve as the starting point for the development of comprehensive forecasts. A review of recent trends also identifies those factors, which have, or in the future might, influence future traffic volumes.

II.1 Summary of Past Trends in Airport Traffic

Total enplaned passengers at the three Port Authority commercial service airports (JFK, LGA, and EWR) have increased from 36.8 million in 1990 to 49.8 million in 2005, an average annual growth rate of two percent. As shown in **Table II-1** (facing page), enplaned passengers increased steadily from 1991 to 2000. In 2001, they decreased by 10 percent over year 2000 due to a recession and the terrorist attacks of September 11, 2001. They decreased again in 2002 but then rebounded in 2003. Total enplaned passengers increased by 12 percent from 2003 to 2004 and by six percent from 2004 to 2005. The introduction of new service by JetBlue at JFK in February of 2000, at LGA in September of 2004, and at EWR in October of 2005 combined with some competitive response by other airlines has helped fuel this increase.

Table II-2 (facing page) shows that total cargo volumes for the three airports have increased from 2.1 million tons in 1990 to 2.9 million tons in 2005, an average annual increase of two percent. Cargo volumes were as high as 3.3 million in 2000 but experienced a hit in 2001 due to the recession and the terrorist attacks of September 11, 2001. Cargo volumes increased from 2001 to 2004 but are down slightly in 2005. Volumes have not increased to pre-2001 levels.

Annual aircraft operations at the three Port Authority Airports increased from 1.1 million in 1995 to 1.2 million in 2005, an average annual growth rate of less than one percent. As shown in **Table II-3**, aircraft operations increased at a slower rate than annual enplaned passengers reflecting changes in aircraft usage by the airlines and increases in the number of passengers on board each aircraft. These trends at the Port Authority commercial airports reflect national trends where airlines are filling a greater percentage of their seats (increasing the load factor) than they did prior to year 2000.

Table II-3
PAST TRENDS IN AIRCRAFT OPERATIONS AT PORT AUTHORITY AIRPORTS

	Calendar Year	Kennedy	LaGuardia	Newark	Total
Actual	1995	340,124	345,490	420,546	1,106,160
	1996	355,214	345,647	451,075	1,151,936
	1997	353,171	355,099	462,889	1,171,159
	1998	343,565	356,135	455,833	1,155,533
	1999	343,388	362,996	457,974	1,164,358
	2000	345,311	384,555	450,289	1,180,155
	2001	294,026	367,871	439,275	1,101,172
	2002	287,657	362,439	405,817	1,055,913
	2003	280,318	374,961	406,879	1,062,158
	2004	320,013	399,775	437,435	1,157,223
Estimate	2005	351,701	403,525	434,810	1,190,036

Source: Port Authority Records

II.2 Airline Industry Trends at the Port Authority Airports

There are three major ideas behind the evaluation of the airline industry at the Port Authority Airports:

- **Diversity of Air Service** – The New York region benefits from having a wide range of destinations for air service. In addition, more airlines operate to Port Authority airports than any other airport system in the country. Generally, the diversity of destinations and airlines reflects the overall size of the air market and its economic health. New York has one of the most diverse air markets in the nation.
- **Connecting Hubs** – Airlines that operate connecting hubs at an airport have a special focus on the local market it serves. In addition, connecting hubs create unique forecasting issues since they serve passengers that have no tie to the local market. The Port Authority Airports serve more connecting hubs than any other airport system in the country. This forecast evaluates connecting passengers with an independent methodology from origin and destination passengers. This methodology recognizes that each of the hub carriers has a different strategic plan for its network and the role of its New York hub in that network.
- **Airline Yields** – Yields (the price of air service per mile) are an indirect measure of the price of airline service at an airport. Generally, yields are

used to benchmark airline service pricing between airports serving unlike markets. Differences in yields are often an indicator of consumer airport choice. This forecast uses yield as one of several independent variables for forecasting future air passenger volumes. This section describes past trends in local yields. Future yield forecasts are shown in Section IV – Forecast of Socio-Economic Factors.

II.2.1 Diversity of Air Service

JFK has one of the more diverse airline mixes in the nation. Over 80 different airlines operate either scheduled or charter service at least seasonally at the airport. Of these airlines, 14 are USA based, while the remainder are foreign based. These airlines provide non-stop service to 56 domestic markets, five Canadian markets and 79 other foreign markets. The diversity of foreign markets served from JFK is among the highest in the nation.

EWR has the most diverse combination of domestic and international air markets with 91 domestic markets, eight Canadian markets and 66 other foreign markets. These markets are served by 15 USA based airlines and 21 foreign airlines.

LGA has non-stop air service to 71 domestic markets, three Canadian markets and three other foreign markets that allow US Customs and Immigration Services to pre-clear flights in their originating foreign country. LGA does not have Federal Inspection Services (FIS) facilities to handle international flights from countries that do not have pre-clearance agreements. LGA is served by 14 airlines.

The definition of “airline” has evolved during the past ten years. Major airlines have multiple agreements with regional airlines that operate smaller aircraft on routes where there is insufficient demand for larger aircraft. For purposes of this analysis, an “airline” includes service flown on its behalf by independent companies (such as Express Jet or Chautauqua) or wholly owned subsidiaries (such as Comair or American Eagle). Independent regional airlines may provide service to more than one major airline.

This trend of independent companies providing aircraft to major airlines is expected to continue and perhaps increase over time. These independent companies will evolve towards providing larger aircraft than they do today. Many major airlines currently do not have the capital resources or credit worthiness to purchase new aircraft. Until these airlines strengthen their balance sheets, leasing aircraft from independent companies will be their only avenue to acquire new aircraft. These structural changes to the airline industry will have an imperceptible effect on the quantity and diversity of air service to the Port Authority airports.

II.2.2 Connecting Hubs

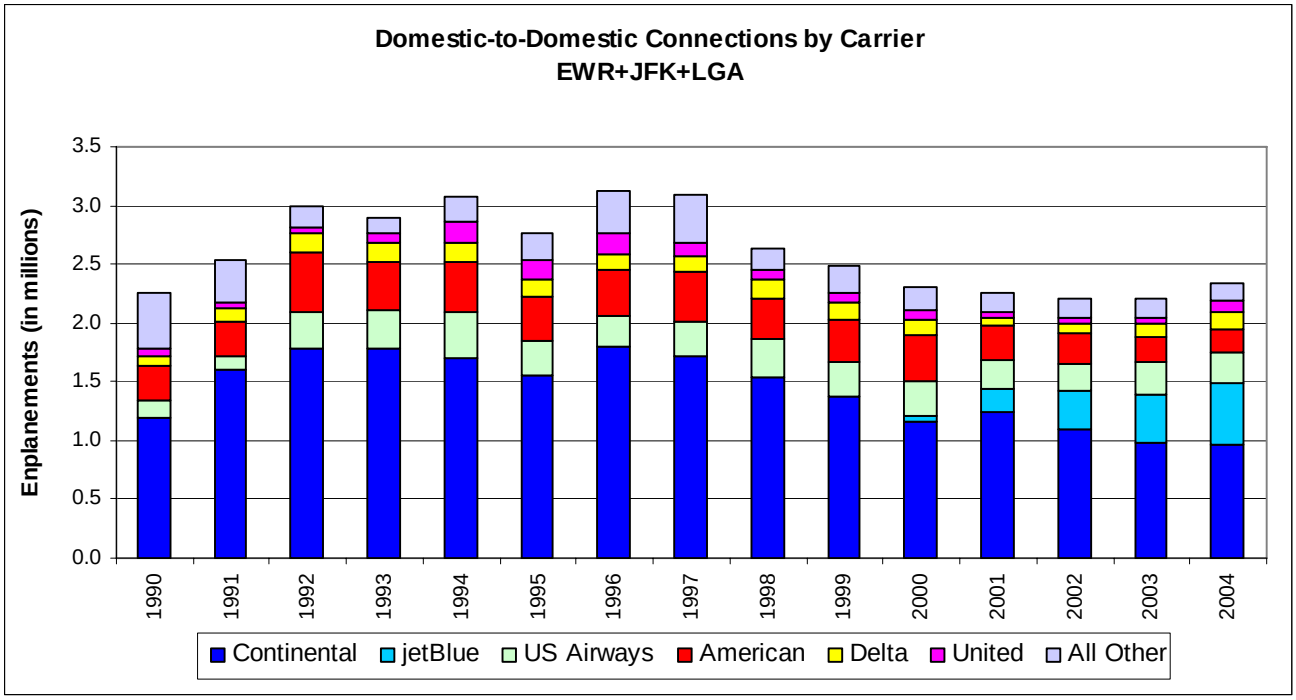
Three domestic airlines have connecting hub operations at JFK. Delta Air Lines and American Airlines orient their connecting service towards providing additional passengers for international flights. JetBlue orients its connecting service to providing additional passengers for domestic flights.

Continental Airlines operates a connecting hub at EWR. This hub provides additional connecting passengers for both international and domestic flights. Continental Airlines has more connecting passengers than any other airline at the Port Authority airports.

No airline operates a classic connecting passenger operation at LGA. However, US Airways does have a small but significant percentage of passengers that make connections at LGA. These connections occur as a result of opportunities created by the sheer size and diversity of the US Airways operation rather than a deliberate attempt to route connecting passengers through LGA.

Exhibit II-1 shows the history of domestic to domestic connecting passenger volumes at the Port Authority's airports. Overall, domestic connecting passenger volumes have declined from their peak levels in the 1990s. Some of this decline is due to airlines going out of business (Pan Am in 1991 and TWA in 2000), however most of the change has resulted from airlines re-orienting their networks in New York towards providing domestic to international connections. JetBlue's growth at JFK runs against the trends exhibited by other airlines and has become the second largest domestic connections hub at the Port Authority's airports (displacing American Airlines).

Exhibit II-1
PAST TRENDS IN CONNECTING PASSENGER VOLUMES



Source: US DOT T-100 Database, PANYNJ Records and Landrum & Brown Analysis

The connecting passenger survey provided a unique opportunity to evaluate the pattern of connections at JFK and EWR that would have otherwise gone undetected because they were booked as independent (unrelated) itineraries. **Table II-4** shows the connecting information from the PANYNJ 2005 Air Passenger Survey for JFK. The survey asked the connecting passengers to identify the airline and airport for their arriving and departing flights. This survey indicates that Delta Air Lines and American Airlines have the largest volume of connecting passengers at JFK. This survey also indicates that as much as half of the connecting passenger volume changes airlines at JFK.

Table II-4
KENNEDY SURVEYED CONNECTING PASSENGER INFORMATION

	Departing Airline				
Arrival Airline	**American**	**Delta Air Lines**	**jet Blue**	**All Others**	**Total**
American	147	13	4	46	210
Delta Air Lines	9	218	3	88	318
jet Blue	2	1	134	36	173
All Others	102	67	30	100	299
Connecting Total	**260**	**299**	**171**	**270**	**1,000**
Originating Surveys	1,108	709	1,408	1,881	5,106
Total Surveys	**1,368**	**1,008**	**1,579**	**2,151**	**6,106**
Percent Connecting On-Line	11%	22%	8%	2%	3%
Percent Connecting Inter-Line	8%	8%	2%	10%	13%
Total Percent Connecting	**19%**	**30%**	**11%**	**13%**	**16%**
Percent Originating	81%	70%	89%	87%	84%
Total Percent	**100%**	**100%**	**100%**	**100%**	**100%**

Source: PANYNJ 2005 Air Passenger Survey

Historically, much of the connecting passenger activity between airlines at JFK has been recorded in virtually all industry records as origination or destination (O&D) demand. It is important to note that this survey only represents a single three month period and does not reflect any trends in connecting activity. Thus, the forecasts will reflect reported connecting activity from the USDOT T-100 databases that reflect a more comprehensive history of connecting activity. However, the planning of future facilities should recognize that these additional interline and dual ticket connections exist and are included in the forecasts of O&D demand.

Table II-5 presents a similar break-out of passenger survey findings for EWR. However, the volume of connecting passengers using multiple airlines is less than 20 percent of the total. Thus, the use of multiple airlines for connecting service is much less significant at EWR than at JFK.

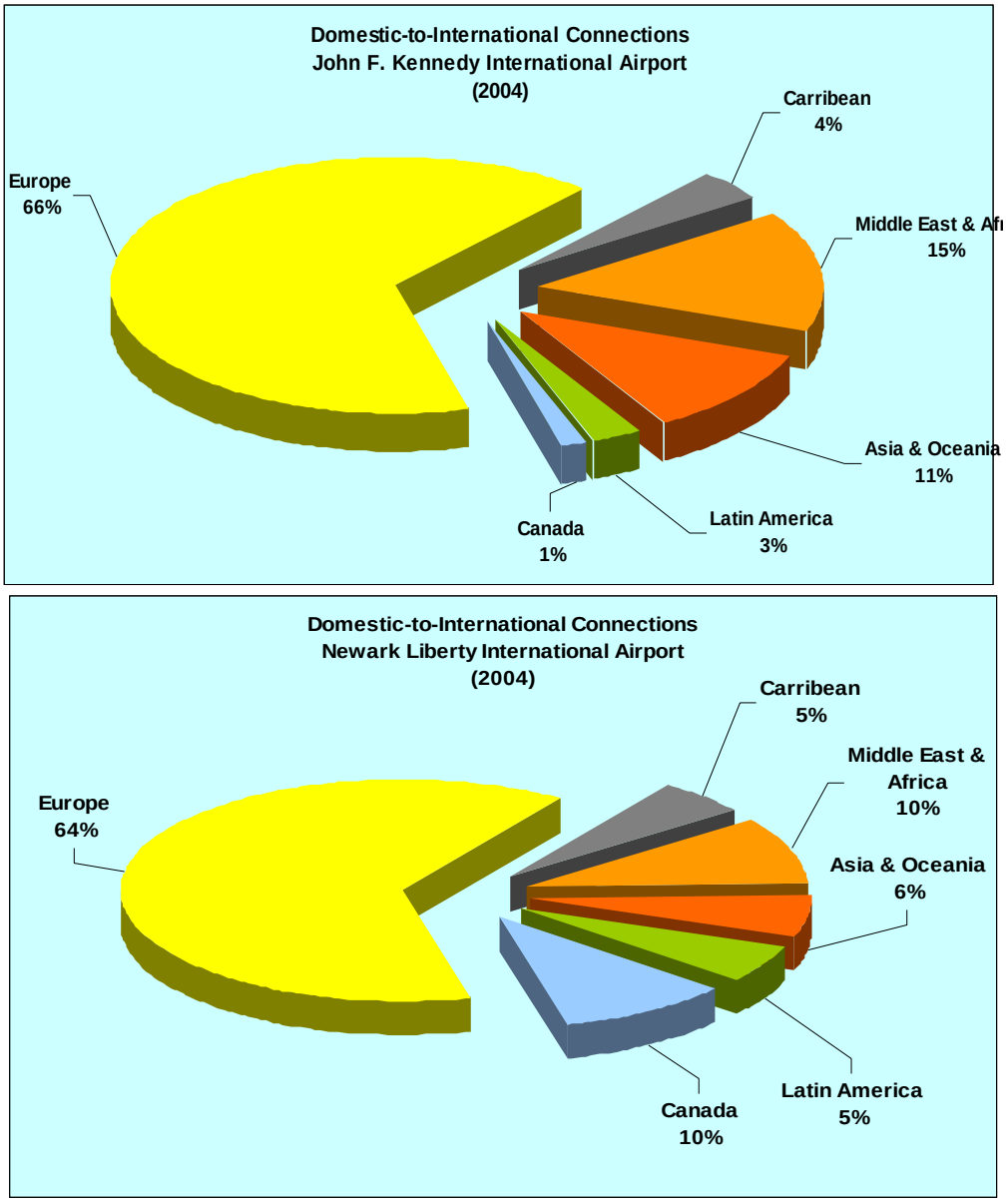
Table II-5
NEWARK SURVEYED CONNECTING PASSENGER INFORMATION

	Departing Airline		
Arriving Airline	**Continental**	**All Others**	**Total**
Continental	910	87	997
All Others	65	58	123
Total Connecting	**975**	**145**	**1,120**
Total Originating	2,579	1,901	4,480
Total Surveys	**3,554**	**2,046**	**5,600**
Percent Connecting On-Line	26%	0%	18%
Percent Connecting Inter-Line	2%	7%	2%
Percent Connecting	27%	7%	20%
Percent Originating	73%	93%	80%
Percent Total	**100%**	**100%**	**100%**

Source: PANYNJ 2005 Air Passenger Survey

Exhibit II-2 shows the percent connecting travel from domestic originations to different world areas for both JFK and EWR. While the percent connecting to Europe is fairly similar between EWR and JFK, the percent connecting to other parts of the world are quite different. EWR has 10 percent connections to Canada versus 1 percent at JFK. The absence of significant Canadian service at JFK is assumed to be the result of the close proximity of LGA which has substantial Canadian air service. JFK has 26 percent connections to the Middle East, Africa and Asia versus only 16 percent at EWR. EWR has 10 percent connections to Latin America and the Caribbean versus 7 percent for JFK.

Exhibit II-2
PERCENT OF DOMESTIC CONNECTIONS TO WORLD AREAS



Source: U.S. DOT T100 and Landrum & Brown Analysis

III. IMPACT FACTORS

Forecasting future aviation activity by nature is an inexact science. Many factors impact future trends in aviation activity. The most influential of these "impact factors" are summarized in this chapter. These factors are as follows:

- **Low Cost Carriers** – When low cost carriers enter air markets, prices tend to decline and travel (especially leisure travel) increases. Low cost carriers only have significant market share at JFK. These forecasts assume that market share for low cost carriers will increase at EWR and that the availability of facilities such as gates are not a constraint to growth. Growth in market share at LGA will not increase as quickly due to existing FAR Part 93 slot controls or their potential replacement demand regulation mechanisms.
- **The Airbus 380** – the introduction of this new aircraft increases the average passenger load at the airport it operates at. The aircraft is best suited for long-haul markets that have airport runway capacity constraints on at least one end of the trip. Use of the aircraft has the potential to create a small, incremental increase passenger demand. This forecast assumes that the Airbus 380 will be used for passenger service at JFK and for air cargo service at both JFK and EWR.
- **Other new aircraft types** – The principal new aircraft types in the foreseeable future are the Boeing 787 and a competitive product from Airbus, the Airbus 350. This aircraft is targeted at replacing aging Boeing 767-300 and Airbus 300 aircraft. Introduction of this aircraft will not materially affect passenger demand. This forecast assumes that this replacement will occur at a small scale starting in 2010 for the B-787 and 2015 for the A-350. B-767-300 aircraft are forecast to remain a part of the airline industry's fleet throughout the forecast period.
- **New missions for existing aircraft types** – The newer B-737 aircraft have trans-Atlantic range. The use of these aircraft for long-haul service will not materially affect overall demand. This forecast assumes that the trans-Atlantic fleet will include a limited number of B-737 aircraft in niche markets, but that the overall aircraft gauge across the North Atlantic will reverse its previous trend of gradual decline and start to increase.
- **Changes to Access Regulations at LGA** – Currently, hourly operations at LGA are limited to 81 operations, 75 of which are commercial operations. While the FAR Part 93 slot controls will expire at the end of Year 2006, this forecast assumes that an equivalent rule replaces it, thereby continuing its current effect of limiting aircraft operations.
- **Changes to access regulations at JFK and EWR --** At one time, both EWR and JFK also had FAR Part 93 Slot limits. The limits at EWR were removed soon after FAR Part 93 was written, while the JFK rules only limit operations between 3 PM and 8 PM. These forecasts assume that slot limits will not be re-imposed at EWR and that the limits at JFK Airport will be removed.

- **Elimination of the Perimeter Rule at LGA** – Currently, flights from LGA are limited to airports within 1,500 miles (except Denver). While the analysis of this impact factors chapter examines the impact of elimination of the perimeter rule, this forecast assumes that the perimeter rule remains in place.
- **Fuel Prices –** The price of aviation fuel has risen dramatically over the past two years. Peak prices for crude oil in 2005 were above $70 per barrel. Higher fuel prices should result in higher fares and subsequently lower passenger demand. This forecast assumes that high fuel prices (greater than $60 per barrel) are now a permanent part of the aviation market.
- **Airline Bankruptcies –** The past five years have witnessed dramatic changes to the overall financial health of the airline industry, with four "legacy" airlines entering bankruptcy at least once. Continued operation of an airline during bankruptcy tends to depress pricing and stimulate demand. After bankruptcy, pricing tends to stabilize (often at a higher level), which would reduce passenger travel. This forecast assumes that the "legacy" airlines will weather current financial problems that thrust them into bankruptcy and will emerge as lower cost competitors. This forecast also assumes that JetBlue will successfully make the transition from being a small regional airline to a large national carrier.
- **The effect of economic upturns and downturns –** Air travel does vary with the health of the economy. With the advent of low-cost carriers, more travel has become discretionary (leisure) and therefore more likely vary with levels of disposable income. This forecast describes long-term trends and does not forecast variations due to short-term economic spurts and recessions. These short-term events produce variability around the long-term trends identified in the forecast. History has shown that air travel tends to recover after short-term economic and political events.
- **Effects of the Attacks of September 11, 2001 -- Real Decline in Short-Haul Travel** – The net effect of the attacks of September 11, 2001 was to increase real travel times for air transportation by approximately 30 minutes. This has had the net effect of reducing demand for short-haul (less than 500 miles). This forecast assumes that the travel time increase is largely permanent and that the current demand profile for short-haul travel will continue.
- **Perceived Effects of the Attacks of September 11, 2001 – Declining Yields for Long-Haul Travel** – With the decline in short-haul travel, airlines, especially low cost carriers have shifted their capacity into longer-haul flights. As a result, fares and yields for long-haul travel have declined. This forecast assumes that these changes are largely permanent, although some small market corrections will occur.
- **Perceived Effects of the Attacks of September 11, 2001 – Air cargo industry** – The volume of air cargo carried on passenger airlines has declined in response to reductions in cargo capacity available and new air cargo security rules. This forecast assumes that emerging trends for air cargo security continue. The capacity for air cargo on passenger aircraft will

increase as aircraft size increases and passenger airlines start using larger aircraft.

- **Airline Industry Outlook –** The ability to pass on higher fuel prices as fare increases and improvement of "legacy" carrier cost structures during bankruptcy protection will improve airline economics on a go forward basis. For this forecast, it is assumed that:

  - The industry will continue to replace smaller RJ aircraft with larger RJ aircraft that have lower operating costs per passenger mile.

  - More narrow-body aircraft will continue to enter the fleet

  - Wide-body aircraft will be redeployed on international service

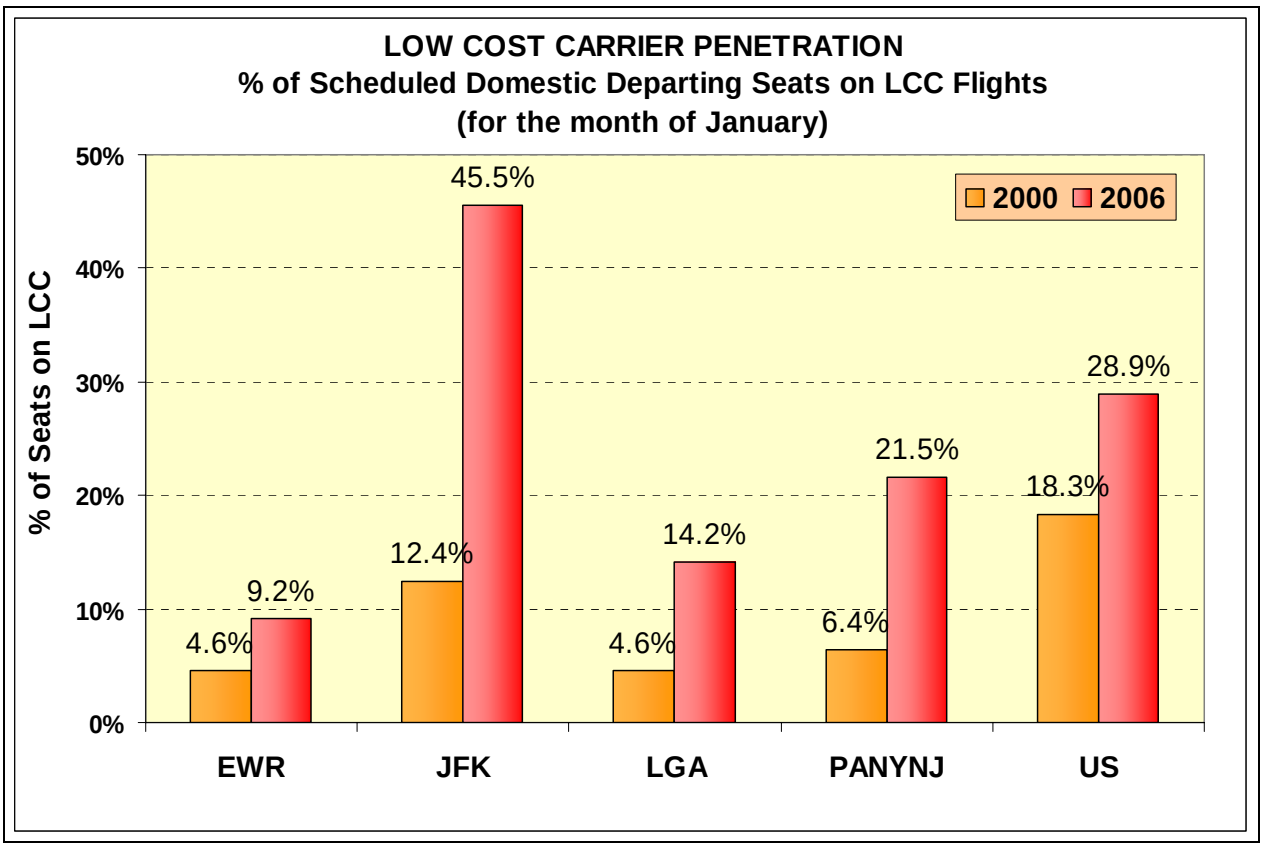
  - The overall financial health of the industry will improve with increasing fares. However, real fare levels are not likely to increase to Year 2000 levels

- **Effect of Airside Congestion at EWR, LGA and JFK –** Airside congestion reduces the service reliability of air transportation, making it a less attractive air transportation choice for short-haul (less than 500 miles) travel. This forecast assumes that airside congestion will have no effect on air travel demand (unconstrained forecast).
- **Effect of Ground Transportation Congestion –** The passenger surveys have demonstrated that travel time to the airport, especially from home is an important factor for airport choice. Given equal air service quality and similar pricing, passengers will usually choose the closer airport. This forecast assumes an unconstrained case where levels of ground transportation congestion remain at current levels and do not change current airport choice patterns.
- **Leakage of air travel demand to other airports –** The air passenger surveys have demonstrated that passengers do consider and use alternate airports for various trips. This forecast assumes that current propensity to use alternate airports will continue over time. The independent socio-economic variables reflect current forecasts for unequal growth on a county by county basis. The dependent variables of forecast passenger travel at each airport will naturally reflect the unique demographic characteristics of each airport's service area.

III.1 Low Cost Carriers

Since deregulation of the airlines in 1978, low cost carriers have continuously increased their presence in the national market. As shown in **Exhibit III-1**, low cost carriers are now nearly 29 percent of the national travel market. By contrast, they comprise only 22 percent of the local region's market, with the bulk of that presence at JFK where they have a 45 percent market share. They have only a 9 percent market share at EWR and a 14 percent market share at LGA. Market share is likely to rise faster at EWR than LGA since EWR does not have slot controls and JetBlue has recently announced new service from EWR.

Exhibit III-1
LCC MARKET PRESENCE



Source: Official Airline Guide and Landrum & Brown Analysis

III.2 The Airbus 380

The Airbus 380 aircraft has been ordered predominantly by Middle Eastern and Asian passenger airlines and air cargo airlines. The aircraft is best suited to long-haul routes that serve capacity constrained airports. These two constraints limit air service frequency making a larger aircraft more advantageous. The markets that fit this category from the Port Authority airports are in the Middle East and Asia. These markets have a much larger presence at JFK than at EWR. European

markets are too close for wide-spread use of this unique aviation resource. The aircraft size trend for European markets from North America has been downward. However, two carriers (Air France and Lufthansa) have announced that they will use the A-380 at JFK to their main hubs at Paris and Frankfurt, both of which have capacity controls. South American and African markets are expected to remain too small for A-380 service over the next 20 years.

The Port Authority has made the financial commitment to modernize the taxiway infrastructure at JFK to accommodate this aircraft. Given the much larger presence of Middle Eastern and Asian air service at JFK combined with larger land area of JFK, JFK is the most attractive location in the Port Authority's airport system for A-380 aircraft operations. The forecast assumes that passenger airlines will only use the A-380 aircraft at JFK and that cargo airlines will use the aircraft at both JFK and EWR since they operate predominantly during off-peak times.

Approximately 35 of the 123 A-380 orders are for cargo airlines, although it has not yet been established that any of these are currently designated for use in the region. The ability of the new aircraft to over-fly traditional points of entry, as well as the inability of many airports to accommodate the new aircraft will affect the selection of origin and destination airports. JFK is one of the few airports that will be able to handle the large jet. The A-380 freighters will off-load up to 152 tons of cargo at once. By comparison a 747 will carry 100 tons while a 767 carries less than half that amount. It is not anticipated, however, that the belly component of the A-380 passenger aircraft will deliver cargo volumes in excess of what is typically handled in today's routine shipments given the anticipated volumes of passenger luggage. The freighters will create greater daily peaking, which will further challenge the throughput ability of existing operations and facilities.

III.3 Other New Aircraft Types

The B-787 aircraft has emerged as the long-term replacement for the current fleet of aging B-767-300 and A-300 aircraft. This aircraft has longer range, has better fuel efficiency and is slightly faster than the aircraft it replaces. These three factors make the aircraft more economical to operate than the aircraft it replaces. It also has a longer wingspan, which requires a wider gate at the terminal. Thus, passenger terminal gate frontage productivity will decline with use of the B-787 aircraft.

While the introduction of this new aircraft does not change the forecast of future enplaned passengers or total aircraft operations, it does have implications for the design of future airport terminal concourses. Continental and Northwest Airlines are the only two domestic airlines that have ordered this aircraft. However, overseas orders have been strong. Airbus is offering the A-350 in competition to the B-787.

This forecast assumes that this replacement will occur at a small scale starting in 2010 for the B-787 and 2015 for the A-350. B-767-300 aircraft are forecast to remain a part of the airline industry's fleet throughout the forecast period.

III.4 New Missions for Existing Aircraft Types

Newer generation B-737 aircraft have much longer range than older models. These aircraft now appear regularly on transcontinental routes and have recently been put into service crossing the North Atlantic to Europe. Two types of service have been started. The first is point-to-point to secondary airports in Europe, by-passing European gateway airports and their capacity constraints. The second is all-business class service. While the long-term financial viability of current airlines providing these services has yet to be proved, the aircraft itself has proven capable and air service will likely evolve towards using smaller aircraft on North Atlantic markets, either by providing more frequent or niche services in existing markets, or by providing new service to secondary European airports.

The combination of new aircraft and new services indicates that a diversification of aircraft types used for North Atlantic air service will occur, with both larger and smaller aircraft entering the market. This forecast includes the assumption that aircraft gauge across the North Atlantic will reverse its previous trend of gradual decline and start to increase.

III.5 Changes in Access Regulations at LGA

The FAA has imposed the FAR Part 93 Slot Rule at LGA since 1968. The AIR-21 legislation of 1999 initially created exemptions from the slot rule for small city air service and airlines responded by adding approximately 300 flights per day, and with requests to add approximately 300 more flights. Flight delays increased dramatically and ultimately the FAA re-imposed the slot rule and held a slot lottery to see which new flights would remain. Flights are currently limited to 75 operations per hour, with an additional 6 operations per hour allocated to general aviation operations.

The current legislation limiting flight activity expires at the end of 2006. Recognizing the experiences of 1999 and 2000, the FAA in all likelihood will impose a replacement rule that maintains the 81 movements per hour limitation. However, the replacement rule might also add some additional flight demand management tools such as:

- Specifying whether a slot is for an arrival or departure
- Creating intra-hour limits
- Providing fewer exemptions or exceptions such as those for extra sections of flights
- Providing mechanisms that promote use of large aircraft
- Providing mechanisms that allocate slots for new entrant airlines
- Providing air service opportunities for small cities

Ultimately these potential changes will not create a dramatic change from existing conditions. LGA currently operates at approximately 94 seats per departure. There is no barrier to this value increasing over time to the historically higher levels of 110 seats per departure.

Table III-1
MAXIMUM RANGE FOR LONG-HAUL SERVICE FROM LAGUARDIA

Aircraft	Engines	Take-Off Distance (ft) (1)	Max Take-Off Weight (MTOW) (lbs)	Range at MTOW (NM) (5)	Percent Payload to LAX (2,143 NM)	Percent Payload to SJU (1,392 NM)
Boeing 767-200	All	6,250	315,000	2,250	100%	100%
Boeing 767-300	CF6-80C2B2, PW4052	7,000	330,000	1,400	80%	97%
Boeing 767-300	CF6-80A/80A2	7,000	312,000	650	64%	81%
Boeing 767-300	JT9D-7R4D	7,000	310,000	550	59%	77%
Boeing 767-400ER	CF-80C2B8	7,000	370,000	1,000	74%	94%
Boeing 767-400ER	PW4062	7,000	375,000	1,250	76%	92%
Boeing 737-800	All	7,000	167,000	1,625	84%	100%
Boeing 737-800 (W)	All	7,000	167,000	1,625	89%	100%
Boeing 737-900	All	7,000	161,000	1,125	70%	94%
Boeing 737-900 (W)	All	7,000	164,000	1,500	74%	94%
Airbus 319	CFM56-5A	7,000	165,000	1,400	84%	100%
Airbus 319	CFM56-5B	7,000	165,000	1,350	84%	98%
Airbus 319	V2500	7,000	168,000	1,200	81%	98%
Airbus 320	CFM56-5A	7,000	170,000	1,450	82%	100%
Airbus 320	CFM56-5B	7,000	170,000	1,425	83%	100%
Airbus 320	V2500-A1	7,000	168,000	1,400	83%	100%
Airbus 320	V2500-A5	7,000	168,000	1,425	83%	100%
Airbus 321	CFM56	7,000	192,000	700	73%	87%
Airbus 321	V2500	7,000	190,000	750	70%	86%

Notes:

NM = Nautical Miles
W = Winglets
Perimeter rule is 1,500 statute miles or 1,316 Nautical Miles (NM)

1 - Takeoff distance limited to 7,000 feet due to runway length
2 - Boeing, Airplane Characteristics for Airport Planning, Takeoff Runway Length Requirements for Standard Day + 27 Degrees F.
3 - Boeing, Airplane Characteristics for Airport Planning, General Characteristics
4 - MTOW - ZFW
5 - Boeing, Airplane Characteristics for Airport Planning, Payload/Range for Long-Range Cruise

Source: Aircraft Manufacturers Manuals and Landrum & Brown Analysis

Note: Still-air analysis – Does not include effect of headwinds or tailwinds

III.6 Changes in Access Regulations at EWR

At one time, both EWR and JFK also had FAR Part 93 Slot limits. JFK slot limits are only between 3 PM and 8 PM. There are no limits currently in force at EWR. It is not anticipated that a slot limit would be re-imposed at EWR.

III.7 Elimination of the Perimeter Rule at LGA

The Port Authority has a unique local rule that limits flights from LGA to destinations within 1,500 miles. An exception was made for Denver, which had non-stop service prior to the establishment of the rule in 1984. The rule does not apply on Saturdays. The original purpose of the rule was to limit activity at LGA and assure a continuing domestic service presence at JFK where longer runways were available for longer-haul flights and where there was a much smaller proportion of domestic air service. In 1984, the B-767-200 and B-757-200 aircraft had recently come into service. These aircraft could take full loads on the longest domestic flights from LGA.

With the growth of JetBlue, domestic service now constitutes more than 60 percent of all air service at JFK. There is far less need for the rule as a means to improve the quality of domestic service at JFK. In addition, more modern B-737-800 and A-319/320 aircraft can depart from LGA for long-haul markets with nearly full loads.

Table III-1 shows the still-air range of these aircraft along with selected B-767 aircraft. All of these aircraft are in the fleets for one or more of the airlines that currently operate at LGA. Most of these aircraft have operated on current routes from LGA in the past. The data indicates that the smaller versions of these aircraft can serve the longest domestic flights with relatively high loads. Loads for destinations just beyond the perimeter rule (such as San Juan) are nearly 100 percent. Larger versions of these aircraft such as the B-737-900, the A-321 and the B-767-300/400 may not be viable aircraft for the longest domestic markets from LGA. These calculations shown are for Standard Hot Day Conditions for each aircraft. They do not consider the impact of headwinds or tail winds.

Thus, the aircraft fleet can provide the capacity for service from LGA of greater than 1,500 miles. A preliminary assessment of markets from JFK and EWR indicates that as many as 40 to 60 departures per day in five to eight markets could occur from LGA. About 40 percent of this service would be to the LA Basin. These are all existing markets from JFK that have sufficient size to support service from both airports. Service would remain at JFK to provide connecting feed for international departures and the natural domestic market that the airport has. In addition, current slot restrictions at LGA limit the ability of new entrant airlines to initiate significant levels of service. The duplication of service would tend to reduce aircraft gauge from both airports. B-737-700/800 and A-319/320 aircraft would predominate. However, B-757-200 aircraft would also likely be in the market during peak times. Wide-body aircraft use would be unlikely at either airport.

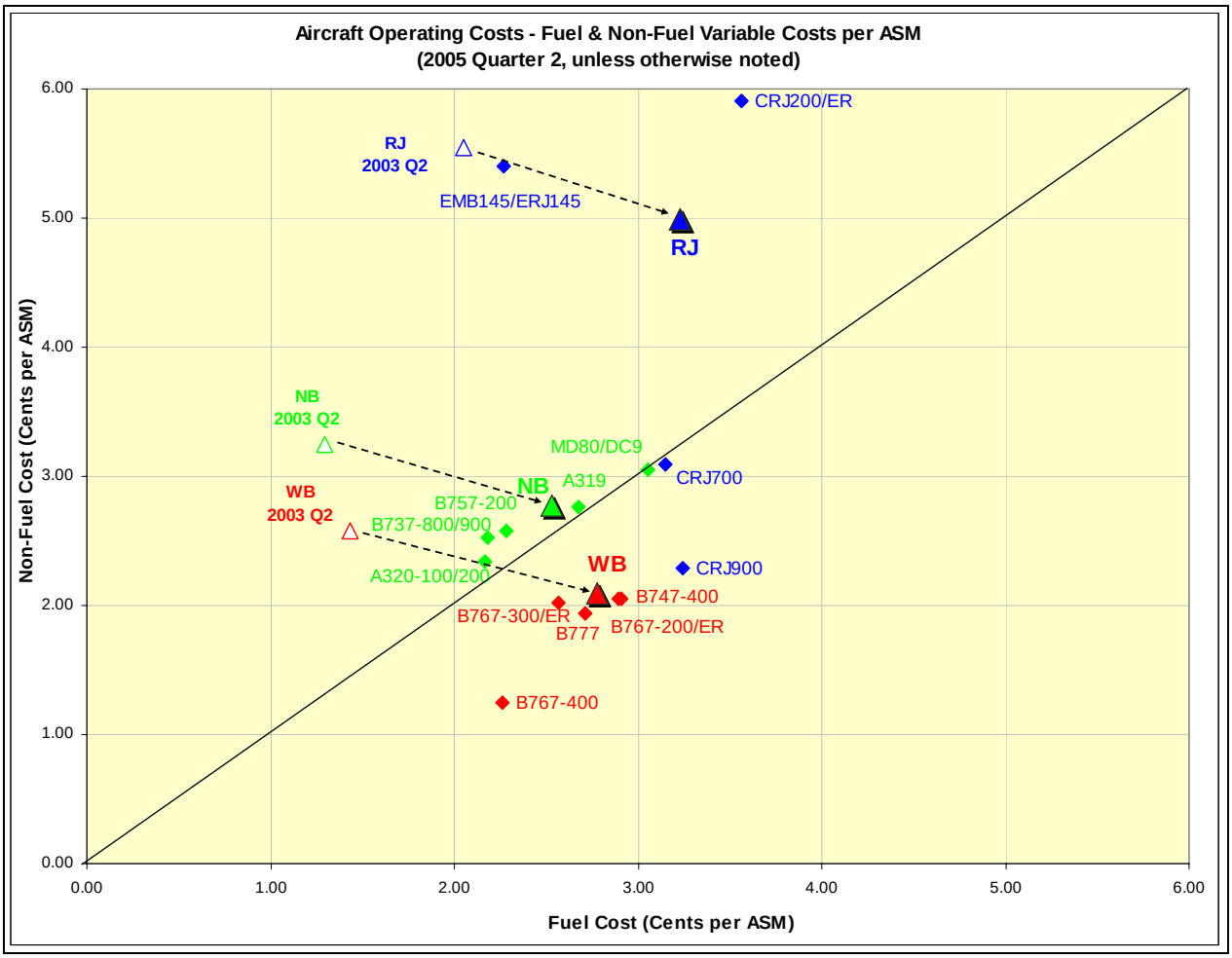
Given slot constraints at LGA, initiation of long-haul service would replace current service. RJ service to small cities in the south and Midwest appears to be most vulnerable given the high cost of providing the service. In addition, some service to large Midwest hubs such as Chicago and Dallas/Ft. Worth could be replaced.

III.8 Fuel Prices

The dramatic rise of fuel prices in 2005 has changed the economics of the aviation industry. Two carriers (Delta Air Lines and Northwest Airlines) declared bankruptcy as a direct result of initial weak financial positions and subsequent increases in fuel prices. Other established airlines increased their losses. Previously profitable low cost carriers began posting losses as well.

Higher fuel prices increase the cost per passenger mile of providing air service. Over the past four years, airlines have faced declining revenue per passenger mile (yield), primarily as a result of increased competition from new low cost carriers. They had responded by cutting labor and other non-fuel costs. However, recent fuel cost increases more than offset these other cost savings.

Exhibit III-2
COMPARISON OF FUEL AND NON-FUEL AIRCRAFT OPERATING COSTS



Source: US DOT Form 41 and Landrum & Brown Analysis

Exhibit III-2 compares the fleet average non-fuel (y-axis) and fuel (x-axis) costs per passenger mile for RJ, narrow-body and wide-body aircraft types. Values for Year 2003 and 2005 are shown. Overall, fuel cost per passenger mile doubled from 2003 to 2005. RJ aircraft have fuel costs that are approximately 10 to 20 percent more per passenger mile than narrow-body aircraft. In addition, RJ aircraft have labor costs per passenger mile that are more than 60 percent greater than those for narrow-body aircraft.

The industry has responded relatively quickly. Northwest Airlines took advantage of bankruptcy and cancelled various flying contracts with Mesaba Airlines for smaller aircraft. Comair (Delta owned commuter carrier) has parked 30 RJ aircraft. The Independence Air bankruptcy idled a large RJ fleet. Further cuts in RJ operations are likely if high fuel prices continue.

Simply put, yields on RJ markets are too low to support their operation. The industry is likely to respond with less frequent service with larger, more efficient aircraft.

This forecast assumes that high fuel prices are now a permanent part of the aviation market. This will result in airlines choosing larger, more efficient aircraft. In addition, with some recently announced capacity cuts, airlines should be able to more easily raise prices to cover increased fuel costs.

III.9 Airline Bankruptcies

While fuel costs have driven the latest round of airline bankruptcies, other, earlier bankruptcies have had a variety of causes. Major airlines have had to use bankruptcy protection to overhaul archaic labor contracts, cut fleet size, and restructure defined benefit retirement programs. This process is not yet complete, although major carriers have cost structures that are far more similar to newer low cost carriers.

Far more start-up low cost carriers fail than succeed. Many fail because of a faulty business concept, or have bad timing with a sound business concept. Independence Air is the most recent example of bad timing, starting with an RJ based business plan, just prior to the price of fuel increasing to the point where RJ aircraft became unprofitable. They then entered the already highly competitive long-haul market when yields had already declined 40 percent.

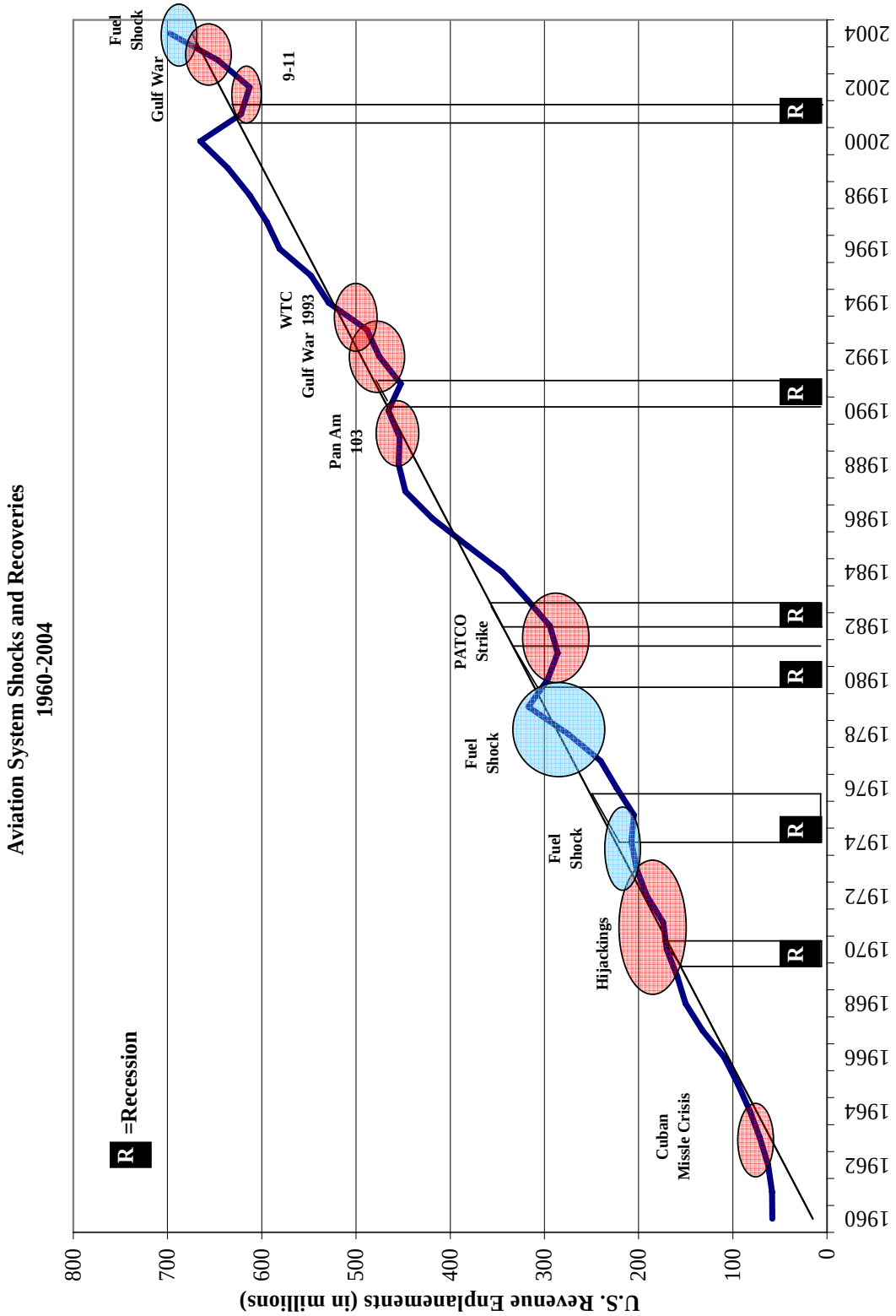
Other start-up low cost carriers fail when they make the transition from being a small airline with a single mission or focus city, to being a large airline with multiple missions and focus cities. Peoples Express is perhaps the most noteworthy past example of such a failure. Midway Airlines also failed in a similar manner. Small and light management overhead cannot manage a large complex airline. JetBlue is currently making the transition from being a small start-up airline to a large network carrier. They are currently in the highest risk part of their growth, where new management systems are being implemented at a far higher cost than the simpler systems they replaced. Their key to success will be keeping unit costs low enough to sustain their price advantage over other airlines.

III.10 Effects of Economic Upturns and Downturns

Use of aviation for travel does vary somewhat with the economy. As shown in **Exhibit III-3**, aviation has declined during many recessions and bounced back during subsequent economic expansions. The overall 45 year trend has been relatively constant. As more and more air travel is for discretionary (leisure) purposes, the variability of air travel with economic cycles should increase. Historically, the level of business travel (measured by passenger counts) has been relatively stable. Exhibit III-3 also shows that air travel has been relatively resilient in weathering fuel-price shocks and terrorist attacks. This forecast focuses on long-

term trends. Short-term perturbations should be expected around the underlying trend.

Exhibit III-3
AVIATION INDUSTRY SHOCKS AND RECOVERIES



Source: Landrum & Brown Analysis

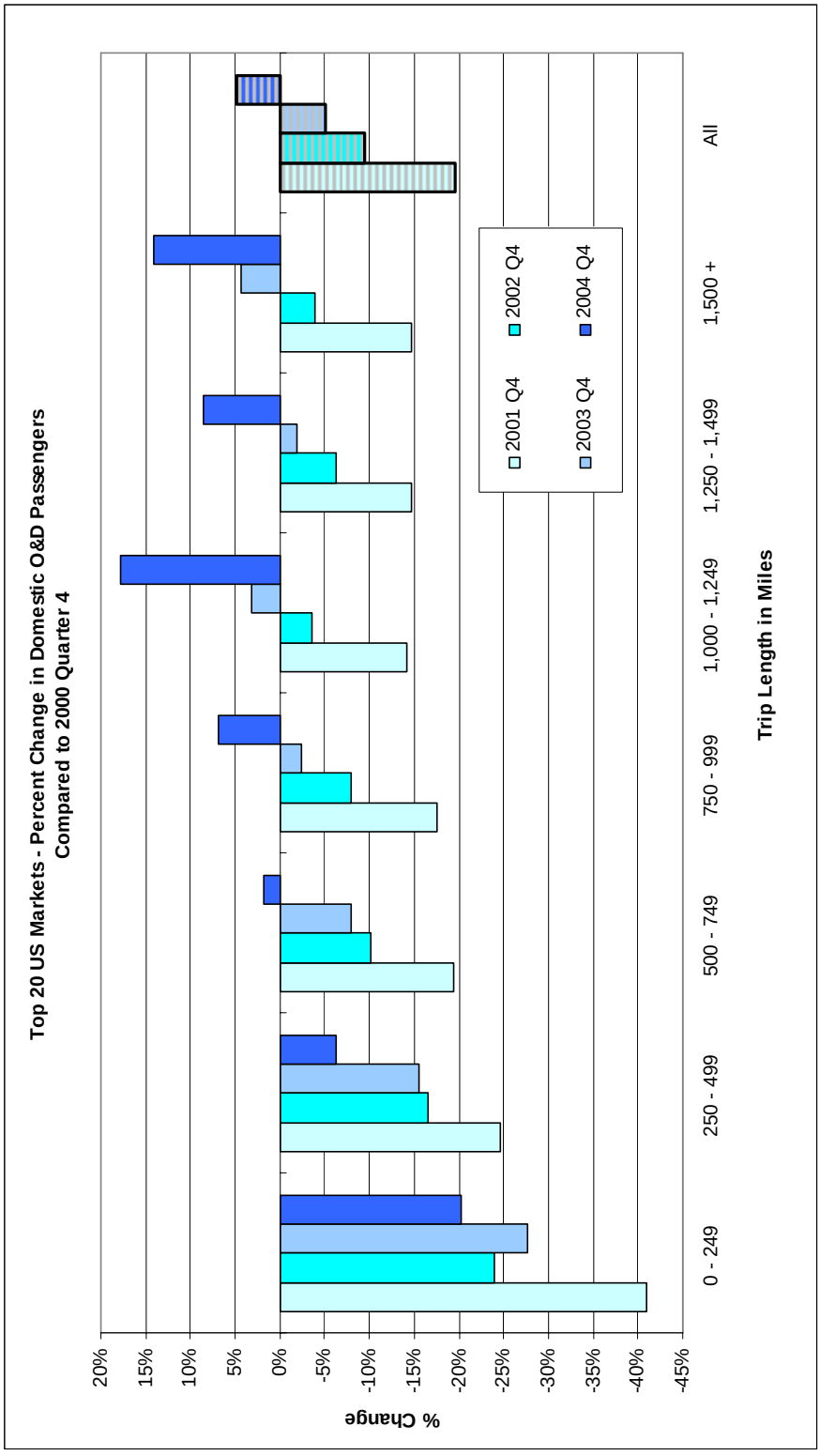
III.11 Effects of the Attacks of September 11, 2001 -- Real Decline in Short-Haul Travel

The initial thoughts that fear of travel would drive passengers away from air travel have proven to be largely unfounded. However, changes to security procedures have changed travel habits since they have increased the perceived time required to travel through the airport by approximately 30 minutes. Air travel, as a choice for short-haul travel (less than 500 miles), has dropped since other modes (primarily automobile) provide similar travel times at less cost. On longer trips, the 30 minute time increase is far less noticeable since other modes do not provide a comparable travel time option.

Exhibit III-4 shows the decline in travel time by travel distance from the top 20 USA markets. Initially (4th Quarter 2001), all markets declined. However by 2003, only the decline in short-haul travel, especially travel of less than 250 miles remained. Longer haul travel rebounded to levels above those shown in Year 2000.

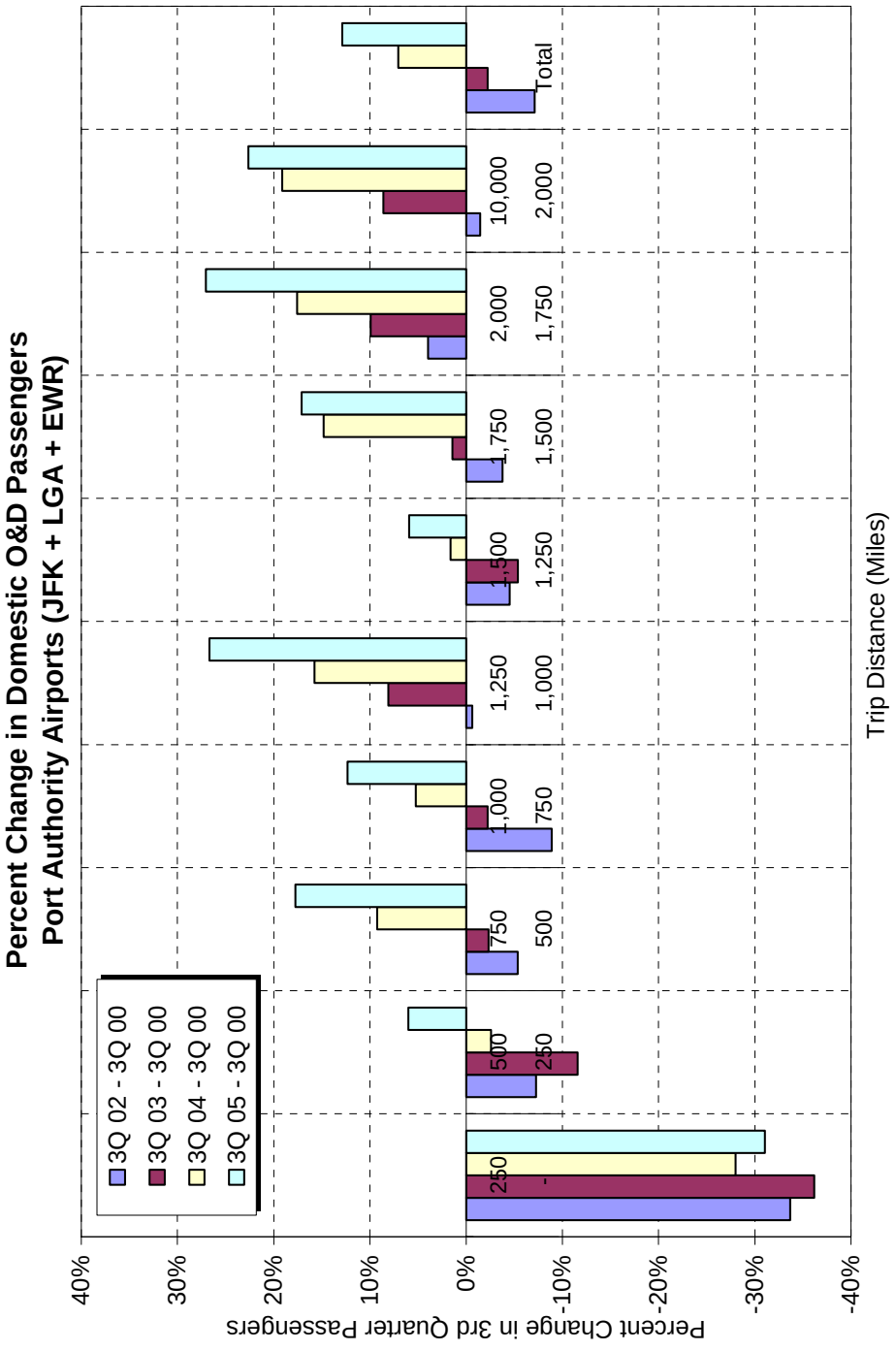
Exhibit III-5 shows the same decline in short-haul for the composite of the three Port Authority airports.

Exhibit III-4
ANNUAL CHANGE IN TRAVEL FROM YEAR 2000 BY LENGTH OF TRIP



Source: US DOT T-100 Data and Landrum & Brown Analysis

Exhibit III-5
ANNUAL CHANGE IN TRAVEL FROM YEAR 2000 BY LENGTH OF TRIP

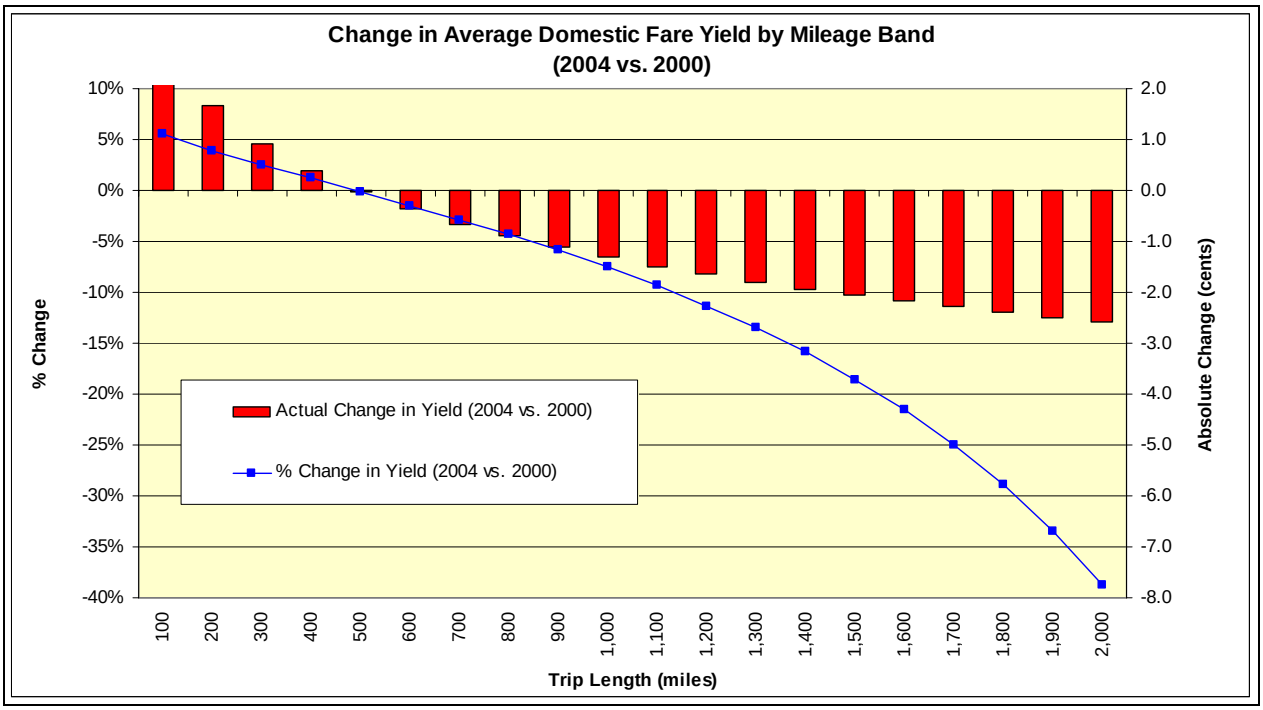


Source: US DOT T-100 Data and Landrum & Brown Analysis

III.12 Perceived Effects of the Attacks of September 11, 2001 - Declining Yields for Long-Haul Travel

With the decline in short-haul travel, airlines, especially low cost carriers have shifted their capacity into longer-haul flights. In addition, the start-up of JetBlue focused on long-haul flights. These two factors have caused yields to decline on long-haul flights. As shown in **Exhibit III-6**, yields for long-haul flights have declined by as much as 40 percent in the past five years.

Exhibit III-6
Yield Trends by Length of Haul

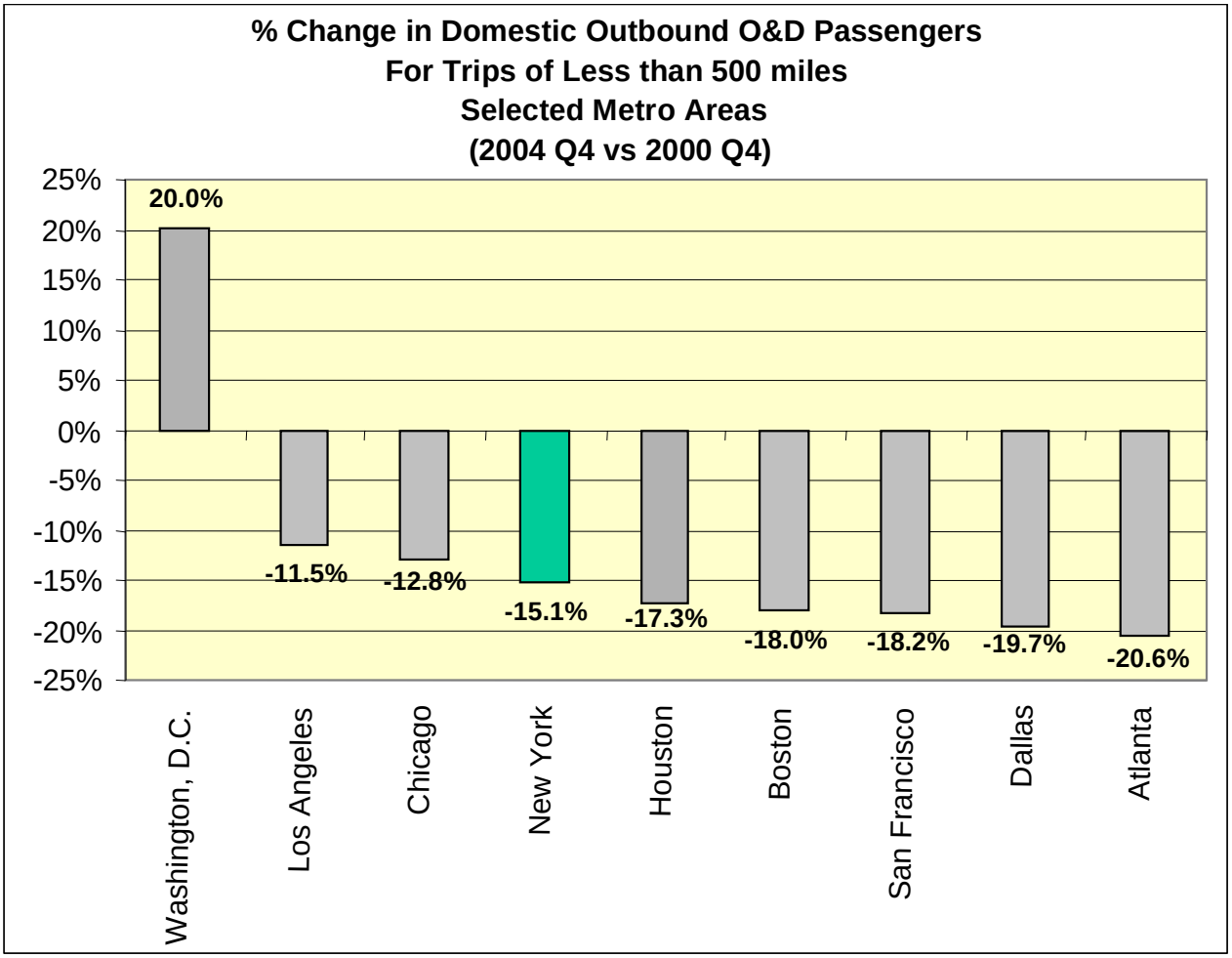


Source: US DOT T-100 and Landrum & Brown Analysis

Given the prior focus of major airlines on long-haul flying, this decline in yields has been a major factor in defining their current financial condition. While travel has increased in markets of greater than 1,000 miles, revenue per passenger mile has declined.

The current conditions indicate that the industry has significant over-capacity for long-haul service. JetBlue has indicated that future expansion from the New York region with their EMB-190 aircraft will be in short- and medium-haul point-to-point markets. This will increase competitive pressure on shorter-haul market fares. The major portion of JetBlue's expansion plans will focus on areas outside of New York.

Exhibit III-7
ANNUAL CHANGE IN TRAVEL FROM YEAR 2000 BY MAJOR MARKETS



Source: US DOT T-100 Data and Landrum & Brown Analysis

Exhibit III-7 confirms that the decline in short-haul travel was fairly uniform, except where demand was stimulated by very low air fares in and large increases in service at Washington DC. Thus, the long-term decline in air travel has occurred because of economic factors rather than because of fear of flying. On short-haul travel, the time savings is less; therefore a lower price is needed to produce a similar amount of travel. The economics of air travel are still about paying more to travel faster and save time. The more time saved, the more the trip is worth.

III.13 Perceived Effects of the Attacks of September 11, 2001 – Air Cargo Industry

A general economic downturn that began in 2000, adversely affected air cargo in terms of growth rates, and in some markets, total volumes. After September 11, 2001 cargo activity was immediately impacted. As a result, given the already weakened fiscal position of so many air cargo businesses, the financial stability of the entire air cargo industry was compromised. Critical impacts included:

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

Since 2001, the industry has generally demonstrated modest growth. Patterns however, have been difficult to establish given the changes that have and are occurring. The shifting of the mail contract to FedEx in August 2001 has altered reporting of air cargo and mail volumes and changed the industry's understanding of how much cargo is actually moved. For purposes of this forecast, the definition of air cargo includes all mail.

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

This forecast assumes that the structural changes to the air cargo industry are permanent and that emerging trends for air cargo security will continue. As the passenger airlines grow, larger aircraft will enter the mix, thereby increasing capacity available for belly cargo.

III.14 Airline Industry Outlook

Two major airlines have emerged from bankruptcy protection in 2006. The remaining two carriers are unlikely to emerge from bankruptcy in 2006. However, it is expected that they will continue to fly so long as they do not sustain any labor actions. If either carrier has a labor action, it would stop flying and it is unlikely that it would resume. One or more airline mergers might be an outcome, similar to the merger between US Airways and America West.

High fuel costs are likely to continue driving smaller RJ aircraft out of competitive markets where the cost of providing service would exceed revenue. Larger RJ aircraft have higher labor productivity and will continue to enter the market. Major airlines are likely to lease these larger aircraft from independent providers. However, they may use their own crews to operate them (like US Airways). Small RJ and prop aircraft will likely continue in markets (especially short-haul) where yields are sufficiently high to cover the high costs of providing service.

For this forecast, it is assumed that:

- The industry will continue to replace smaller RJ aircraft with larger RJ aircraft that have lower operating costs per passenger mile.
- More narrow-body aircraft will continue to enter the fleet
- Narrow-aircraft will largely be the same size as the existing fleet
- Wide-body aircraft will be redeployed on international service
- The overall financial health of the industry will improve with increasing fares. However, fare levels are not likely to increase to Year 2000 levels

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III.15 Effect of Air Traffic Congestion at EWR, LGA and JFK Airports

Increasing congestion at the Port Authority airports will likely only have a limited effect on demand. As congestion increases, airlines have responded by increasing the travel time in the schedule. While this increases airline costs, it tends to hide the extent of the congestion problem since airlines strive to maintain an 85 percent or better on-time performance. In addition, airlines will also increase time between flights so that delays on one flight have no effect or only a limited effect on the next flight.

By increasing the amount of time the flight takes, the airline tends to make the short-haul flight (less than 500 miles) less attractive when compared to the travel time of alternative travel modes, such as rail or driving. Further, unexpected delays are a greater percentage of the total travel time on a short flight than a long flight. The unreliability of service becomes highly noticeable, further detracting from the attractiveness of the flight. Thus, short-haul travel will decline with increasing airport congestion.

By contrast, the travel time advantage of air transportation is much greater with long-haul service. In addition, unexpected delays are a smaller percentage of the total travel time on long-haul flights. Thus, airport congestion will likely have little effect on demand for long-haul flights.

III.16 Effect of Regional Ground Transportation Congestion

The passenger surveys have demonstrated that travel time to the airport, especially from home, is an important factor for airport choice. Given equal air service quality and similar pricing, passengers will choose the closer airport. Some passengers will choose the closer airport, even when the air trip is longer or costs more.

As ground transportation congestion increases, one would expect some demand to shift to other regional airports. However, it will only shift if airlines provide alternative air service. In the past, airlines tended to specialize at one or more of a region's airports rather than providing service to all of them. The domestic legacy airlines are now serving all three of the PA airports and some of the other regional airports as well. It is not clear whether the airlines are changing their service patterns within the system of airports in response to ground transportation issues or primarily for competitive reasons. Often it takes a new entrant airline to establish service at a new airport within an airport system to prompt incumbent carriers to expand their service. Past examples include Peoples Express at EWR and JetBlue at JFK.

III.17 Leakage of Demand to Other Airports

"Leakage" of demand occurs when passengers use an airport other than the airport most convenient (usually closest) to their trip origin. Passengers choose to use a more distant airport because the more distant airport has superior (better timed or more frequent) air service, or more or less equivalent air service at a sufficiently lower price to induce a longer ground transportation trip.

The air passenger survey for the FAA Regional Air Service Demand Study assessed leakage through a series of questions that asked about airport preferences, alternative airports considered for the trip, and reasons for choosing an airport for a particular trip. The air passenger surveys have demonstrated that passengers do consider and use alternate airports for various trips.

Table III-2 shows that the majority of the users of the three Port Authority Airports express a preference for using the three airports. Only five percent of surveyed passengers (773 responses) expressed a preference for an airport not operated by the Port Authority. Virtually all of these passengers who expressed a preference for a non-Port Authority Airport lived outside of Manhattan. Only 0.4 percent (23 responses) of surveyed passengers who started their trip on Manhattan preferred a non-Port Authority airport.

Table III-2
Preferred Airports

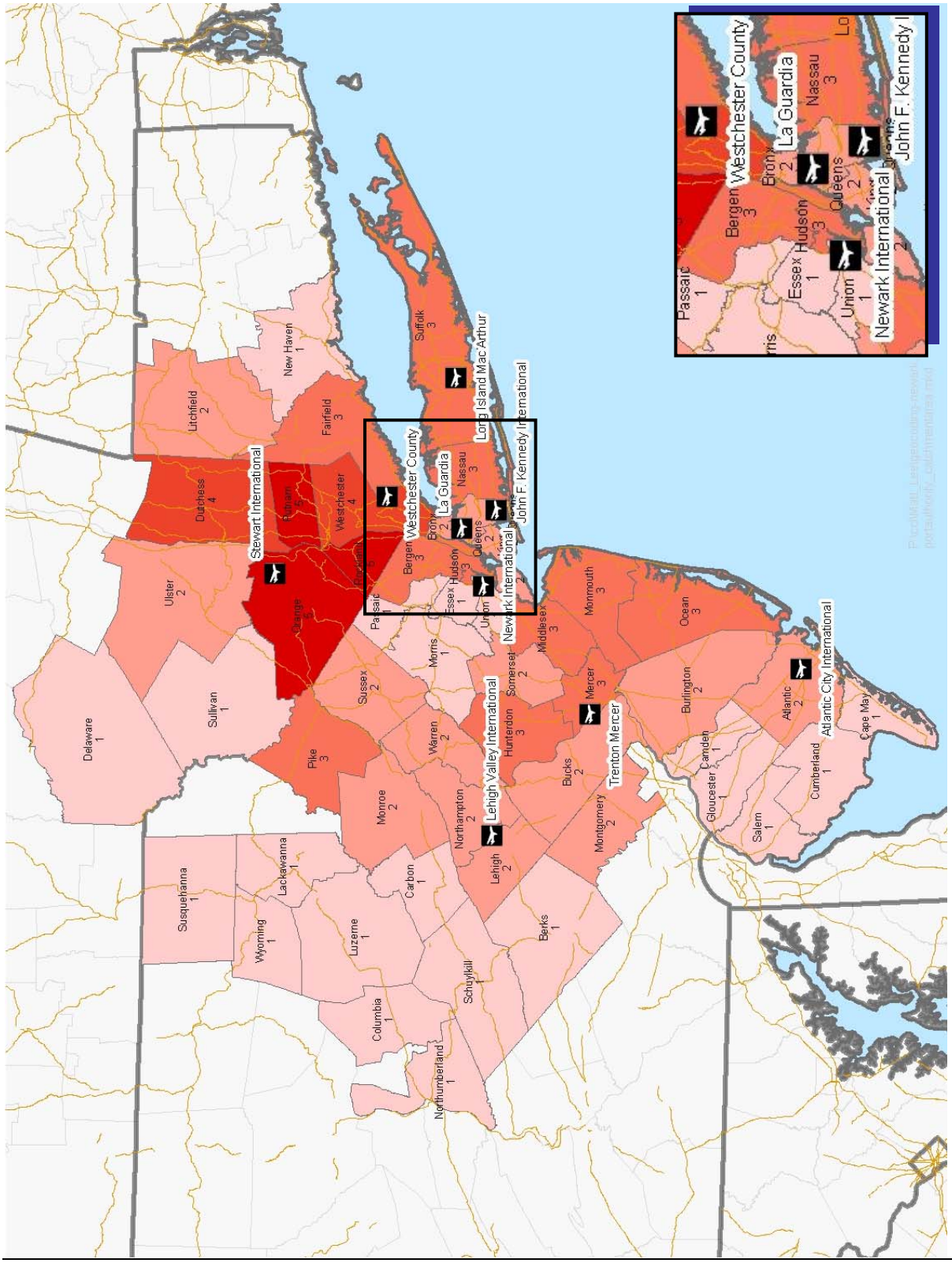
All EWR Travelers	Stated Preference						
Manhattan Area	EWR	JFK	LGA	Other	Total	No Preference	Total
Total Manhattan	192	60	139	4	395	325	720
All Other Areas	2,460	88	147	157	2,852	908	3,760
Total Surveys	2,652	148	286	161	3,247	1,233	4,480

All LGA Travelers	Stated Preference						
Manhattan Area	EWR	JFK	LGA	Other	Total	No Preference	Total
Total Manhattan	92	86	1,207	7	1,392	599	1,991
All Other Areas	217	258	898	292	1,665	626	2,291
Total Surveys	309	344	2,105	299	3,057	1,225	4,282

All JFK Travelers	Stated Preference						
Study Area	EWR	JFK	LGA	Other	Total	No Preference	Total
Total Manhattan	96	585	377	12	1,070	1,037	2,107
All Other Areas	302	1,111	370	301	2,084	915	2,999
Total Surveys	398	1,696	747	313	3,154	1,952	5,106

Source: PANYNJ 2005 Air Passenger Survey

Exhibit III-8
NUMBER OF AIRPORTS SERVING COUNTIES



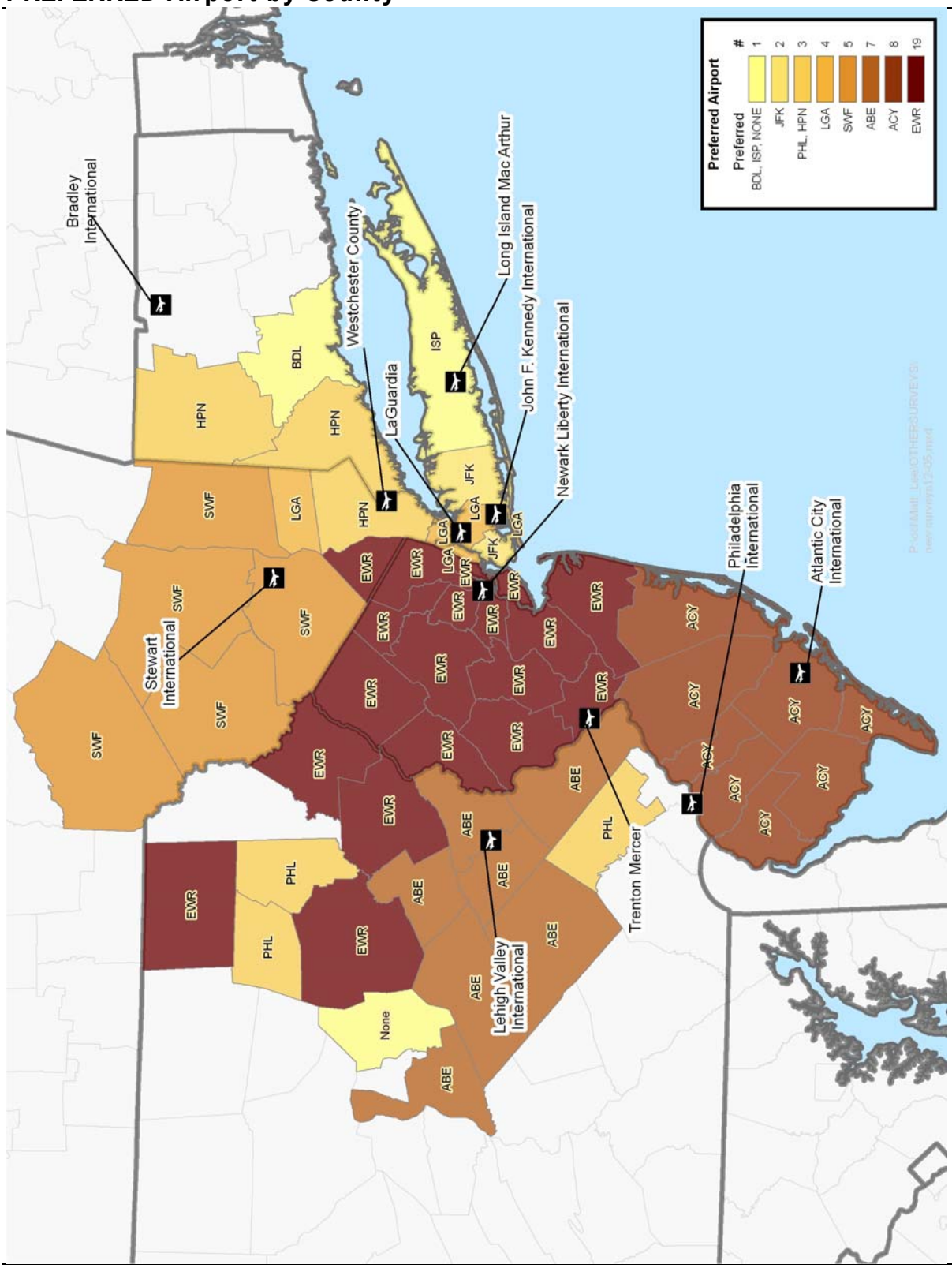
Source: PANYNJ/NYSDOT/DVRPC 2005 Air Passenger Survey

Approximately 63 percent of passengers preferred a Port Authority airport while 32 percent of passengers had no stated preference. Airport preferences were strongest at EWR where 59 percent of all EWR passengers surveyed prefer EWR over all of the other airports they use. Approximately 49 percent of LGA passengers prefer LGA and 33 percent of JFK passengers prefer JFK.

Of the passengers surveyed at JFK, 38 percent did not have an airport preference. More than twice as many JFK passengers preferred LGA (15 percent) over EWR (6 percent). At LGA, only 28 percent of passengers had no airport preference. About an equal number of LGA passengers preferred EWR (7 percent) as JFK (8 percent). At EWR, 27 percent of passengers had no airport preference. Twice as many EWR passengers preferred LGA (6 percent) over JFK (3 percent).

Exhibit III-8 shows the number of airports used by travelers from each county in the combined service area for the FAA Regional Air Service Demand Study (all 9 airports). Only Putnam, Westchester, New York Rockland and Orange Counties in New York; and Bergen and Hudson Counties in New Jersey are in the service areas for all three Port Authority airports. When the other six airports in the regional study are considered, Rockland, Orange and Putnam Counties in New York State are served by five different airports. Passaic, Essex, Morris and Union Counties in New Jersey are served only by EWR. Long Island passengers in Nassau and Suffolk Counties used ISP in addition to JFK and LGA. In the City of New York outside of Manhattan, travelers to Brooklyn, Queens and the Bronx use JFK and LGA. Travelers to Staten Island use EWR and JFK.

Exhibit III-9
PREFERRED Airport by County



Source: 2005 PANYNJ/NYSDOT/DVRPC Air Passenger Surveys

Exhibit III-9 shows the most preferred airport for each county in the expanded study area (all 9 airports). Those counties that have passengers who expressed a preference for EWR most often were located west of the Hudson River. Only one county west of the Hudson River (Hudson County, New Jersey) expressed preference for an airport located east of the Hudson River. This county is located immediately adjacent to the George Washington Bridge, which provides a relatively direct access route to LGA. For LGA and EWR passengers, responses to other survey questions indicated that travel time to the airport is one of the three most important factors for a passenger choosing an airport (the others are the quality of air service and price of air service). Local barriers to transportation such as the Hudson River clearly shape the service areas for each airport.

Table III-3
OTHER AIRPORTS CONSIDERED WHEN PLANNING TRIP

EWR Travelers	Airport Considered						
Manhattan Area	EWR	JFK	LGA	Other	Total	No Consideration	Total
Total Manhattan	-	201	164	6	371	349	720
All Other Areas	-	285	172	274	731	3,029	3,760
Total Surveys	-	486	336	280	1,102	3,378	4,480

LGA Travelers	Airport Considered						
Manhattan Area	EWR	JFK	LGA	Other	Total	No Consideration	Total
Total Manhattan	157	414	-	15	586	1,405	1,991
All Other Areas	221	510	-	331	1,062	1,229	2,291
Total Surveys	378	924	-	346	1,648	2,634	4,282

All JFK Travelers	Airport Considered						
Manhattan Area	EWR	JFK	LGA	Other	Total	No Consideration	Total
Total Manhattan	174	-	407	24	605	1,502	2,107
All Other Areas	286	-	509	283	1,078	1,921	2,999
Total Surveys	460	-	916	307	1,683	3,423	5,106

Source: PANYNJ 2005 Air Passenger Survey

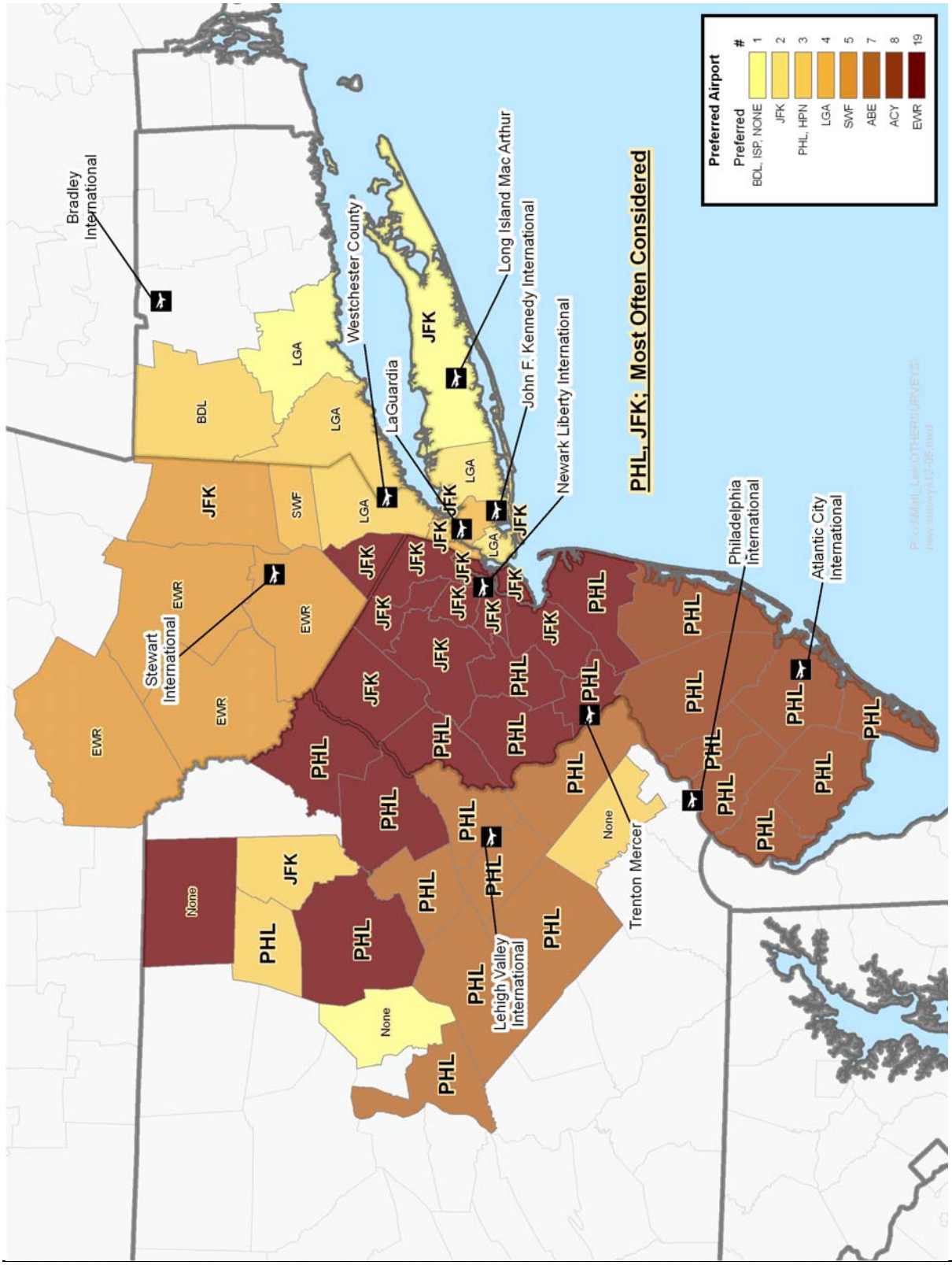
Table III-3 shows that 75 percent of passengers surveyed at EWR did not consider using another airport. This compares to only 67 percent at JFK and 61 percent at LGA. At EWR passengers considered JFK more often than LGA. JFK passengers considered LGA twice as often over EWR. At LGA, passengers considered JFK nearly three times more often than EWR. This analysis shows that passengers who use the New York airports (JFK and LGA) are less likely to consider EWR as an alternative to one of the two New York airports. EWR passengers are less likely to consider using a New York Airport, but when they do, they are more likely to consider JFK than LGA.

There are two likely reasons for this pattern of airport choice. First, JFK has unique international air service offerings not available at EWR. Second, other survey questions indicate that price is a more important factor than travel time in choosing JFK than at the other two airports. Therefore, some EWR passengers will go to JFK

to use lower priced air service. In contrast, EWR offers few unique international air service offerings not already available at JFK. In addition JFK has a greater volume of low-fare air service. Therefore, fewer passengers who use JFK and LGA are likely to consider EWR. Third, the difficulty of crossing the Hudson River tends to divide the market between EWR versus JFK and LGA.

Exhibit III-10 shows both the preferred airport (as colors) and the most frequently cited considered airport for the entire study area (all 9 airports). The physical barriers to transportation still shape airport choice. Areas on the west side of the Hudson River in New York State consider EWR, but prefer Stewart International Airport (SWF). Areas on the east side of the Hudson River in Connecticut prefer SWF, Westchester County Airport (HPN) or Bradley International Airport (BDL), but will consider JFK and LGA. However, exceptions occur when an airport offers unique or lower priced air services such as that offered at JFK. Northern New Jersey passengers consider JFK. The recent expansion of low fare service offerings at Philadelphia International Airport (PHL) appears to have an influence on airport choice for central, southern and western New Jersey. Comparing the alternative airports considered by passengers to current service areas indicates that EWR is more vulnerable to a loss of passenger volume to either JFK or PHL. By contrast, JFK and LGA are more likely to lose passengers to each other.

Exhibit III-10
OTHER AIRPORTS CONSIDERED WHEN PLANNING AIR TRAVEL



Source: PANYNJ/NYSDOT/DVRPC 2005 Air Passenger Surveys

Table IV-1
PORT AUTHORITY SOCIOECONOMIC VARIABLES

Year	Employment (thousands)	Personal Income (millions)	Per Capita Personal Income (PCPI)	Population (thousands)	World Gross Domestic Product (billions)	U.S. Gross Domestic Product (billions)	Gross Regional Product (millions)
1985	11,079	$524,227	$25,712	20,389	n/a	$6,054	$782,002
1986	11,186	$543,274	$26,562	20,453	n/a	$6,264	$822,899
1987	11,293	$563,013	$27,440	20,518	n/a	$6,475	$874,455
1988	11,402	$583,470	$28,347	20,583	n/a	$6,743	$945,864
1989	11,511	$604,670	$29,285	20,648	n/a	$6,981	$961,454
1990	11,622	$626,640	$30,253	20,713	$22,788	$7,113	$985,733
1991	11,573	$633,800	$30,372	20,868	$22,879	$7,101	$972,249
1992	11,524	$641,041	$30,492	21,023	$22,973	$7,337	$995,146
1993	11,474	$648,366	$30,612	21,180	$23,140	$7,533	$1,002,569
1994	11,426	$655,774	$30,733	21,338	$23,500	$7,836	$1,014,717
1995	11,377	$663,266	$30,854	21,497	$23,559	$8,032	$1,044,431
1996	11,538	$688,179	$31,768	21,663	$24,443	$8,329	$1,080,799
1997	11,721	$716,970	$32,822	21,844	$25,315	$8,704	$1,108,914
1998	11,977	$761,539	$34,536	22,050	$25,924	$9,067	$1,136,779
1999	12,223	$785,326	$35,259	22,273	$26,704	$9,470	$1,163,771
2000	12,588	$831,915	$37,010	22,478	$27,771	$9,817	$1,204,130
2001	12,666	$836,509	$36,947	22,641	$28,136	$9,891	$1,247,851
2002	12,632	$829,919	$36,442	22,774	$28,624	$10,049	$1,253,622
2003	12,745	$846,448	$36,975	22,893	$29,413	$10,321	$1,303,403
2004	12,857	$859,677	$37,354	23,014	$30,651	$10,756	$1,368,116
2005	12,969	$872,505	$37,688	23,151	$31,663	$11,134	$1,431,860
2006	13,081	$885,893	$38,060	23,276	$32,685	$11,555	$1,502,842
2007	13,194	$899,399	$38,411	23,415	$33,754	$11,991	$1,578,990
2008	13,306	$913,236	$38,772	23,554	$34,834	$12,396	$1,641,557
2009	13,418	$927,410	$39,147	23,690	$35,947	$12,780	$1,705,019
2010	13,530	$941,927	$39,532	23,827	$37,104	$13,149	$1,770,698
2011	13,640	$957,030	$39,918	23,975	$38,288	$13,511	$1,834,970
2012	13,752	$972,376	$40,309	24,123	$39,495	$13,871	$1,901,252
2013	13,864	$987,968	$40,704	24,272	$40,744	$14,236	$1,939,967
2014	13,977	$1,003,809	$41,102	24,422	$42,065	$14,606	$1,980,662
2015	14,091	$1,019,905	$41,505	24,573	$43,387	$14,976	$2,023,449
2016	14,183	$1,034,023	$41,858	24,703	$44,726	$15,352	$2,062,542
2017	14,275	$1,048,336	$42,214	24,834	$46,157	$15,814	$2,101,865
2018	14,368	$1,062,848	$42,573	24,965	$47,634	$16,290	$2,140,862
2019	14,462	$1,077,560	$42,935	25,097	$49,158	$16,780	$2,179,946
2020	14,651	$1,107,599	$43,669	25,363	$50,730	$17,285	$2,220,304
2021	14,762	$1,126,645	$44,130	25,530	$52,353	$17,806	$2,267,534
2022	14,873	$1,146,020	$44,595	25,698	$54,028	$18,341	$2,315,150
2023	14,985	$1,165,728	$45,065	25,868	$55,756	$18,893	$2,364,659
2024	15,098	$1,185,774	$45,540	26,038	$57,540	$19,462	$2,414,220
2025	15,212	$1,206,165	$46,021	26,209	$59,381	$20,048	$2,466,346
Average Annual Growth Rates							
1985-2005	0.8%	2.6%	1.9%	0.6%	n/a	3.1%	3.1%
1990-2005	0.7%	2.2%	1.5%	0.7%	2.2%	3.0%	2.5%
2005-2025	0.8%	1.6%	1.0%	0.6%	3.2%	3.0%	2.8%

H:\NEW YORK SYSTEM FORECAST\FORECASTS\2 ENPL REGRESSION FORECASTS\IND-VARIABLES.123-PANYNJ

Sources: FAA; Global Insight; Woods & Poole Economics; REMI, and Landrum & Brown Analysis

IV. Regional and Local Socioeconomic Trends

Air transportation demand at JFK, LGA, and EWR depends on the combination of trends in the airline industry, national and international economic conditions, and the socioeconomic conditions within the New York City region. This section summarizes recent trends and future forecasts of population; employment; income; per capita personal income (PCPI); and U.S., world, and regional Gross Domestic Product (GDP) for each airport and the PANYNJ region. **Table IV-1** (facing page) presents the socioeconomic variables for the three-airport PANYNJ region.

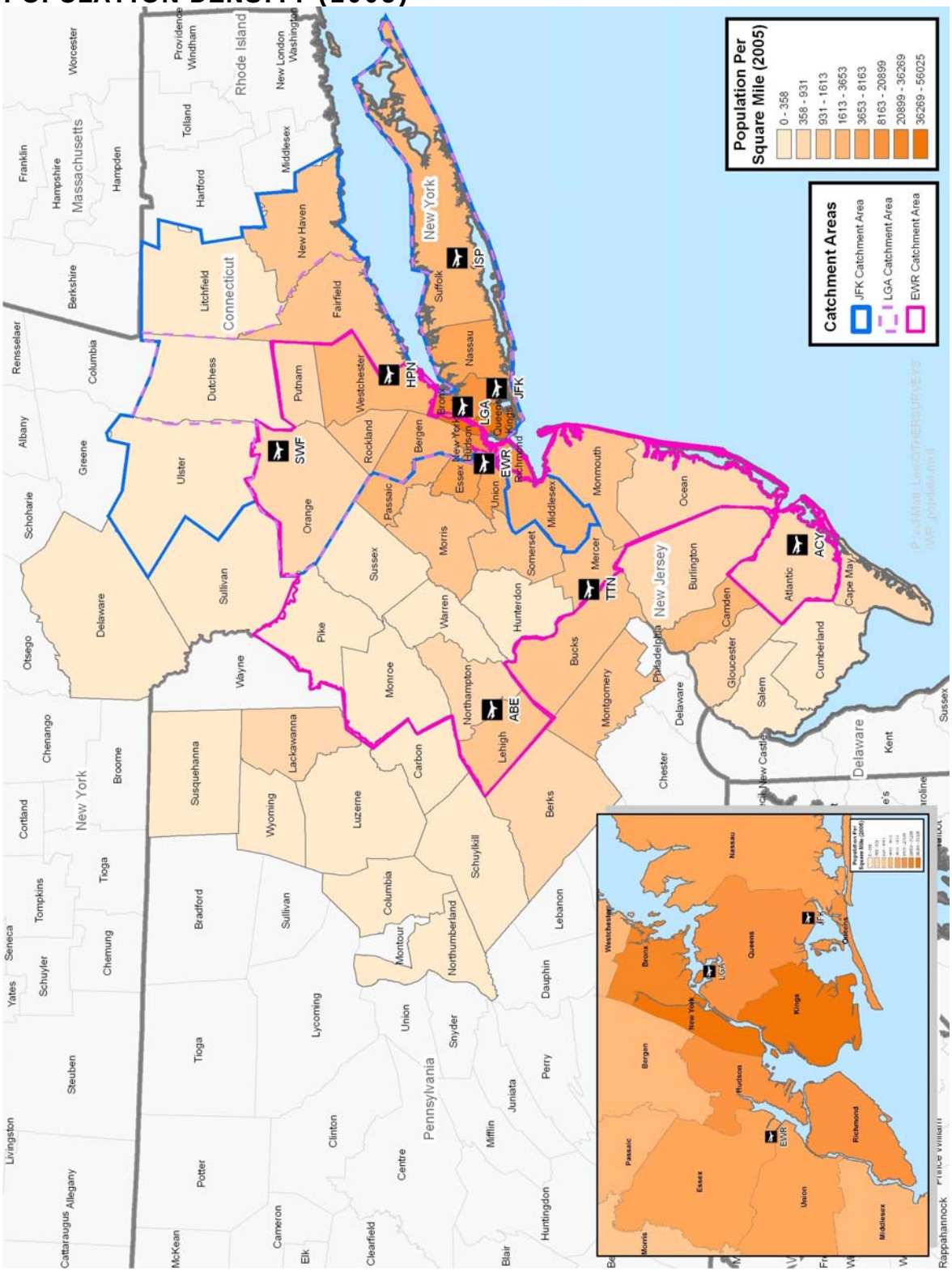
Historical and forecast population, employment, income, and PCPI were obtained from Woods and Poole Economics, Inc. of Washington, D.C. The Bureau of Economic Analysis provided historical and forecast U.S. GDP. World GDP was obtained from Global Insight. Regional GDP data was provided by REMI. All economic variables were converted to constant dollars to eliminate any distortions resulting from inflation.

IV.1 Population

Exhibits IV-1 through **IV-3** summarize current and future population counts and growth in the New York region. The most populous counties in the study area are centered around New York City. Manhattan and Brooklyn have the highest population density. Brooklyn and Queens have the highest populations.

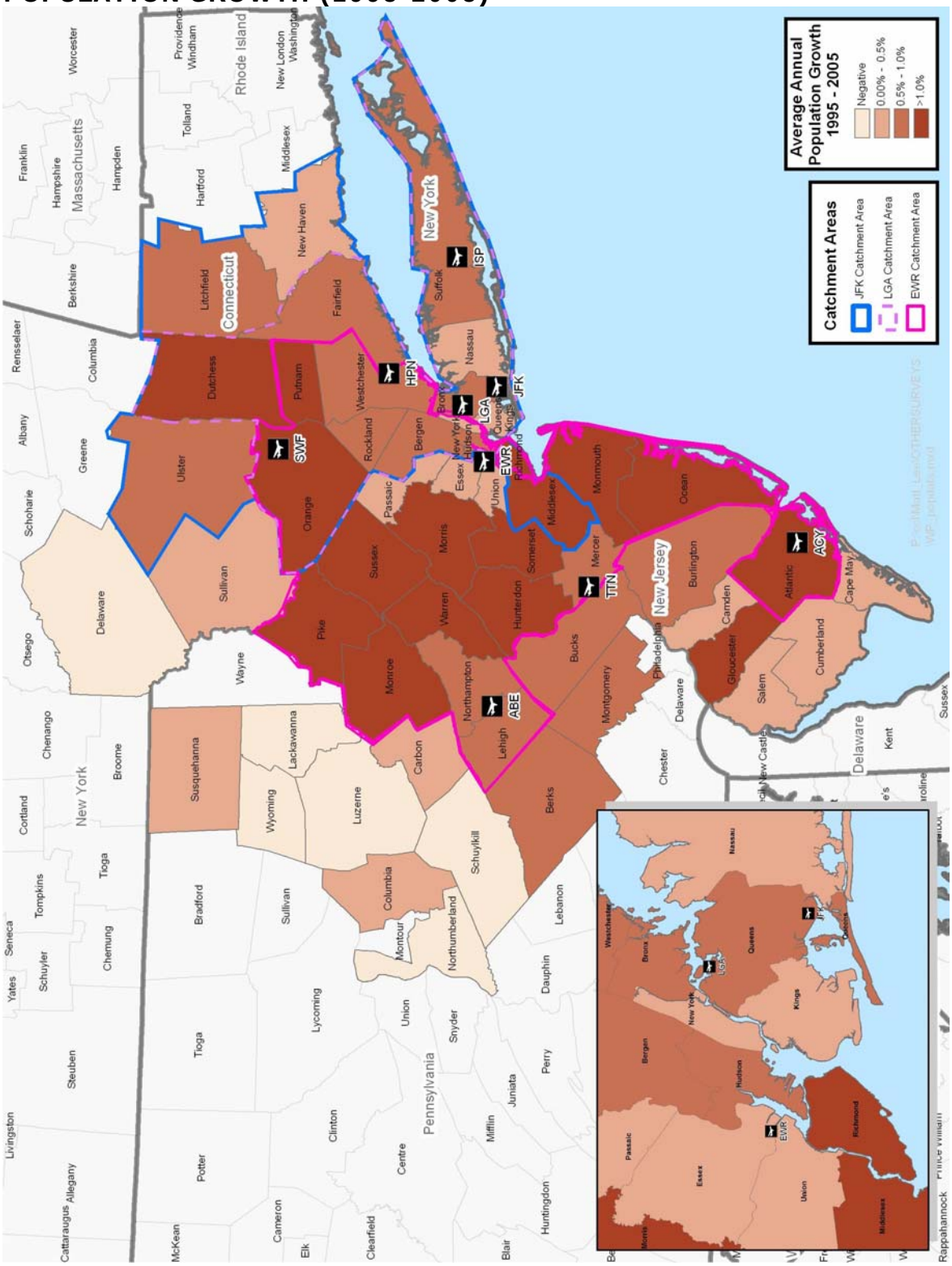
The fastest growing counties are outside of New York City. Westchester and Dutchess Counties in New York, Fairfield County in Connecticut and Morris, Hudson and Bergen Counties in New Jersey are forecast to have slower growth in 2005 through 2015 than they had from 1995 to 2005. Long Island counties will continue growing at rates consistent with recent history. Overall, the Port Authority service area population is forecast to grow at a rate of 0.6 percent annually, which is fairly consistent with the rate of growth from 1985 though 2005.

Exhibit IV-1
POPULATION DENSITY (2005)



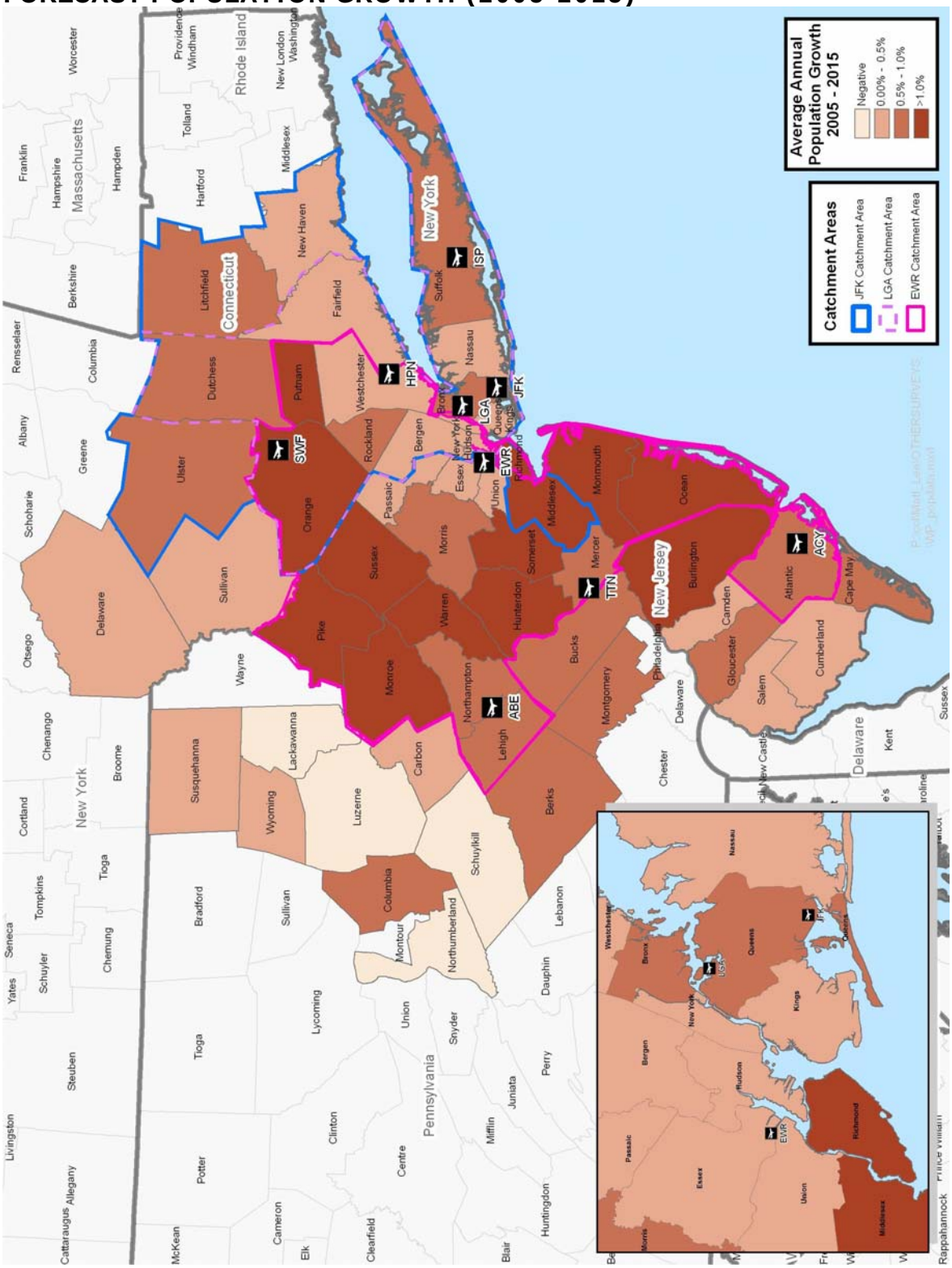
Sources: Woods & Poole Economics and Landrum & Brown Analysis

Exhibit IV-2
POPULATION GROWTH (1995-2005)



Sources: Woods & Poole Economics and Landrum & Brown Analysis

Exhibit IV-3
FORECAST POPULATION GROWTH (2005-2015)

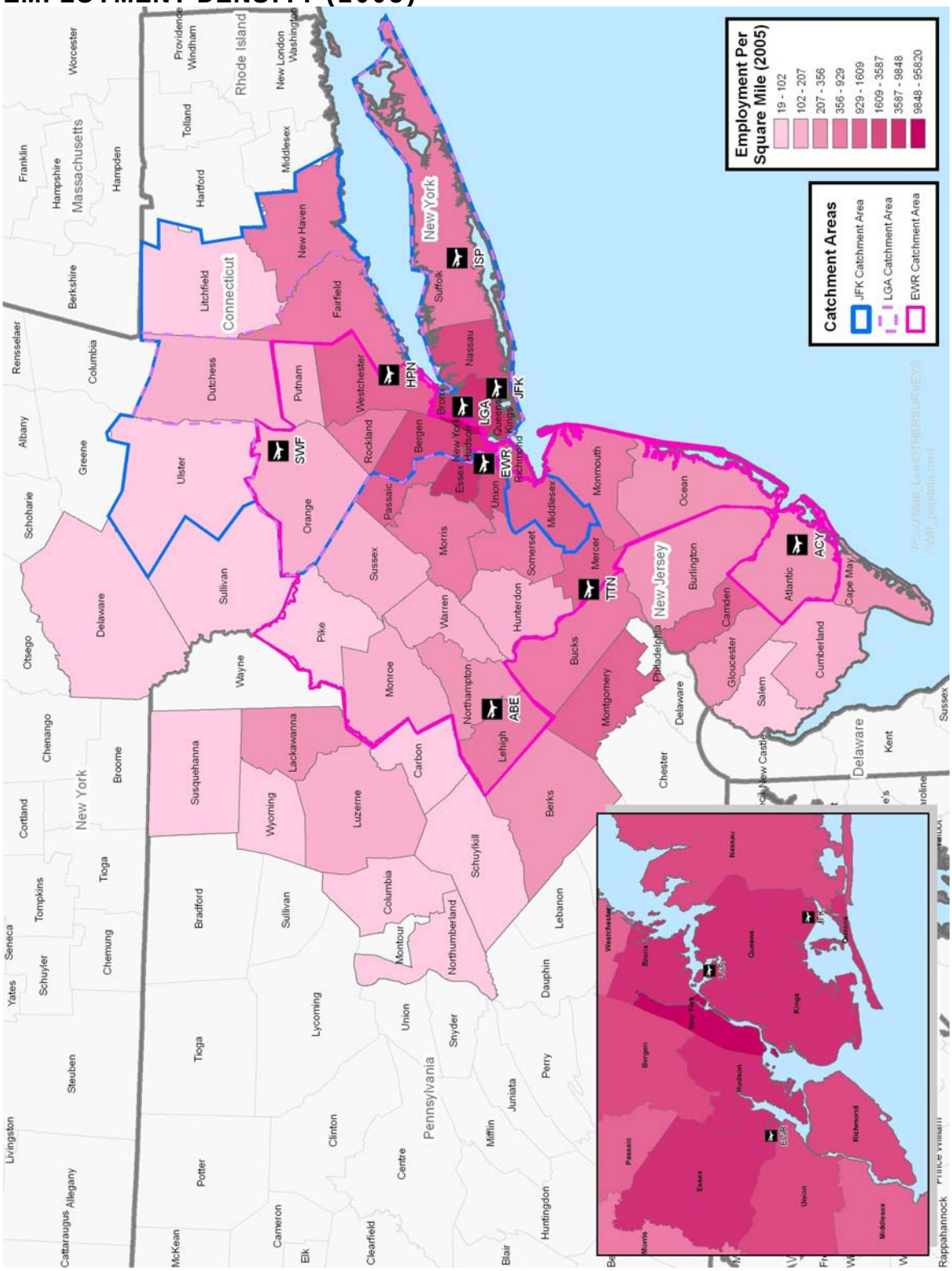


Sources: Woods & Poole Economics and Landrum & Brown Analysis

IV.2 Employment

Exhibit IV-4 summarizes 2005 employment per square mile ratios by county in the New York region. The highest concentrations of employment are in Essex and Hudson Counties in New Jersey, and Bronx, New York, Kings, and Queens Counties in New York.

Exhibit IV-4
EMPLOYMENT DENSITY (2005)

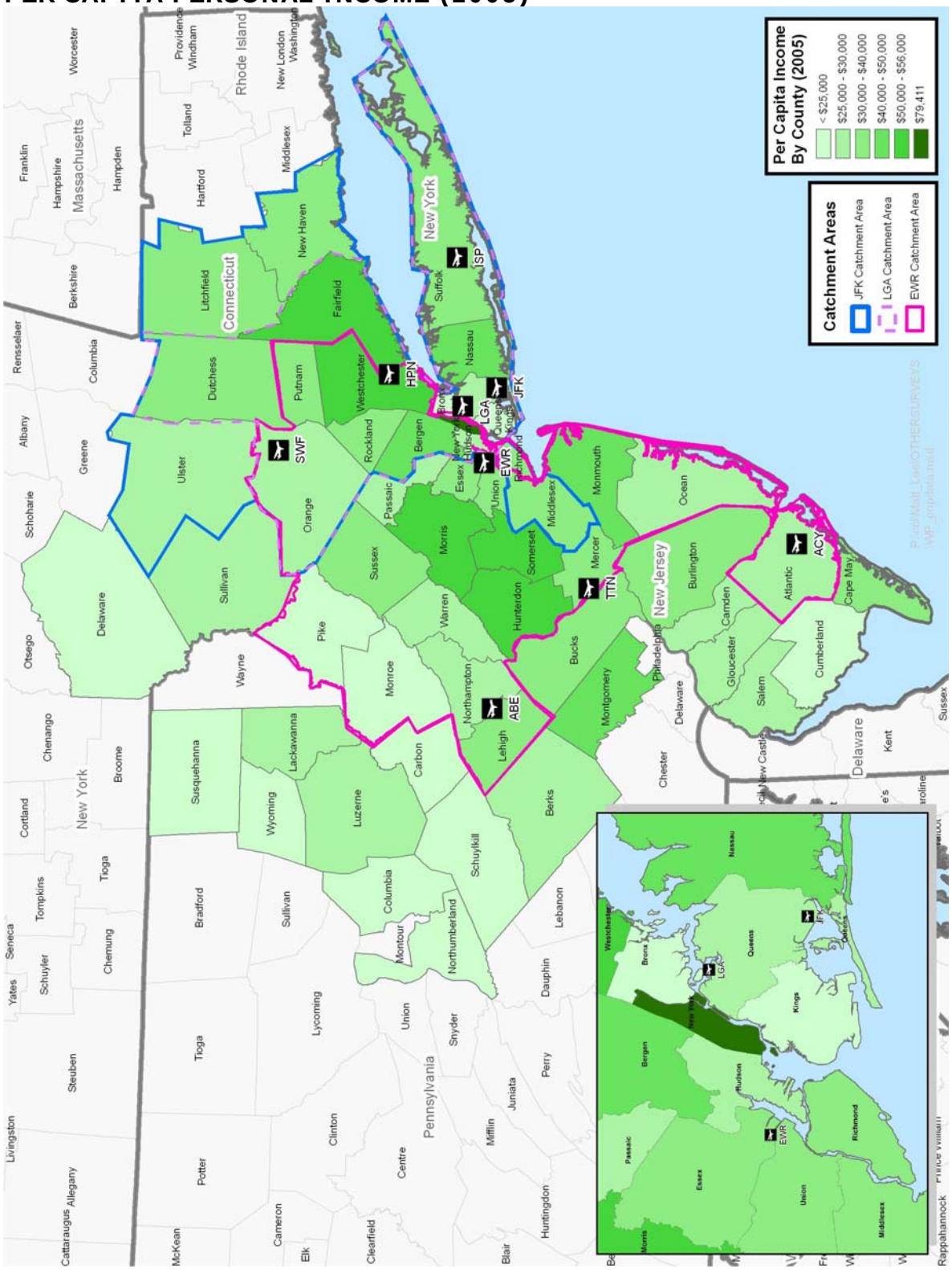


Sources: Woods & Poole Economics and Landrum & Brown Analysis

IV.3 Per Capita Personal Income

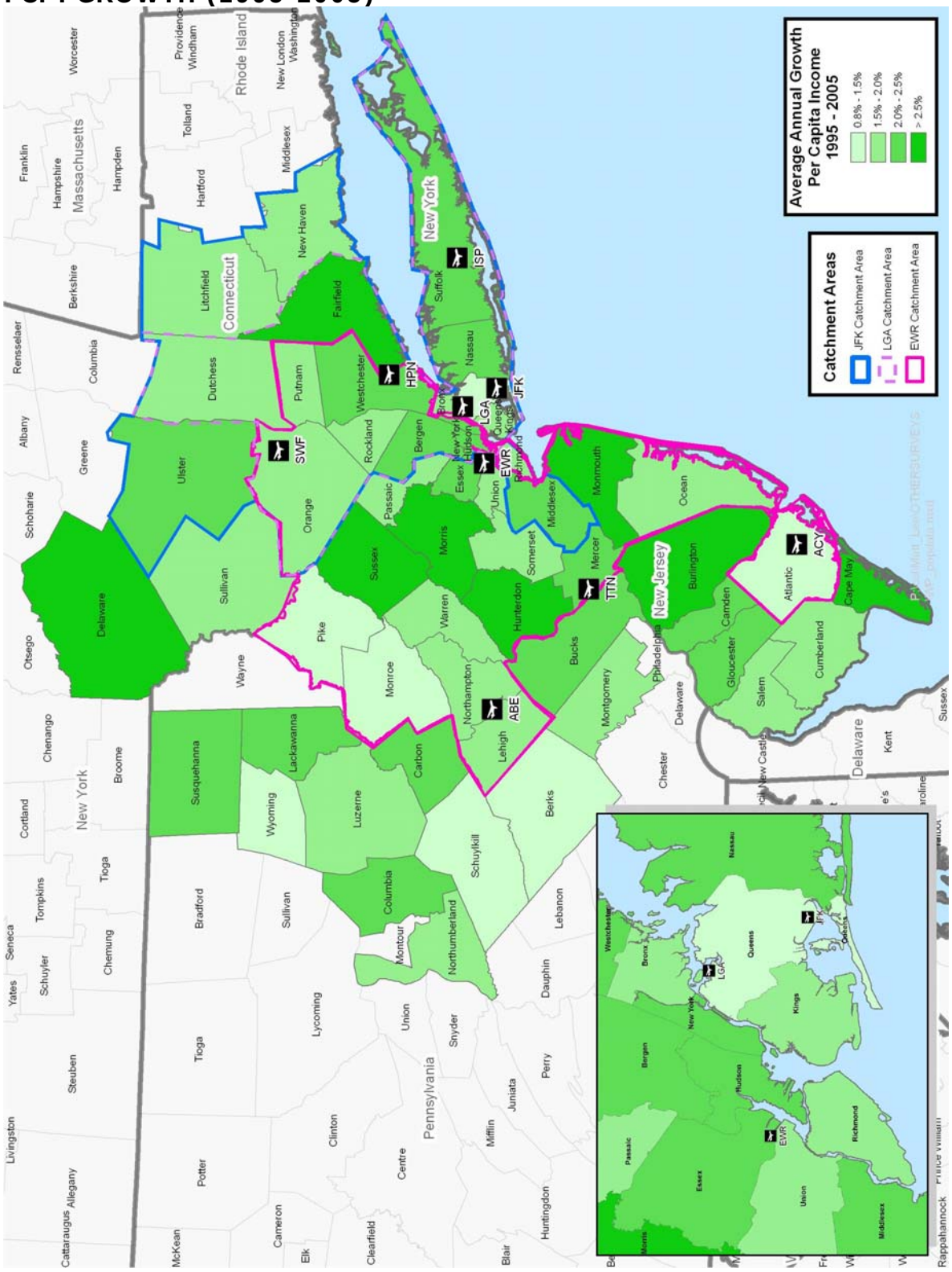
Exhibits IV-5 through **IV-7** summarizes 2005 PCPI by county in the New York region. Year 2005 per capita personal income levels are the highest in New York and Westchester counties in New York state, Fairfield county in Connecticut, and Morris, Hunterdon, and Somerset counties in New Jersey. Fairfield county in Connecticut, Carbon county in Pennsylvania, Kings and Richmond counties in New York state, and Bergen, Middlesex, and Hudson counties in New Jersey are projected to be the fastest growing counties in the region between 2005 and 2015.

Exhibit IV-5
PER CAPITA PERSONAL INCOME (2005)



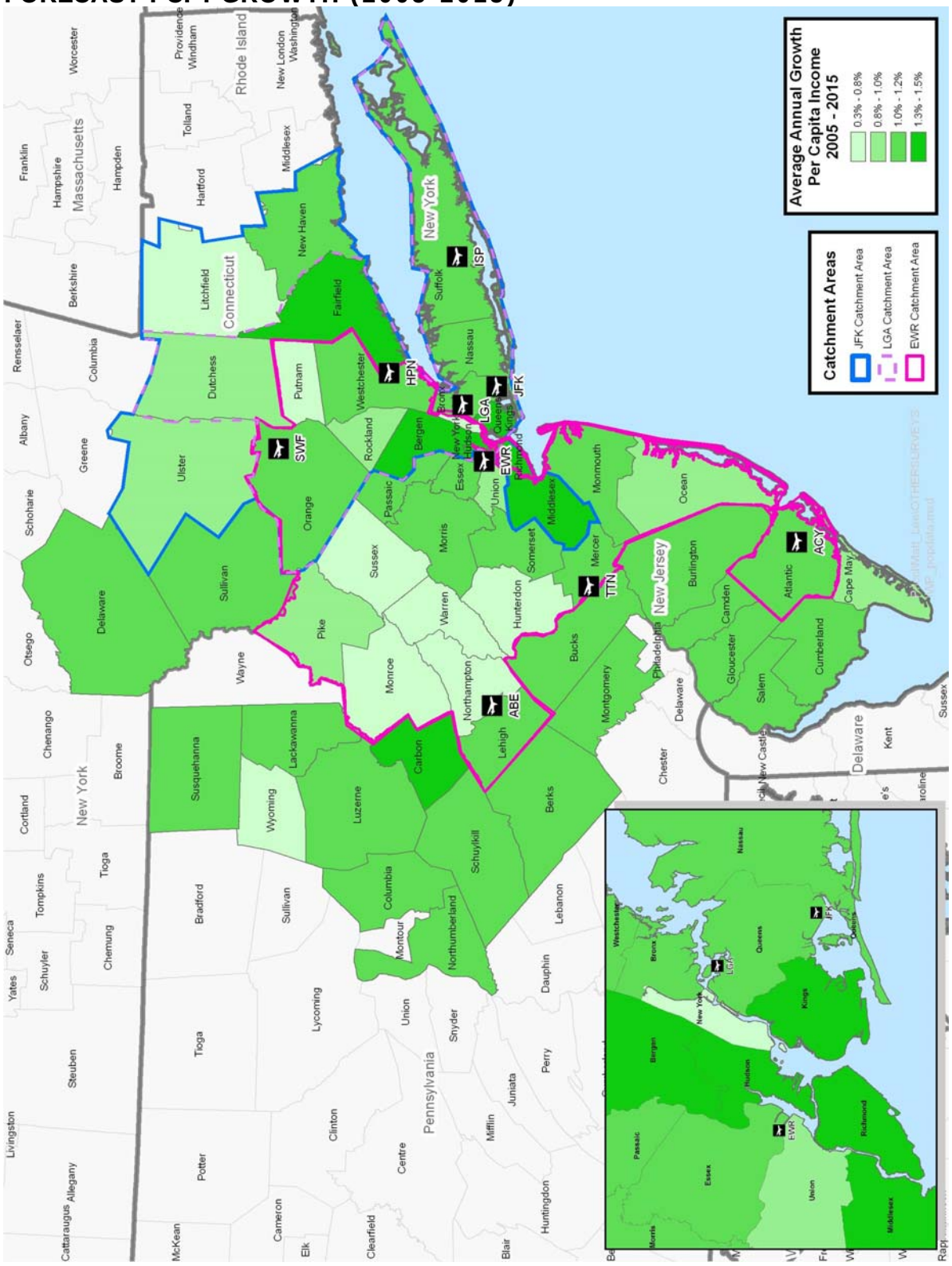
Sources: Woods & Poole Economics and Landrum & Brown Analysis

Exhibit IV-6
PCPI GROWTH (1995-2005)



Sources: Woods & Poole Economics and Landrum & Brown Analysis

Exhibit IV-7
FORECAST PCPI GROWTH (2005-2015)



Sources: Woods & Poole Economics and Landrum & Brown Analysis

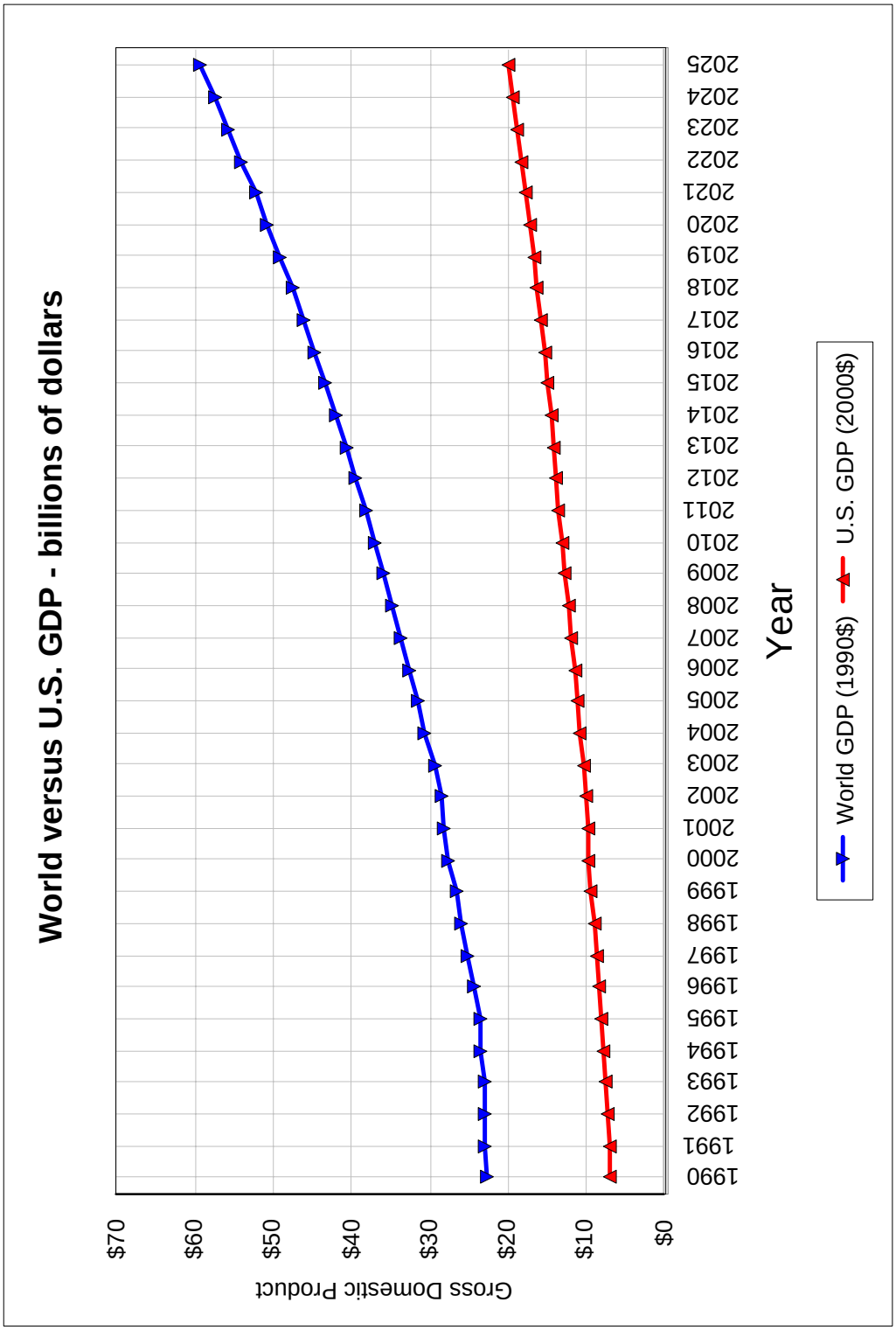
IV.4 Gross Domestic Product

Exhibit IV-8 displays recent trends in the growth of real (inflation-adjusted) GDP for the U.S and the world. **Exhibit IV-9** shows Gross Regional Product (GRP) for each of the three airports' air service regions, and the PANYNJ region as a whole. Traffic at JFK, LGA, and EWR has increased as a result of national and regional economic growth.

U.S. GDP has historically outperformed world GDP (3.0 percent versus 2.2 percent annually from 1990 to 2005). U.S. GDP is forecast to continue see 3.0 percent average annual growth through 2025. World GDP is expected to grow faster than U.S. GDP, at 3.2 percent annually through 2025.

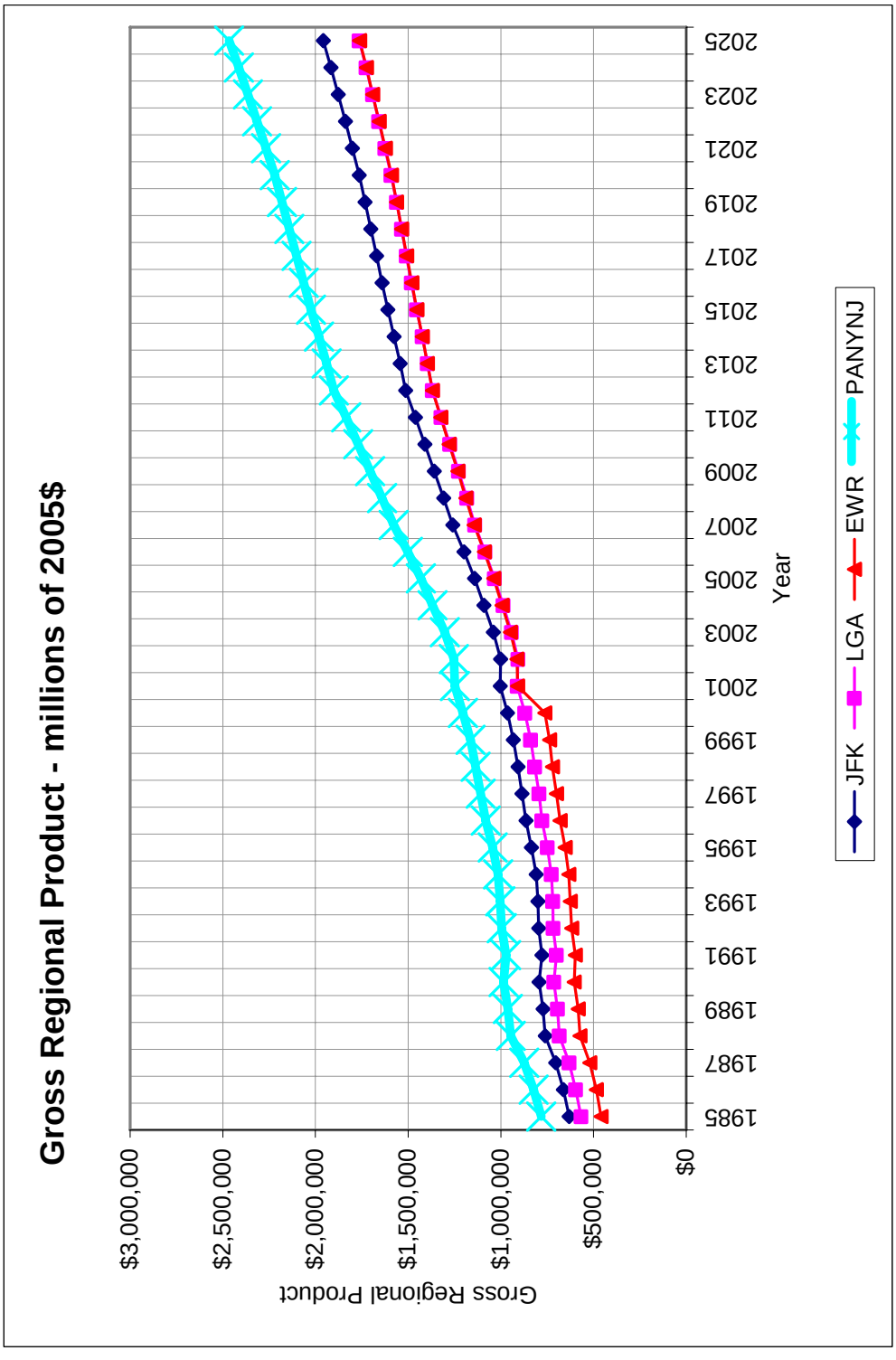
GRP for the EWR air service area grew the fastest from 1985 to 2005, at an average annual rate of 4.2 percent. GRP for JFK and LGA grew an average of 3.0 percent annually over the same time period. The PANYNJ service area GRP grew 3.1 percent annually from 1985 to 2005. GRP for each of the three airports is projected to increase at an average rate of 2.7 percent annually through 2025. GRP for the PANYNJ three-airport air service area is forecast to increase at an average annual rate of 2.8 percent.

Exhibit IV-8
GROSS DOMESTIC PRODUCT



Source: Global Insight and Landrum & Brown Analysis

Exhibit IV-9
GROSS REGIONAL PRODUCT



Source: REMI and Landrum & Brown Analysis

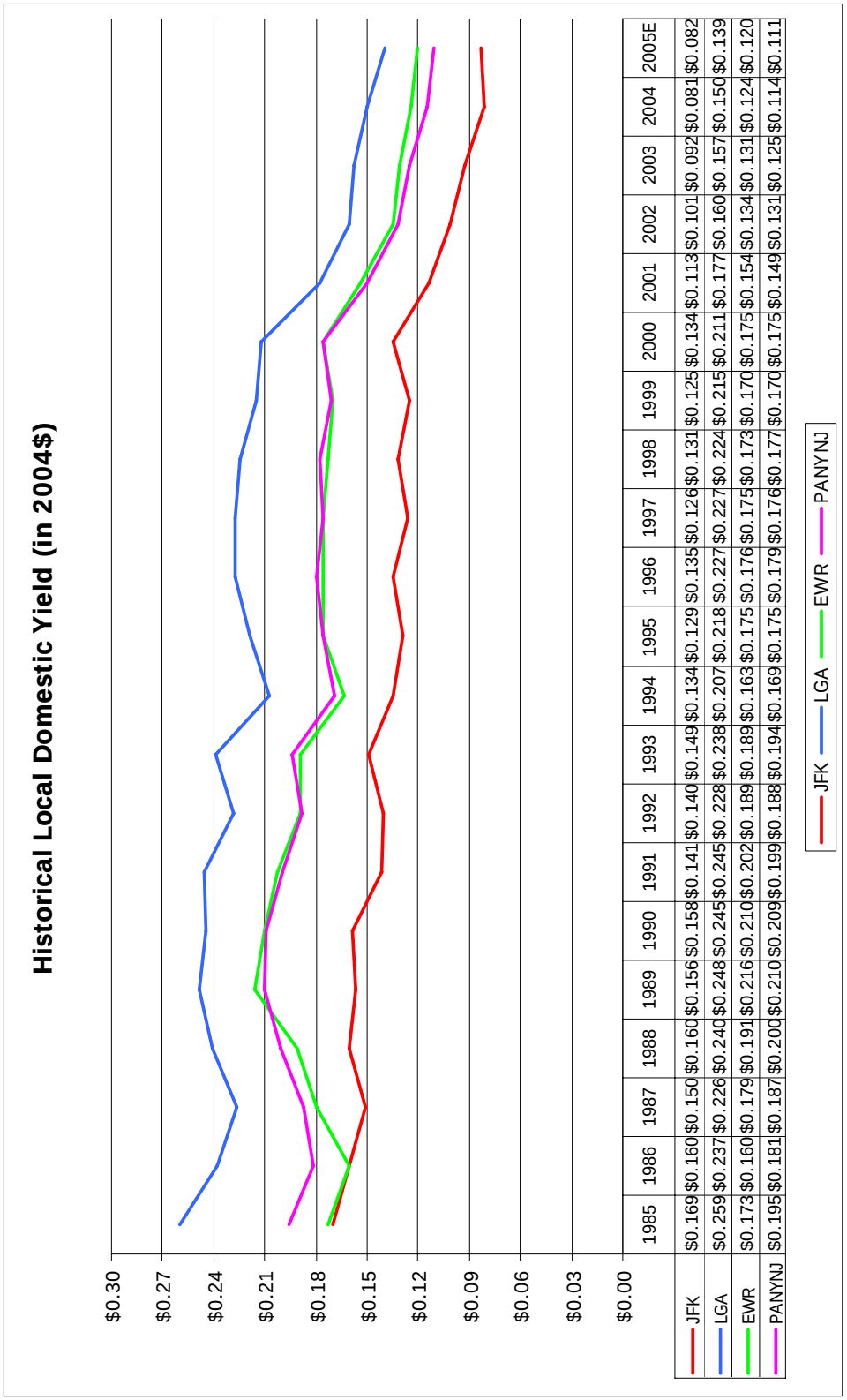
IV.5 Airline Yield

Yields[1] are the aviation industry's measure for average ticket prices. As prices decline, passengers can better afford to fly and traffic typically increases. **Exhibit IV-10** shows the historical domestic yield for JFK, LGA, EWR, and the 3-airport region. Yields have declined at all three airports over the last 20 years. Yields are currently the lowest at JFK due to the abundance of low cost carrier (LCC) service at this airport.

The FAA projects yield will decline by 1.2 percent annually from 2006 to 2020. This is a result of continued penetration of the total airline market by low cost carriers and the gradual transition of the airline industry towards a lower cost structure. Yields at JFK and LGA are forecast to follow national trends and decline by 1.2 percent annually through 2025. Yield at EWR are predicted to decline by 14 percent in 2006 due to the new presence of JetBlue. After 2006, yields at EWR are forecast to resume following the national trends and decline by 1.2 percent annually through 2025. These assumptions result in an eight percent decline in yield at the three Port Authority airports combined.

[1] "Yield" is defined as average revenue an airline obtains from carrying a passenger one mile. It reflects the fare, length of haul, the level of competition, carrier costs, and other factors. Yield is a commonly accepted measure of the price of air travel and a crucial determinant of airline profitability.

Exhibit IV-10
AIRLINE YIELD TRENDS AT PORT AUTHORITY AIRPORTS



	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005E
JFK	$0.169	$0.160	$0.150	$0.160	$0.156	$0.158	$0.141	$0.140	$0.149	$0.134	$0.129	$0.135	$0.126	$0.131	$0.125	$0.134	$0.113	$0.101	$0.092	$0.081	$0.082
LGA	$0.259	$0.237	$0.226	$0.240	$0.248	$0.245	$0.245	$0.228	$0.238	$0.207	$0.218	$0.227	$0.227	$0.224	$0.215	$0.211	$0.177	$0.160	$0.157	$0.150	$0.139
EWR	$0.173	$0.160	$0.179	$0.191	$0.216	$0.210	$0.202	$0.189	$0.189	$0.163	$0.175	$0.176	$0.175	$0.173	$0.170	$0.175	$0.154	$0.134	$0.131	$0.124	$0.120
PANYNJ	$0.195	$0.181	$0.187	$0.200	$0.210	$0.209	$0.199	$0.188	$0.194	$0.169	$0.175	$0.179	$0.176	$0.177	$0.170	$0.175	$0.149	$0.131	$0.125	$0.114	$0.111

Source: U.S. DOT T100

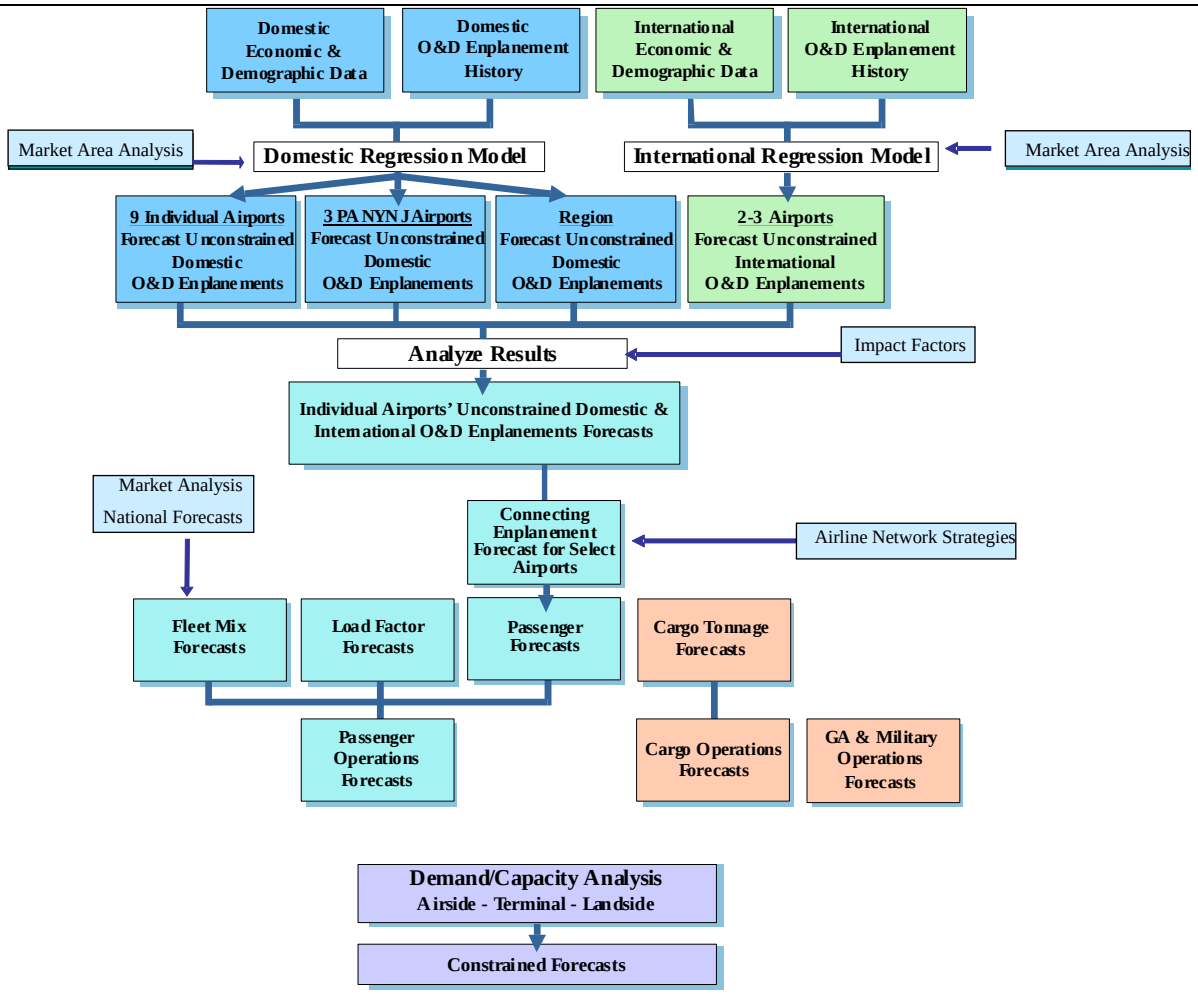
V. Forecasting Methodology and Assumptions

This section describes the methodology and assumptions used to develop the forecasts for JFK, LGA, and EWR.

V.1 Methodology

Exhibit V-1 summarizes the overall methodology used to develop the baseline forecasts of aviation demand. The forecasts for JFK, LGA, and EWR were developed based on a regional approach. First, historical and forecast demographic and socioeconomic data was collected and analyzed as described in Section IV. A 20-year history of traffic and yields at each airport, the nine-airport region, and the three-airport PANYNJ region was also reviewed and analyzed.

Exhibit V-1
FORECAST METHODOLOGY FLOWCHART



Sources: Landrum & Brown

Historical scheduled passenger traffic was examined in light of the variables discussed in Section IV. A multi-linear regression model was used to quantify the relationship between the variable being forecast (local passengers) and the independent variables. The regression model was used to project O&D demand for the entire nine-airport region and the three-airport PANYNJ region to determine a baseline level of future demand. The model was also used to develop individual airport forecasts for JFK, LGA, and EWR. The results of the regional models were compared to the results of the individual airport models to determine the appropriate level of O&D activity for the 20-year forecast horizon.

Historical connecting passengers were examined for each airport in order to project future connecting passenger levels. The sum of the O&D and connecting passenger demand yields enplanement forecasts for each airport.

Forecasts of operations were developed from the passenger traffic forecasts. Since carriers have a wide choice of aircraft and experience different load factor levels, many different volumes of operations can correspond to one set of passenger forecasts. The forecasts of operations were developed from information about airline fleet plans, scheduling strategies at downline hubs, current and projected load factors, and assumptions about mergers and competitive strategies.

V.2 O&D Passenger Forecast Models

Twenty-one years of historical originating enplaned passengers were used to forecast demand at JFK, LGA, EWR airports, and the PANYNJ region. The forecast models were developed using the classical technique of multi-linear regression, with the dependent variable transformed according to a linear function. The methodology for preparing the O&D forecasts recognizes that key parameters such as yield and Gross Regional Product (GRP) will change over time. However, it assumes that the fundamental mathematical *relationships* between the independent variables and domestic O&D passenger traffic will persist and will support the development of realistic forecasts.

Several regressions of various combinations of independent variables were tested. **Table V-1** shows the variables that proved of particular importance in explaining local traffic at each of the airports and the three-airport region.

Table V-1
INDEPENDENT VARIABLES USED IN FINAL O&D FORECASTS

Domestic			
JFK	LGA	EWR	3-Airport Region
Yield	Employment	Yield	Yield
Population	Personal Income	PCPI	Employment
Personal Income	Dummy Variable	Dummy Variable	Personal Income
Dummy Variable			Dummy Variable
International			
JFK	JFK + EWR		
Personal Income	Personal Income		
U.S. GDP	U.S. GDP		
Dummy Variable	Dummy Variable		

Several different model specifications were tested but ultimately rejected for various reasons, such as:

- Inadequate test statistics (i.e. low r-squares, t-statistics, etc.)
- Poor forecast results. Regression models produce "forecasts" of history data. A satisfactory model will generate estimates that are close to actual values.
- Theoretical contradictions, (e.g. the model indicates that GDP is negatively correlated with traffic growth)
- Simple models that do not allow for sensitivity analysis
- Overly aggressive or low forecast results that are incompatible with historical averages
-

V.3 O&D Forecast Assumptions

In order to forecast originating enplanements at the PANYNJ airports, there are a number of factors that must be taken into consideration as discussed below.

- Facility constraints
- Local yield
- Local socio-economic variables
- Unusual events
- Airline strategy / changes

V.3.1 Facility Constraints

The forecasts developed in this Regional Air Service Demand Study are unconstrained to the extent possible. The enplaned passenger, cargo tonnage, and aircraft operations forecasts are NOT limited to the levels of activity that can be served by the current physical plant at each airport.

V.3.2 Local Yield

Local yield is projected to continue to decline in constant dollar terms as discussed in Section IV. As airline ticket prices decline, passengers can better afford to fly and traffic volumes typically increase.

V.3.3 Local Socio-Economic Variables

Local population, employment, personal income, and various measures of local and regional economic output are projected to continue to grow as discussed in Section IV. A healthy, expanding local economy supports travel by residents of the region and by visitors to the region.

V.3.4 Unusual Events

The terrorist attacks of September 11, 2001, the concurrent prolonged recession, the wars in Afghanistan and Iraq, and the limitations placed on flying due to Severe Acute Respiratory Syndrome (SARS) were all unusual events that occurred in the early part of this century and must be accounted for in the forecast models. Each of these issues had the effect of depressing traffic at U.S. airports and throughout the world that is not fully reflected in the standard socioeconomic variables used to forecast future aviation activity. As a result, a dummy variable was used in the regression models and applied in 2001 and 2002 to reflect the impact of these unusual events on aviation activity at LGA, EWR, and the PANYNJ region as a whole. JFK did not experience the same level of downturn in traffic as most other U.S. airports. The impact of using a negative dummy variable was offset by the explosive growth by JetBlue Airways, thus covering up the downturn in other domestic and international passenger volumes.

V.3.5 Airline Strategy/Changes

In order to accurately forecast future enplanements, specific airline strategy decisions must be considered and reflected in the regressions. When a low cost carrier (LCC) introduces service at an airport that does not have a significant LCC presence, the introduction of new and economically priced travel options often results in a few years of rapid growth, after which the market typically stabilizes. **Table V-2** shows the impact of JetBlue service on domestic O&D traffic at the three PANYNJ airports. From 1999 to 2004, domestic originations were up 11 percent in total while fares were down 19 percent.

The dummy variable discussed previously was also used to account for these types of airline changes at the three Port Authority airports. Specifically, the dummy variable was used to reflect:

- The high traffic levels experienced at EWR through 1986 due to People's Express
- The startup of JetBlue at JFK in 2001 and the expected expansion through 2010
- The leakage of passengers from EWR to JFK from 2001 to 2005 due to JetBlue service at JFK
- The late 2005 JetBlue startup at EWR and Continental's response
- The scheduled increase in seats from 2004 to 2006 at LGA

Table V-2
JetBlue Impact on Domestic O&D Traffic

jetBlue Impact—Domestic O&D Traffic
Port Authority Airports

	jetBlue	Pure O&D Passengers			Avg Fare Paid			Avg Yield (cents)			Distance Adj Yield			Avg Stage Length		
Base	market	1999	2004	Change	1999	2004	Change	1999	2004	Change	1999	2004	Change	1999	2004	Change
JFK	Yes	3,457,650	7,192,600	108%	$219	$133	-39%	10.79	7.80	-28%	21.86	13.26	-39%	2,027	1,700	-16%
	No	1,287,300	954,250	-26%	$145	$153	5%	11.98	10.96	-9%	14.48	15.26	5%	1,209	1,392	15%
	Total	4,744,950	8,146,850	72%	$199	$135	-32%	11.00	8.11	-26%	19.86	13.50	-32%	1,805	1,664	-8%
EWR	Yes	4,674,710	4,120,750	-12%	$184	$157	-15%	11.55	9.17	-21%	18.36	15.67	-15%	1,590	1,709	7%
	No	5,185,850	4,681,270	-10%	$193	$180	-7%	20.30	17.07	-16%	19.33	17.97	-7%	953	1,053	11%
	Total	9,860,560	8,802,020	-11%	$189	$169	-10%	15.04	12.42	-17%	18.87	16.89	-10%	1,255	1,360	8%
LGA	Yes	3,686,350	3,637,940	-1%	$145	$111	-24%	14.26	10.01	-30%	14.53	11.11	-24%	1,019	1,110	9%
	No	6,481,760	7,005,350	8%	$180	$153	-15%	22.32	18.57	-17%	18.01	15.26	-15%	807	822	2%
	Total	10,168,110	10,643,290	5%	$167	$138	-17%	18.95	15.04	-21%	16.75	13.84	-17%	884	920	4%
PANYNJ	Yes	11,818,710	14,951,290	27%	$182	$134	-26%	11.81	8.60	-27%	18.19	13.40	-26%	1,540	1,559	1%
	No	12,954,910	12,640,870	-2%	$182	$163	-11%	20.10	17.11	-15%	18.19	16.27	-11%	905	951	5%
	Total	24,773,620	27,592,160	11%	$182	$147	-19%	15.06	11.49	-24%	18.19	14.71	-19%	1,208	1,280	6%

Source: DOT, *Air Passenger Origin-Destination Survey.*
Note: Distance adjusted yield is a linear adjustment for a 1,000 mile trip.
File: H:\New York System Forecast\O&D Data\[JFKEWR B6 Analysis.xls]B6 PA Impact

Sources: U.S. DOT T100 and Landrum & Brown Analysis

VI. Enplaned Passengers Forecasts

This section provides summaries of the baseline forecasts of passenger demand. The forecasts of passenger traffic are the most critical of the various aviation demand elements since most of the other activity elements, such as aircraft operations, are derived from these forecasts.

Any comprehensive effort to project future airline passengers begins with a forecast of originating enplaned passengers. The level of originating passengers reflects the attractiveness of the New York City region as a place to live, a place to visit, and as a place to work and conduct business. An accurate forecast of originating passengers is critical in order to estimate future demands for such terminal facilities as ticketing, baggage claim, automobile parking, and access roadways. The forecasts of domestic and international originating enplanements are discussed in Sections VI.1 and VI.2, respectively.

The volume of connecting passengers reflects the quality and quantity of air service offered at an airport by domestic hubbing airlines and international gateway carrier, and is typically gauged by the frequency of departures and the number of destinations served. The forecasts for connecting enplanements are presented in Sections VI.3.

VI.1 Domestic Originating Enplaned Passengers

The forecast for JFK domestic originating passengers is summarized in **Table VI-1**. **Exhibits VI-1** and **VI-2** summarize the regression analysis. JFK domestic originating passengers are forecast to increase from 9.4 million in 2005 to 11.8 million in 2010, to 12.2 million in 2015, to 12.5 million in 2020, and to 12.9 million in 2025. This growth represents an average increase of 1.6 percent annually.

The forecast for LGA domestic originating passengers is summarized in **Table VI-2**. **Exhibits VI-3** and **VI-4** summarize the regression analysis. LGA domestic originating passengers are forecast to increase from 11.6 million in 2005 to 13.1 million in 2010, to 13.8 million in 2015, to 14.6 million in 2020, and to 15.5 million in 2025. This represents 1.4 percent average annual growth from 2005 to 2025.

The forecast for EWR domestic originating passengers is summarized in **Table VI-3**. **Exhibits VI-5** and **VI-6** summarize the regression analysis. EWR domestic originating passengers are forecast to grow from 9.3 million in 2005 to 12.1 million in 2010, to 12.5 million in 2015, to 13.0 million in 2020, and to 13.5 million by 2025. This results in average annual growth of 1.9 percent from 2005 to 2025.

Exhibit VI-7 shows that the PANYNJ region's domestic originating passengers are forecast to grow from 30.3 million in 2005 to 36.9 million in 2010, to 38.5 million in 2015, to 40.1 million in 2020, and to 41.9 million by 2025. This results in average annual growth of 1.6 percent from 2005 to 2025.

Table VI-1
KENNEDY HISTORICAL DOMESTIC ORIGINATING PASSENGERS

Domestic Originating Passengers
Kennedy International Airport

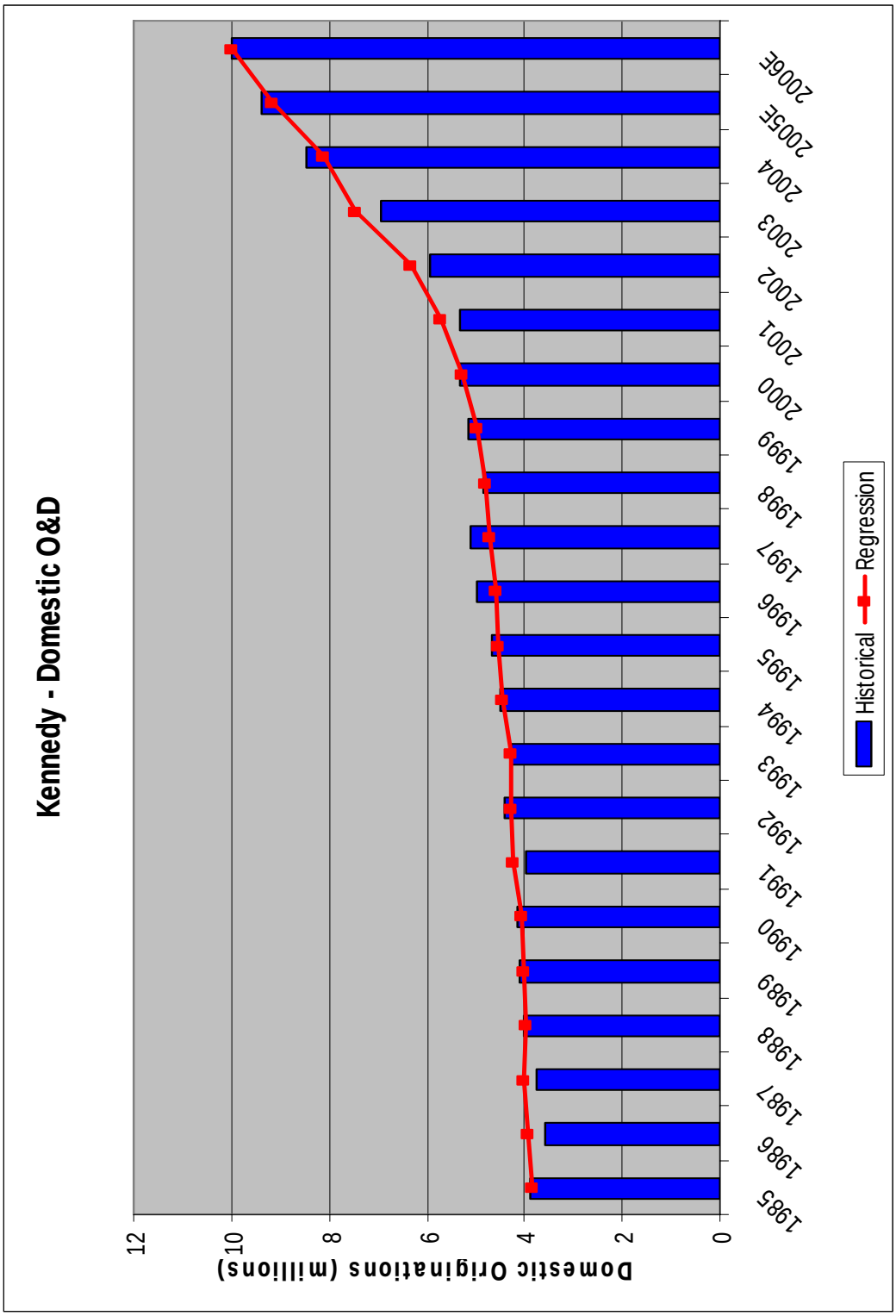
	Calendar Year	Pure Domestic Originations	DPIJ	Total Domestic Originations	DPIJ Percentage
Actual	1990	3,834,780	310,010	4,144,790	7.5%
	1991	3,675,760	312,230	3,987,990	7.8%
	1992	4,139,680	289,080	4,428,760	6.5%
	1993	3,924,040	332,250	4,256,290	7.8%
	1994	4,149,190	359,350	4,508,540	8.0%
	1995	4,307,460	374,270	4,681,730	8.0%
	1996	4,579,120	377,500	4,956,620	7.6%
	1997	4,730,960	390,880	5,121,840	7.6%
	1998	4,460,710	378,000	4,838,710	7.8%
	1999	4,744,950	384,490	5,129,440	7.5%
	2000	4,891,750	412,900	5,304,650	7.8%
	2001	4,966,180	355,360	5,321,540	6.7%
	2002	5,592,270	324,690	5,916,960	5.5%
	2003	6,647,530	302,910	6,950,440	4.4%
	2004	8,146,860	337,350	8,484,210	4.0%
Estimated	2005	8,978,300	401,000	9,379,300	4.3%
Estimated	2006	9,603,400	400,100	10,003,500	4.0%
	1990-2005	5.8%	1.7%	5.6%	

Note: DPIJ = domestic leg of ultimate international jouney.

H:\New York System Forecast\Forecasts\Master Sheets\[NY Master Sheet3.xls]JFK Dom

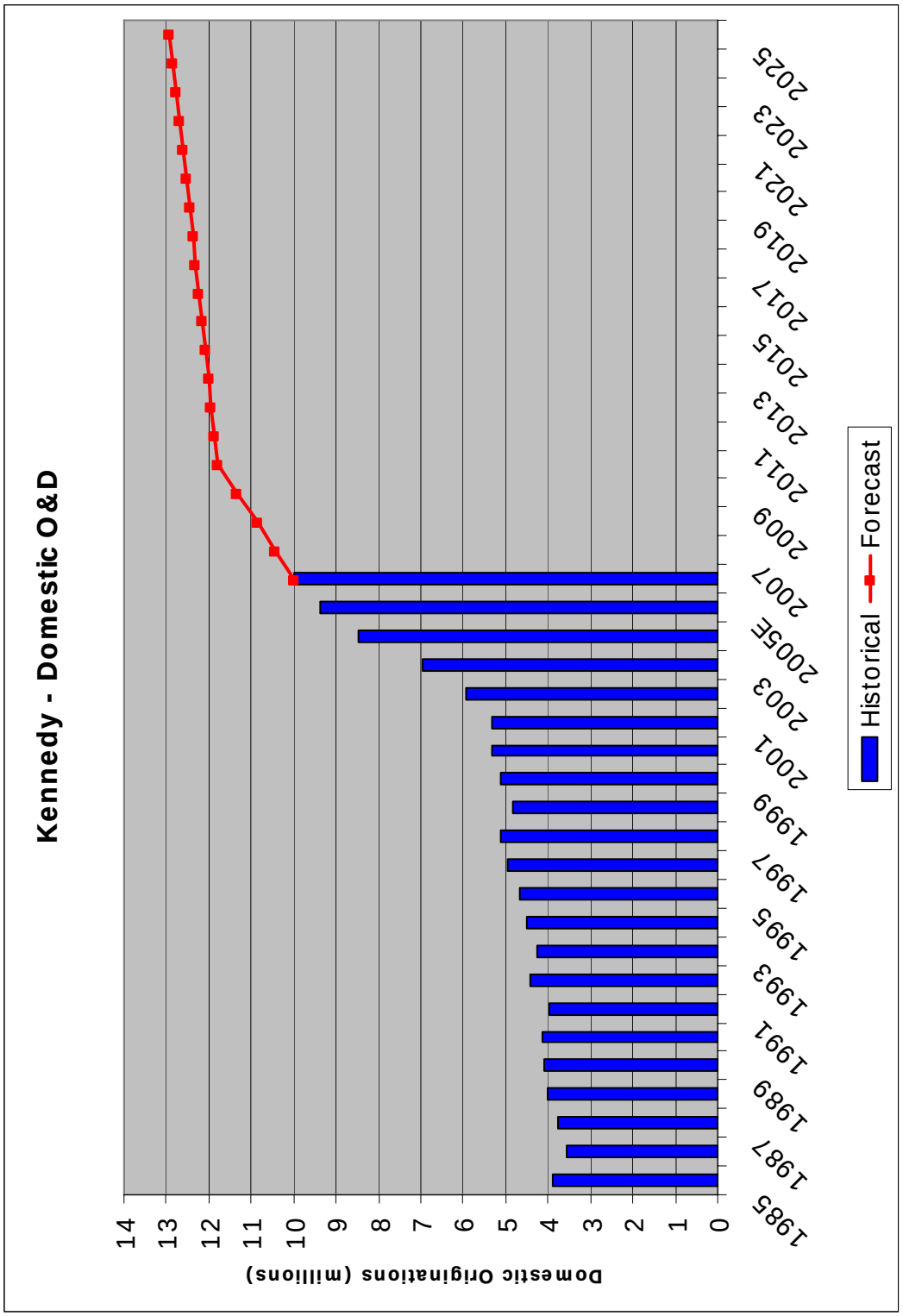
Sources: U.S. DOT T100 and Landrum & Brown Analysis

Exhibit VI-1
KENNEDY DOMESTIC ORIGINATING PASSENGERS REGRESSION



Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

Exhibit VI-2
KENNEDY FORECAST DOMESTIC ORIGINATING PASSENGERS



Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

Table VI-2
LAGUARDIA HISTORICAL DOMESTIC ORIGINATING PASSENGERS

Domestic Originating Passengers
LaGuardia Airport

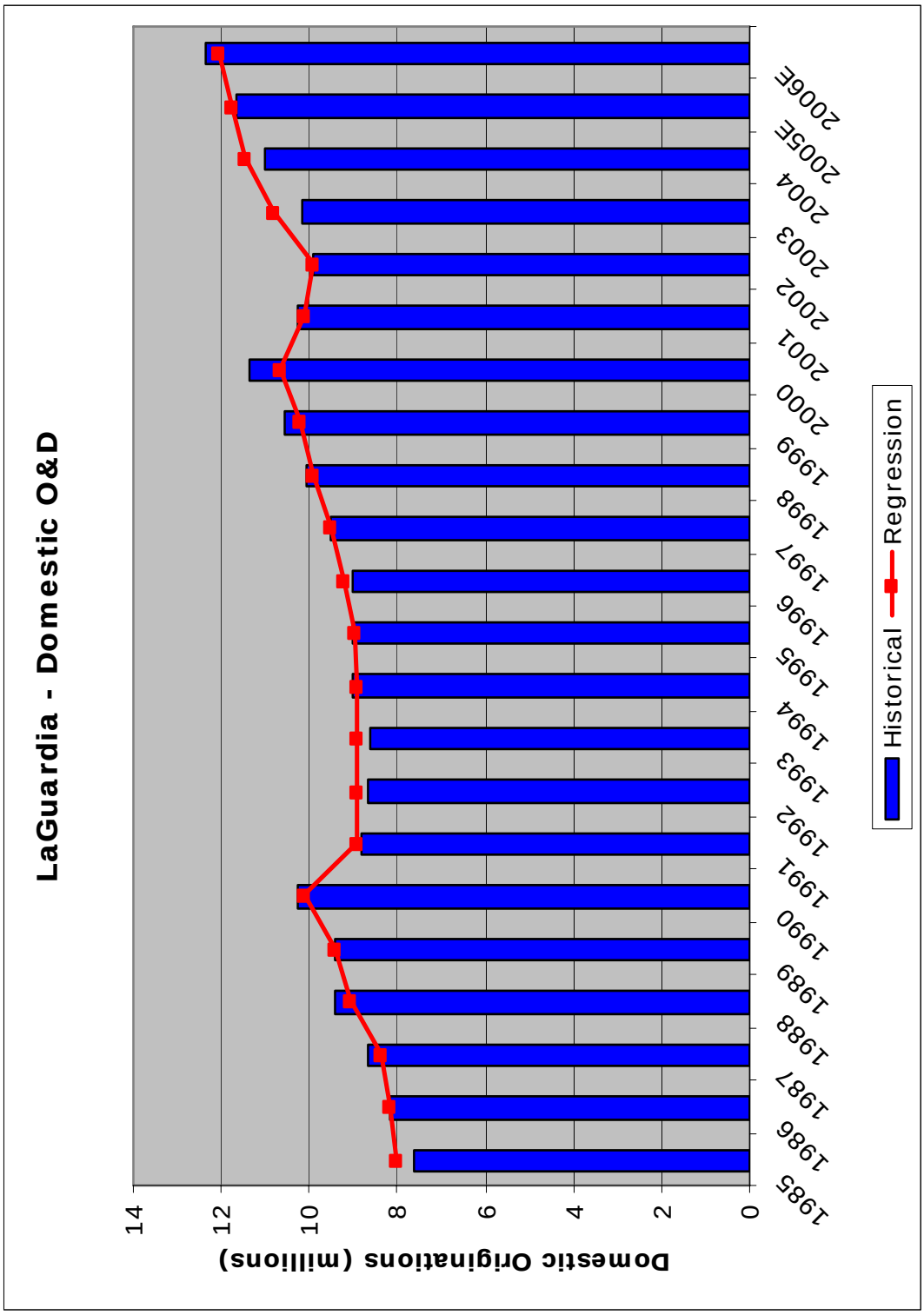
	Calendar Year	Pure Domestic Originations	DPIJ	Total Domestic Originations	DPIJ Percentage
Actual	1990	10,002,840	240,320	10,243,160	2.3%
	1991	8,604,700	218,990	8,823,690	2.5%
	1992	8,411,910	248,650	8,660,560	2.9%
	1993	8,335,310	290,920	8,626,230	3.4%
	1994	8,670,150	323,840	8,993,990	3.6%
	1995	8,656,250	363,770	9,020,020	4.0%
	1996	8,671,470	370,070	9,041,540	4.1%
	1997	9,152,930	367,550	9,520,480	3.9%
	1998	9,694,220	371,920	10,066,140	3.7%
	1999	10,168,120	400,920	10,569,040	3.8%
	2000	10,942,560	430,650	11,373,210	3.8%
	2001	9,846,950	393,250	10,240,200	3.8%
	2002	9,598,290	339,290	9,937,580	3.4%
	2003	9,822,830	347,330	10,170,160	3.4%
	2004	10,643,290	349,670	10,992,960	3.2%
Estimated	2005	11,262,200	374,000	11,636,200	3.2%
Estimated	2006	11,942,450	407,550	12,350,000	3.3%
	1990-2005	0.8%	3.0%	0.9%	

Note: DPIJ = domestic leg of ultimate international jouney.

H:\New York System Forecast\Forecasts\Master Sheets\[NY Master Sheet3.xls]LGA Dom

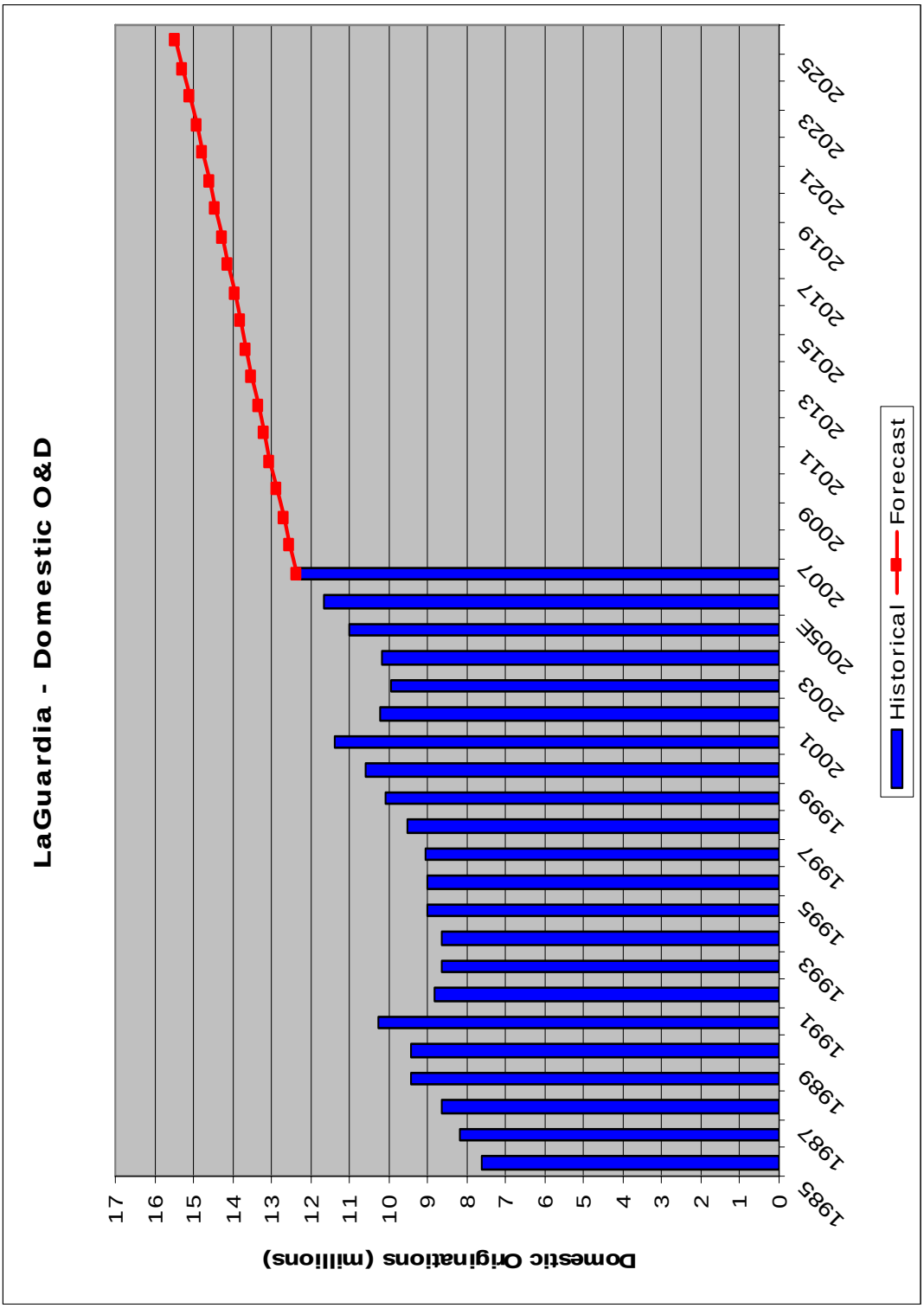
Sources: U.S. DOT T100 and Landrum & Brown Analysis

Exhibit VI-3
LAGUARDIA DOMESTIC ORIGINATING PASSENGERS REGRESSION



Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

Exhibit VI-4
LAGUARDIA FORECAST DOMESTIC ORIGINATING PASSENGERS



Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

Table VI-3
NEWARK HISTORICAL DOMESTIC ORIGINATING PASSENGERS

Domestic Originating Passengers
Newark Liberty International Airport

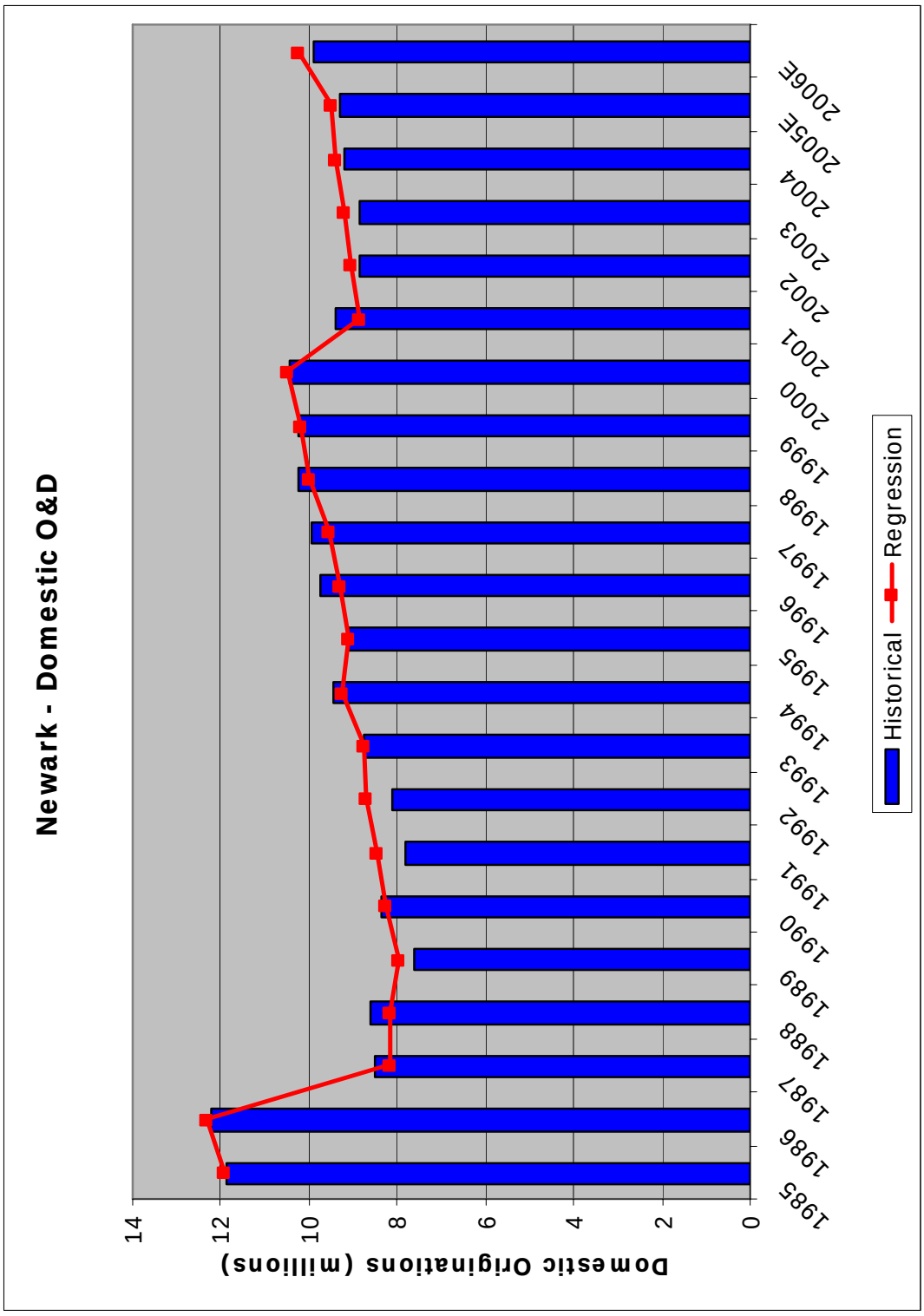
	Calendar Year	Pure Domestic Originations	DPIJ	Total Domestic Originations	DPIJ Percentage
Actual	1990	8,126,260	229,240	8,355,500	2.7%
	1991	7,540,810	255,870	7,796,680	3.3%
	1992	7,835,470	271,370	8,106,840	3.3%
	1993	8,469,070	289,870	8,758,940	3.3%
	1994	9,150,550	321,810	9,472,360	3.4%
	1995	8,764,580	347,990	9,112,570	3.8%
	1996	9,371,100	353,630	9,724,730	3.6%
	1997	9,588,200	367,930	9,956,130	3.7%
	1998	9,862,580	364,480	10,227,060	3.6%
	1999	9,860,560	397,010	10,257,570	3.9%
	2000	10,019,660	423,860	10,443,520	4.1%
	2001	9,008,230	415,540	9,423,770	4.4%
	2002	8,477,230	382,250	8,859,480	4.3%
	2003	8,456,020	385,810	8,841,830	4.4%
	2004	8,802,030	396,200	9,198,230	4.3%
Estimated	2005	8,833,500	445,000	9,278,500	4.8%
Estimated	2006	9,430,600	444,400	9,875,000	4.5%
	1990-2005	0.6%	4.5%	0.7%	

Note: DPIJ = domestic leg of ultimate international jouney.

H:\New York System Forecast\Forecasts\Master Sheets\[NY Master Sheet3.xls]EWR Dom

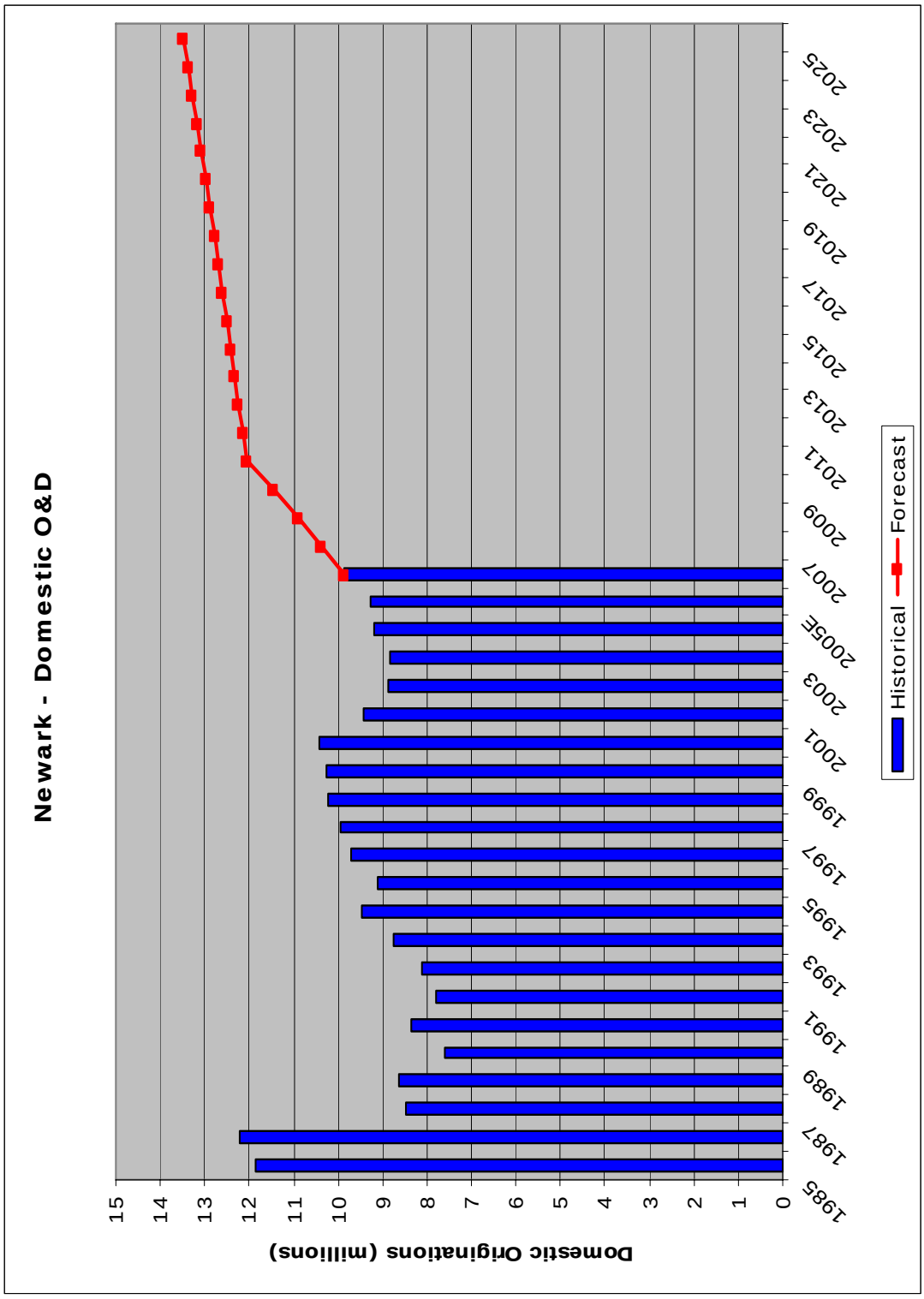
Sources: U.S. DOT T100 and Landrum & Brown Analysis

Exhibit VI-5
NEWARK DOMESTIC ORIGINATING PASSENGERS REGRESSION



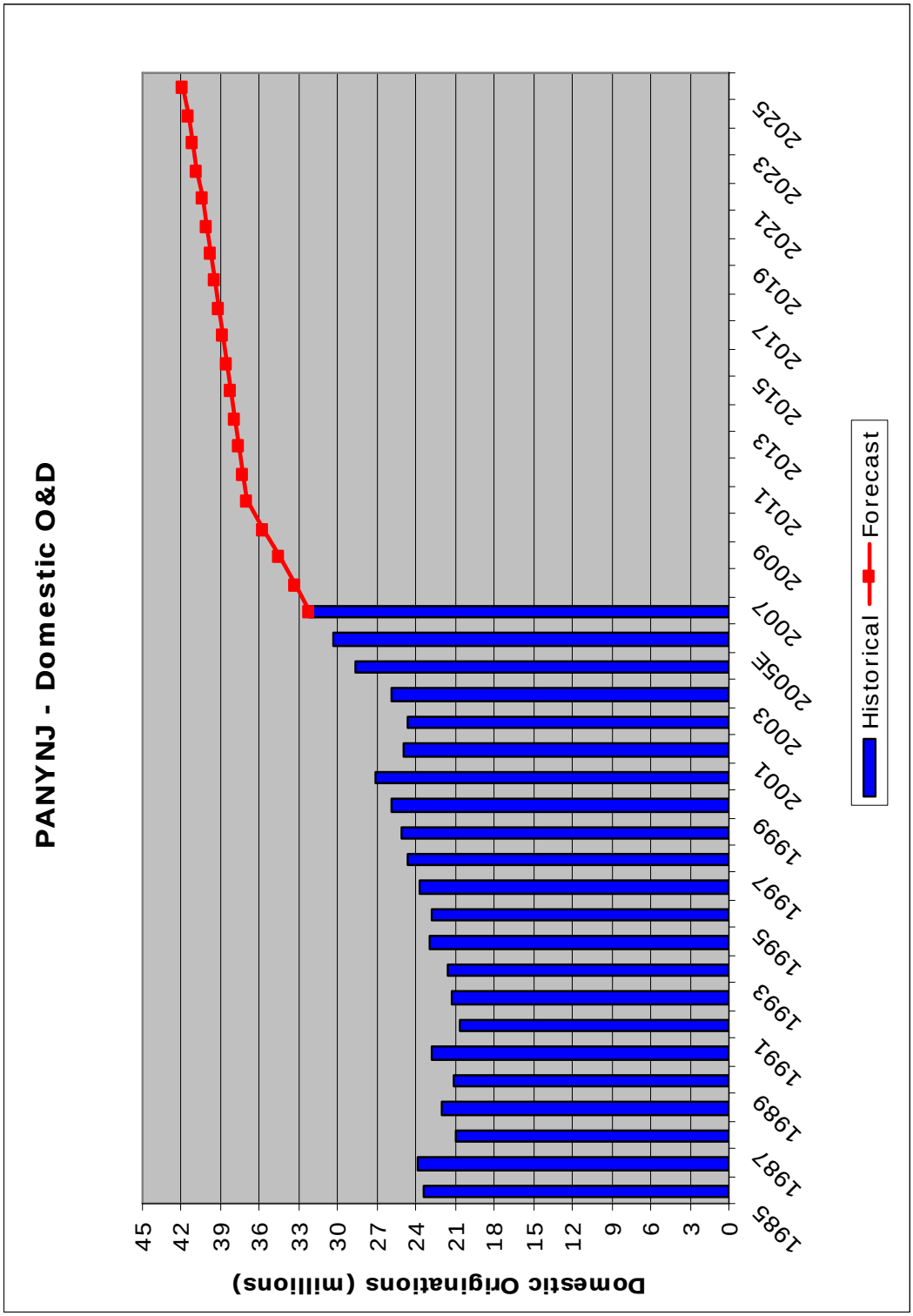
Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

Exhibit VI-6
Newark Forecast Domestic Originating Passengers



Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

Exhibit VI-7
PORT AUTHORITY FORECAST DOMESTIC ORIGINATING PASSENGERS



Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

VI.2 International Originating Enplaned Passengers

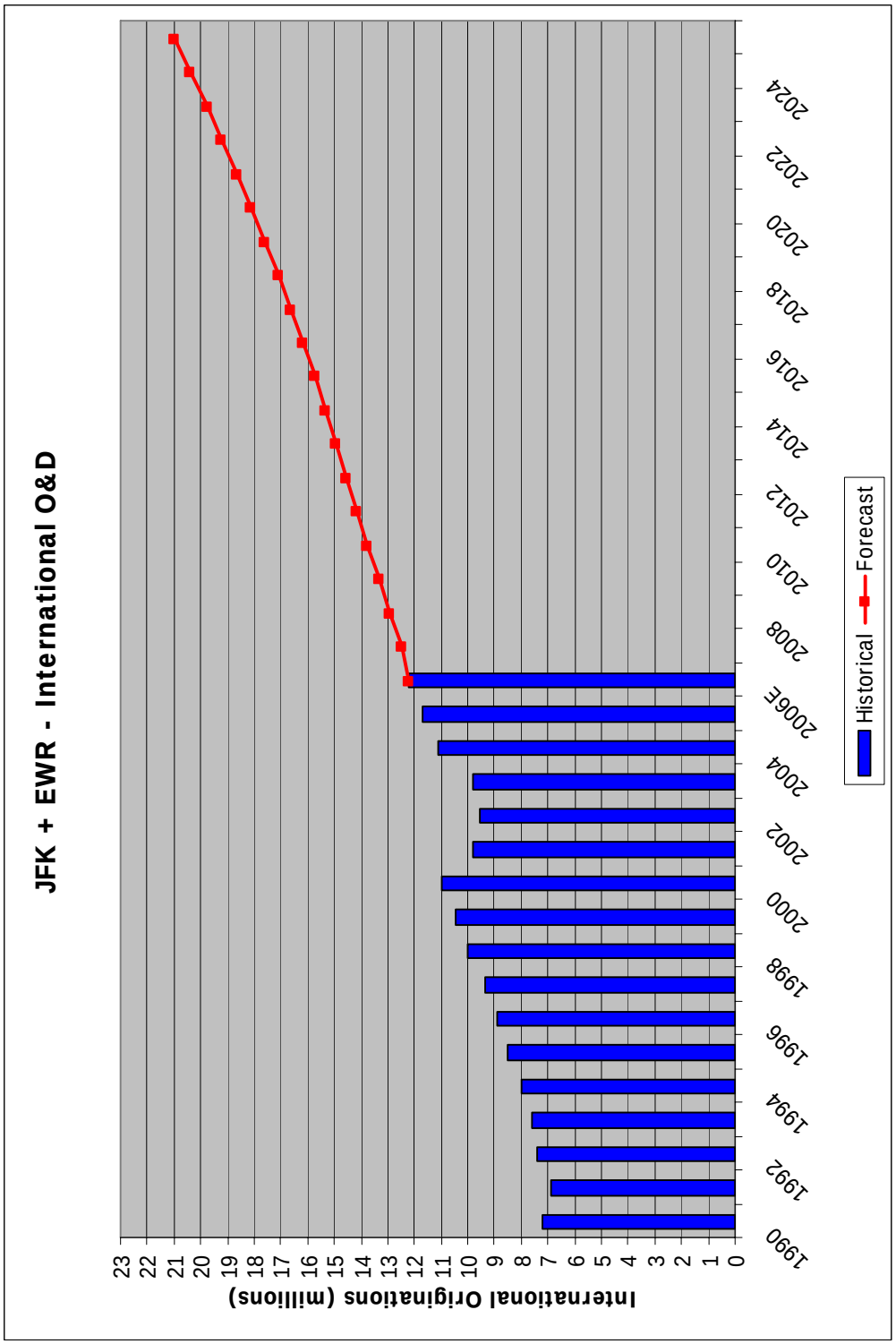
The various initial regressions for EWR international originating enplaned passengers all resulted in unreasonably high levels of activity. As a result, JFK and EWR were regressed together and the resulting forecasts of international originating enplaned passengers for the two airports combined were allocated back to the individual airports. The regression results for JFK and EWR combined are shown on **Exhibit VI-8**.

The JFK-only international originating passenger regression was used for forecasting the volume of traffic at JFK. The balance of the combined JFK+EWR international originating enplaned passengers was then allocated to EWR.

As shown on **Exhibit VI-9**, the resulting international originating enplaned passengers at JFK are forecast to increase at an average annual rate of 2.2 percent from 8.4 million in 2005 to 13 million in 2025. EWR is expected to see the fastest growth in international service compared to JFK and LGA airports. Continental, EWR's hub airline, has announced a significant increase in international Available Seat Miles (ASMs).[1] In particular, Continental transatlantic ASMs are projected to increase 15.5 percent from 2005 to 2006. All of Continental's transatlantic service from the New York region originates from EWR. As shown on **Exhibit VI-10**, the resulting forecast shows international originating enplaned passengers at EWR growing from 3.3 million in 2005 to 4.3 million in 2010, 5.3 million in 2015, 6.5 million in 2020, and to 8.0 million in 2025. This represents average annual growth of 4.4 percent from 2005 to 2025.

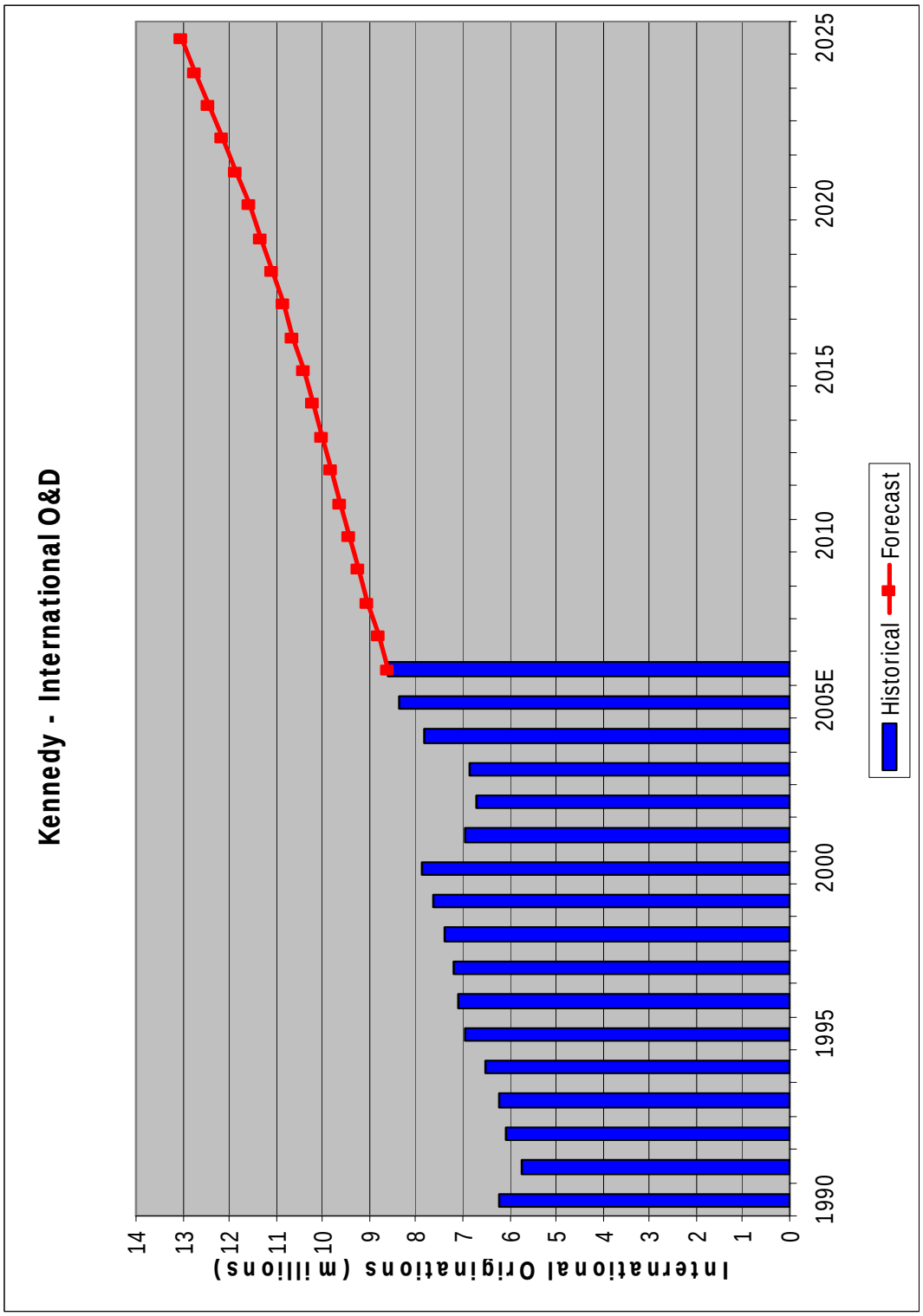
[1] Source: Continental Airlines Investor Update, December 2, 2005.

Exhibit VI-8
KENNEDY+NEWARK INTERNATIONAL ORIGINATING PASSENGERS



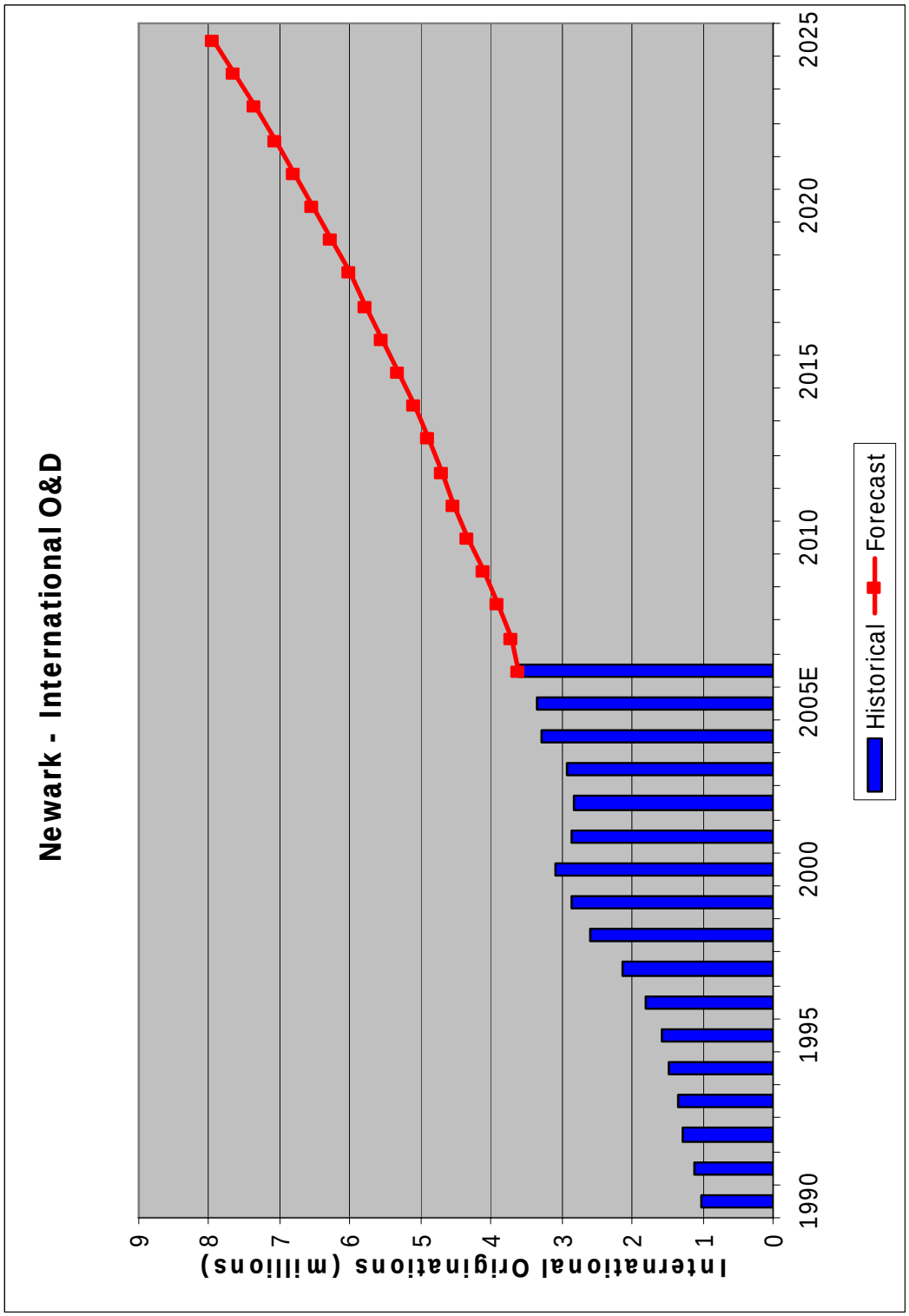
Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

Exhibit VI-9
KENNEDY FORECAST INTERNATIONAL ORIGINATING PASSENGERS



Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

Exhibit VI-10
NEWARK FORECAST INTERNATIONAL ORIGINATING PASSENGERS

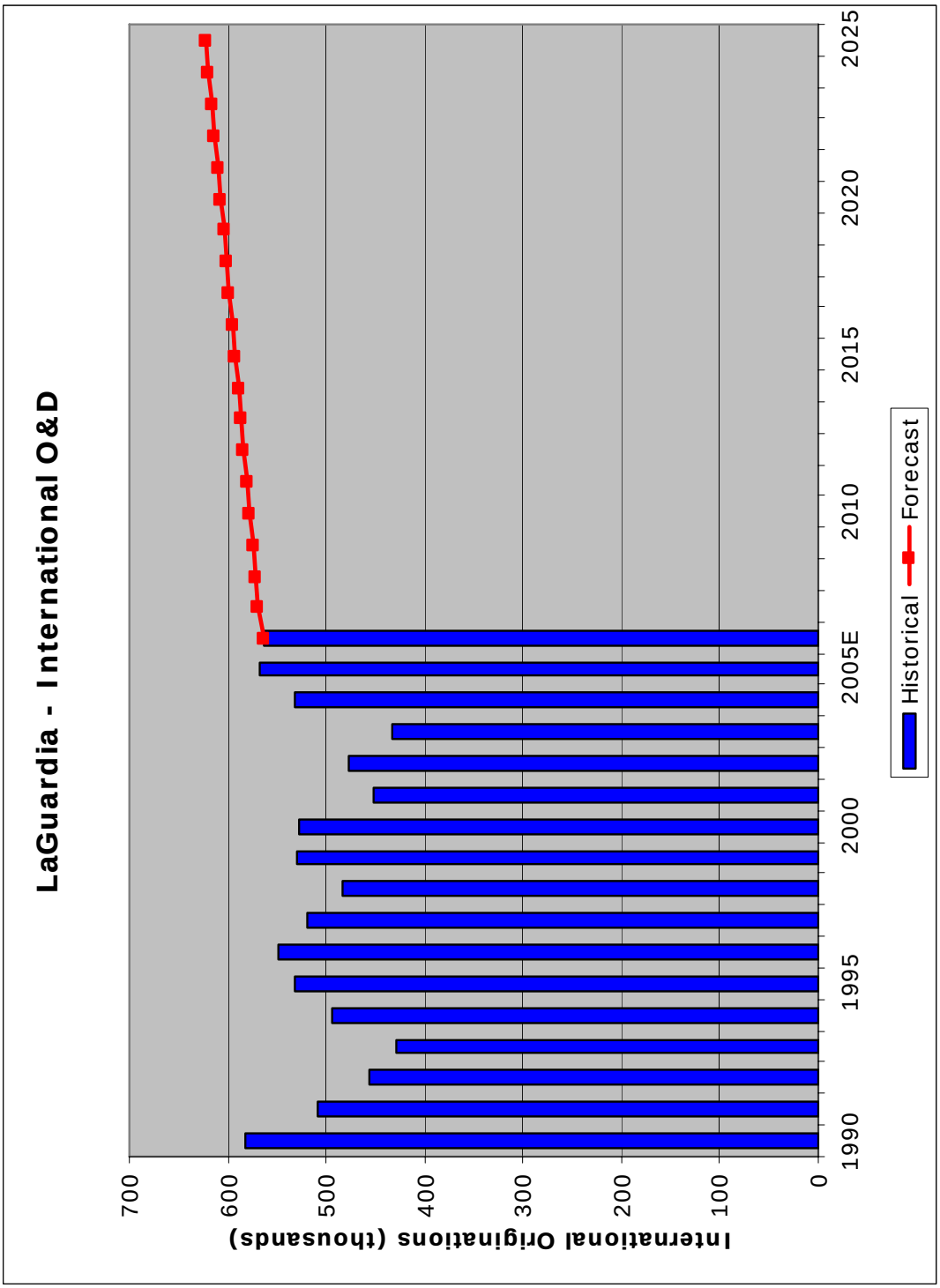


Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

LGA international originating enplaned passengers would not regress because LGA has a very limited volume of international traffic due to the perimeter rule and the lack of Federal Inspection Services (FIS) facilities. The perimeter rule limits flights to within 1,500 miles of LGA, plus Denver. LGA does have service to Canada and the Caribbean. As a result, a trend analysis was applied to project forecast levels of activity at LGA. As shown on **Exhibit VI-11**, LGA international originating enplanements are projected to increase from 567,000 in 2005 to 622,700 in 2025, representing average annual growth rate of 0.5 percent.

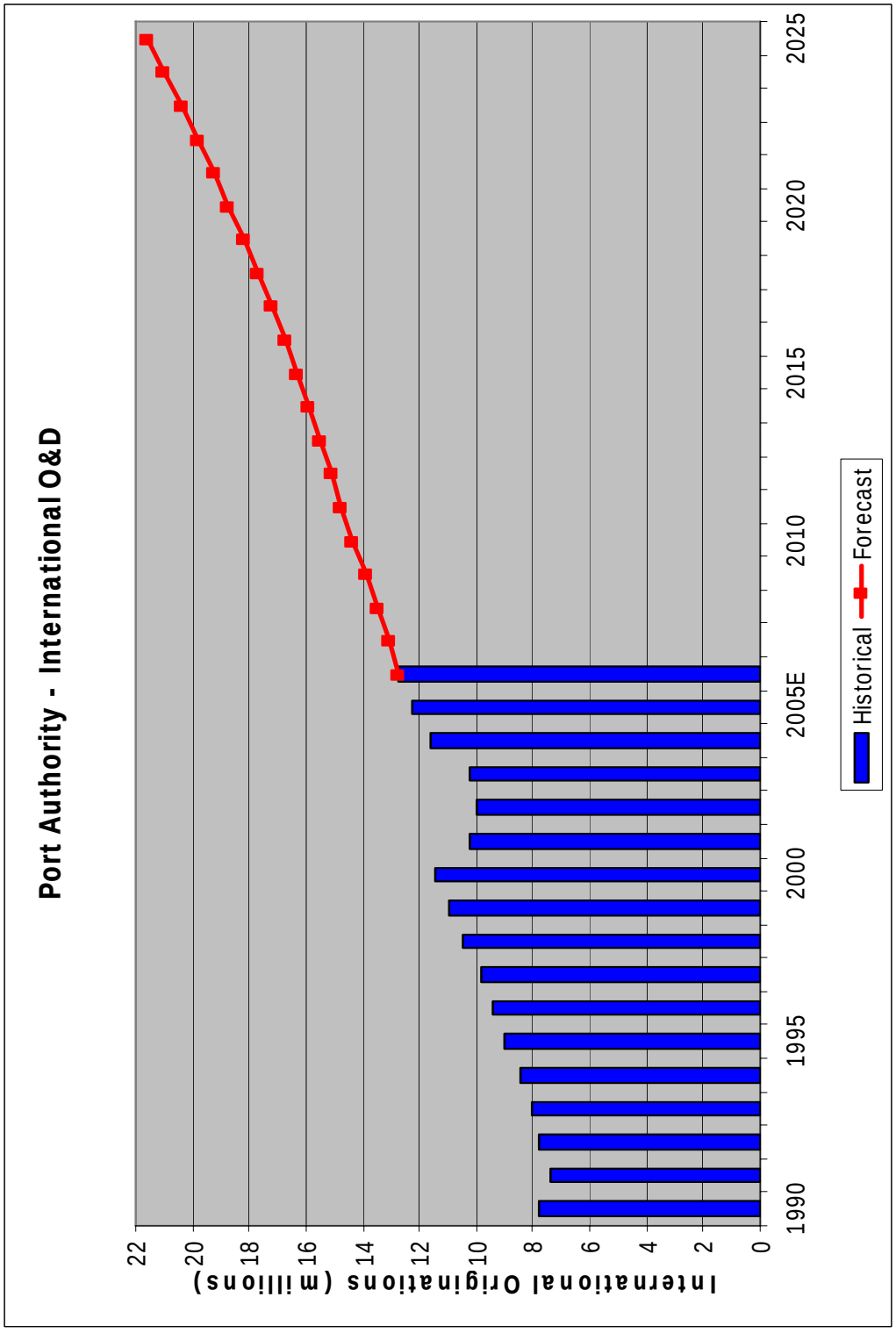
The resulting Port Authority region international originating passenger forecast is shown on **Exhibit VI-12**. The Port Authority region's international originations are forecast to grow from 12.3 million in 2005 to 21.6 million by 2025, representing an average annual growth rate of 2.9 percent.

Exhibit VI-11
LAGUARDIA FORECAST INTERNATIONAL ORIGINATING PASSENGERS



Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

Exhibit VI-12
PORT AUTHORITY FORECAST INTERNATIONAL ORIGINATING PASSENGERS



Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

VI.3 Connecting Passengers

The connecting enplaned passenger forecast is derived from the originating enplanements forecast. For each airport and the PANYNJ region, historical connecting ratios were evaluated to determine the future level of connections.

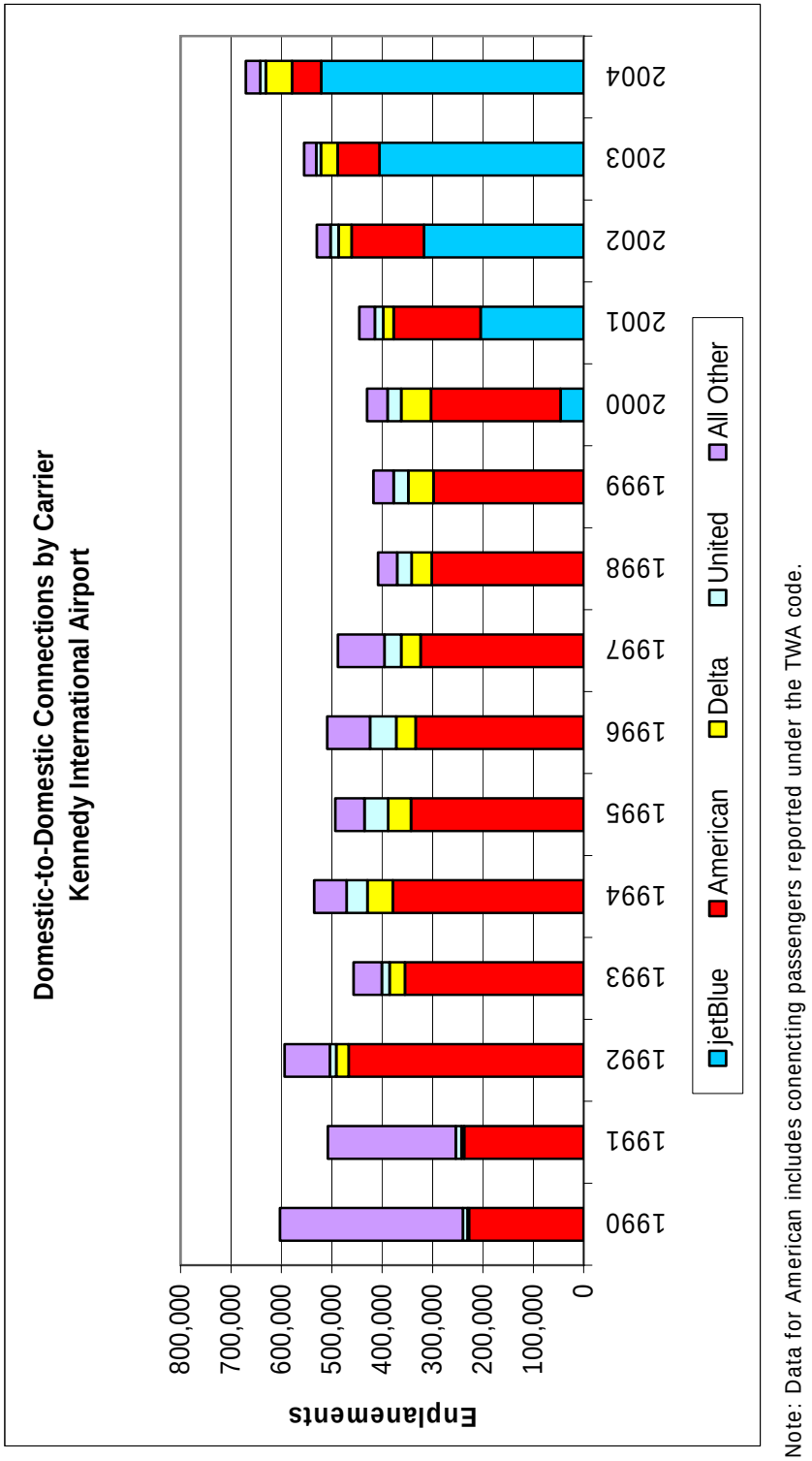
JFK connections as a percent of total enplanements have declined from 27.8 percent in 1990 to 12.7 percent in 2005. The share of connecting enplanements by carrier is shown on **Exhibit VI-13**. American Airlines had the majority of connecting passengers at JFK through 2000, when JetBlue introduced service. Since 2001, JetBlue serves the majority of connecting passengers at JFK according to the U.S. DOT Passenger Ticket Survey.

The passenger intercept survey provided a unique opportunity to evaluate the pattern of connections at JFK and EWR that would have otherwise gone undetected because they were booked as independent (unrelated) itineraries. The survey asked the connecting passengers to identify the airline and airport for their arriving and departing flights. This survey indicates that Delta Air Lines and American Airlines have the largest volume of connecting passengers at JFK. Based upon the surveys analyzed, approximately 16 percent of JFK's passengers are connecting, compared to the 12.7 percent reported in the U.S. DOT Passenger Ticket Survey database. This survey also indicates that as much as half of the connecting passenger volume changes airlines at JFK. Historically, much of the connecting passenger activity between airlines at JFK has been recorded in virtually all records as origination or destination (O&D) demand. It is important to note that the passenger intercept survey only represents a single three month period and does not necessarily reflect any trends in connecting activity. Thus, the connecting passenger forecasts presented here reflect past reporting trends for O&D and connecting demand.

JetBlue Airways is looking into interline or codeshare agreements with one or more international carriers according to JetBlue CEO David Neeleman. "There are a lot of people interested in our network," said Neeleman, who spoke at the Raymond James Growth Airline Conference in January 2006. Some form of agreement could be in place as early as the end of 2006. The exact level of new passengers that these agreements could generate is not known. In one respect, a new agreement would only formalize what some passengers are doing today. Anecdotally it is known that many passengers travel on two tickets to connect in New York (one domestic and one international). The passenger survey confirmed these ticketing arrangements.

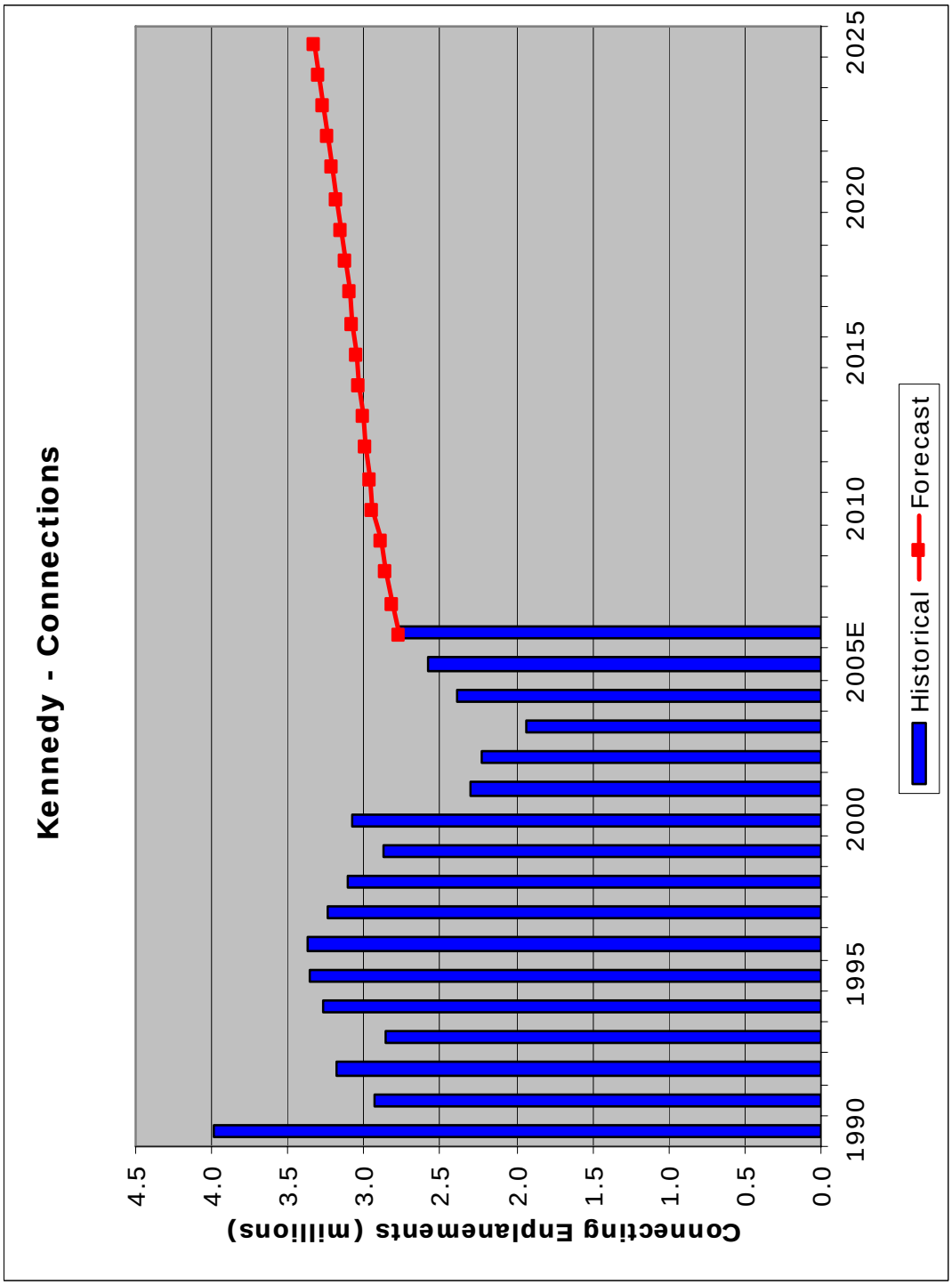
Domestic and international connections are forecast to grow slowly at JFK with the percentage of total enplanements declining through 2025. JFK connections as a percent of total enplanements are forecast to decrease to 11.4 percent by 2025. As shown in **Exhibit VI-14**, this results in total connecting enplanements increasing from 2.6 million in 2005 to 3.3 million by 2025, an average annual growth rate of 1.3 percent.

Exhibit VI-13
KENNEDY DOMESTIC-TO-DOMESTIC CONNECTING ENPLANED PASSENGERS



Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\Master Sheets\[Domestic-to-Domestic Connections_NYC Airports.xls]JFK D-D_Exhibit

Exhibit VI-14
KENNEDY FORECAST CONNECTING ENPLANED PASSENGERS

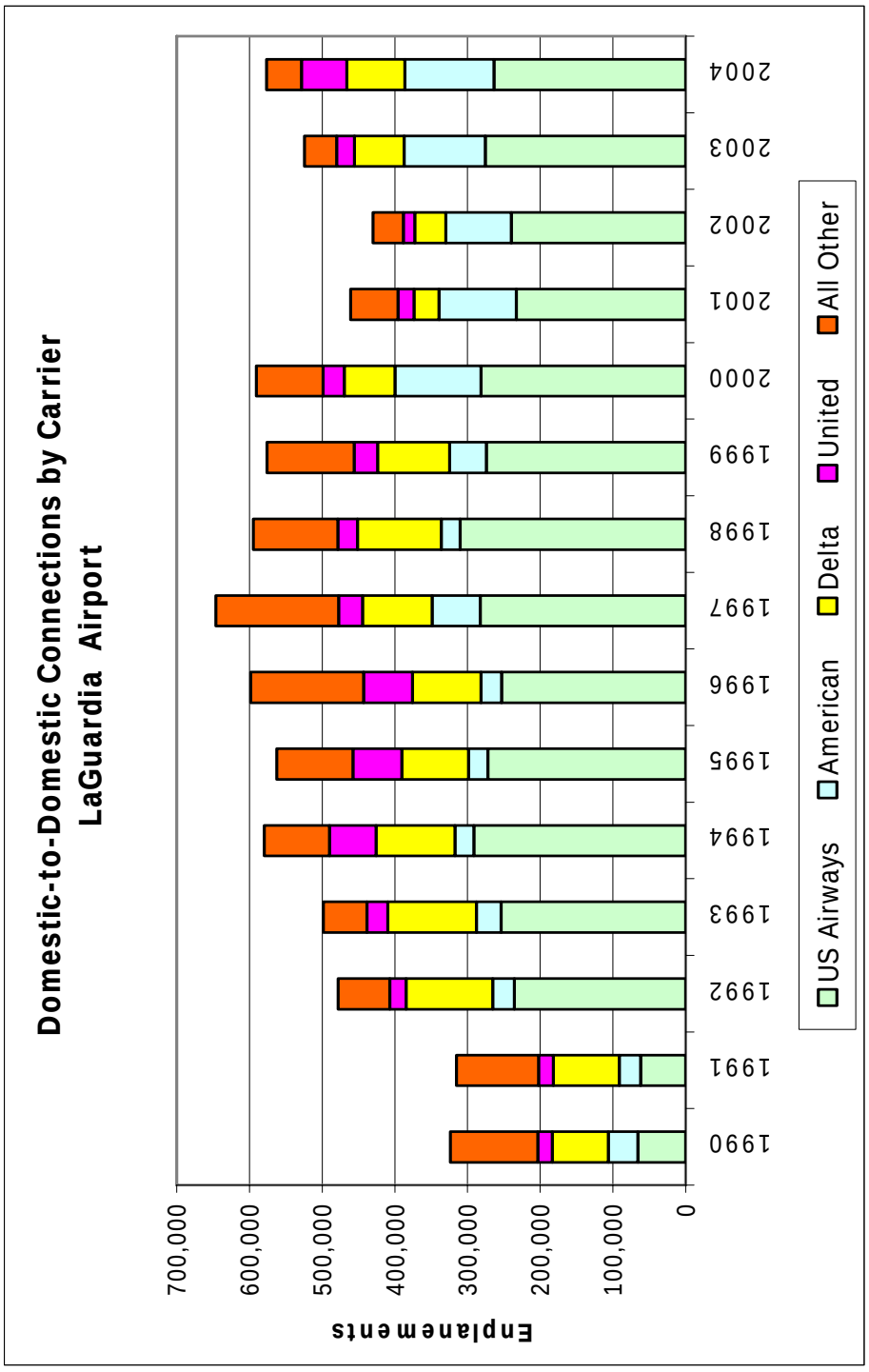


Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

The majority of passengers at LGA are O&D. Just 5.8 percent of LGA enplaned passengers were connections in 2005. The share of connecting enplanements by carrier is shown on **Exhibit VI-15**. The majority of connecting passengers at LGA are using US Airways.

The percentage of connecting passengers at LGA is forecast to decrease slightly to 5.3 percent by 2025. As shown on **Exhibit VI-16**, this results in connecting enplanements growing from 752,800 in 2005 to 891,780 in 2025, an average annual growth rate of 0.9 percent.

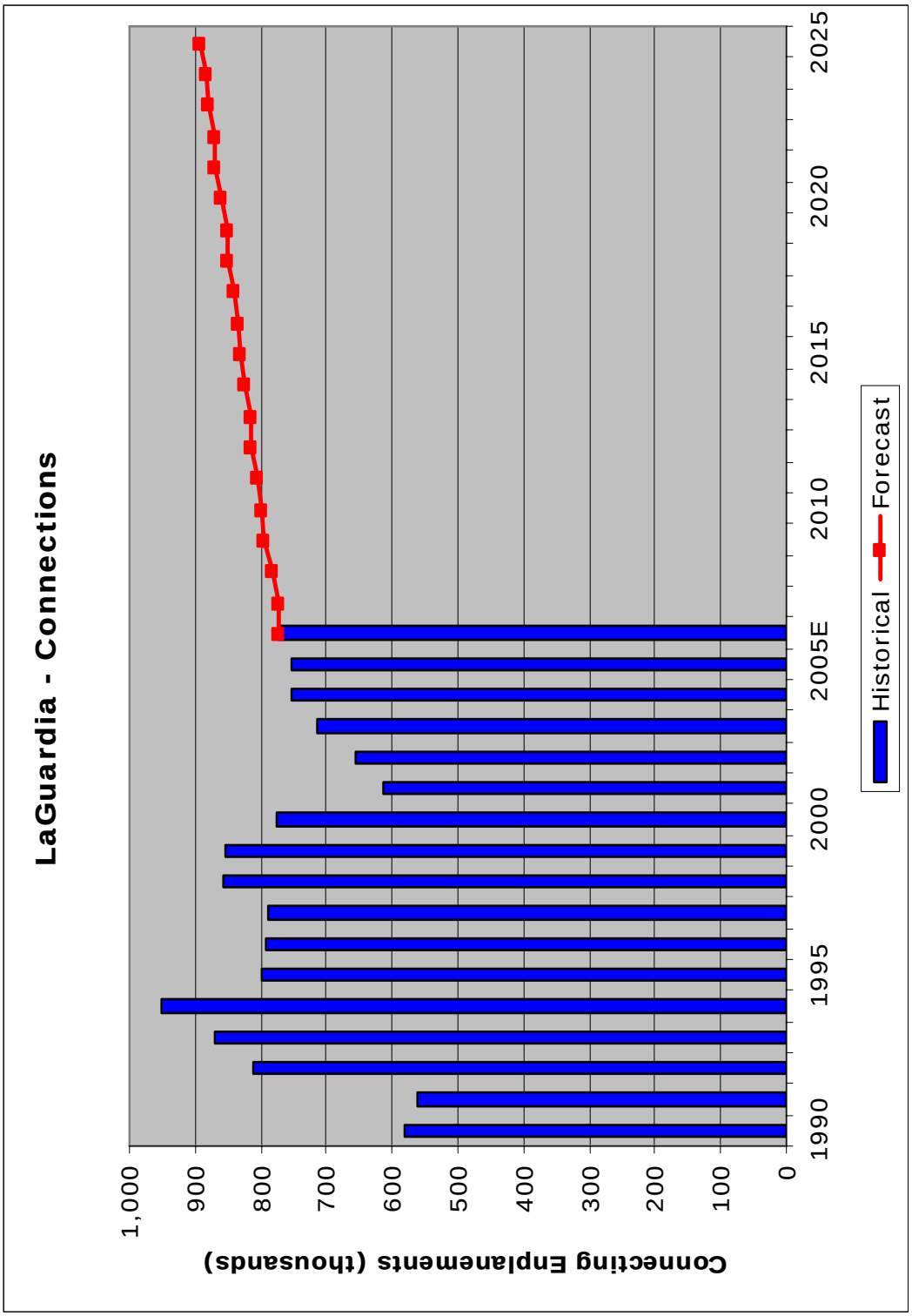
Exhibit VI-15
LAGUARDIA DOMESTIC-TO-DOMESTIC CONNECTING ENPLANED PASSENGERS



Note: Data for American includes conencting passengers reported under the TWA code.

Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\Master Sheets\[Domestic-to-Domestic Connections_NYC Airports.xls]JFK D-D_Exhibit

Exhibit VI-16
LAGUARDIA FORECAST CONNECTING ENPLANED PASSENGERS



Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

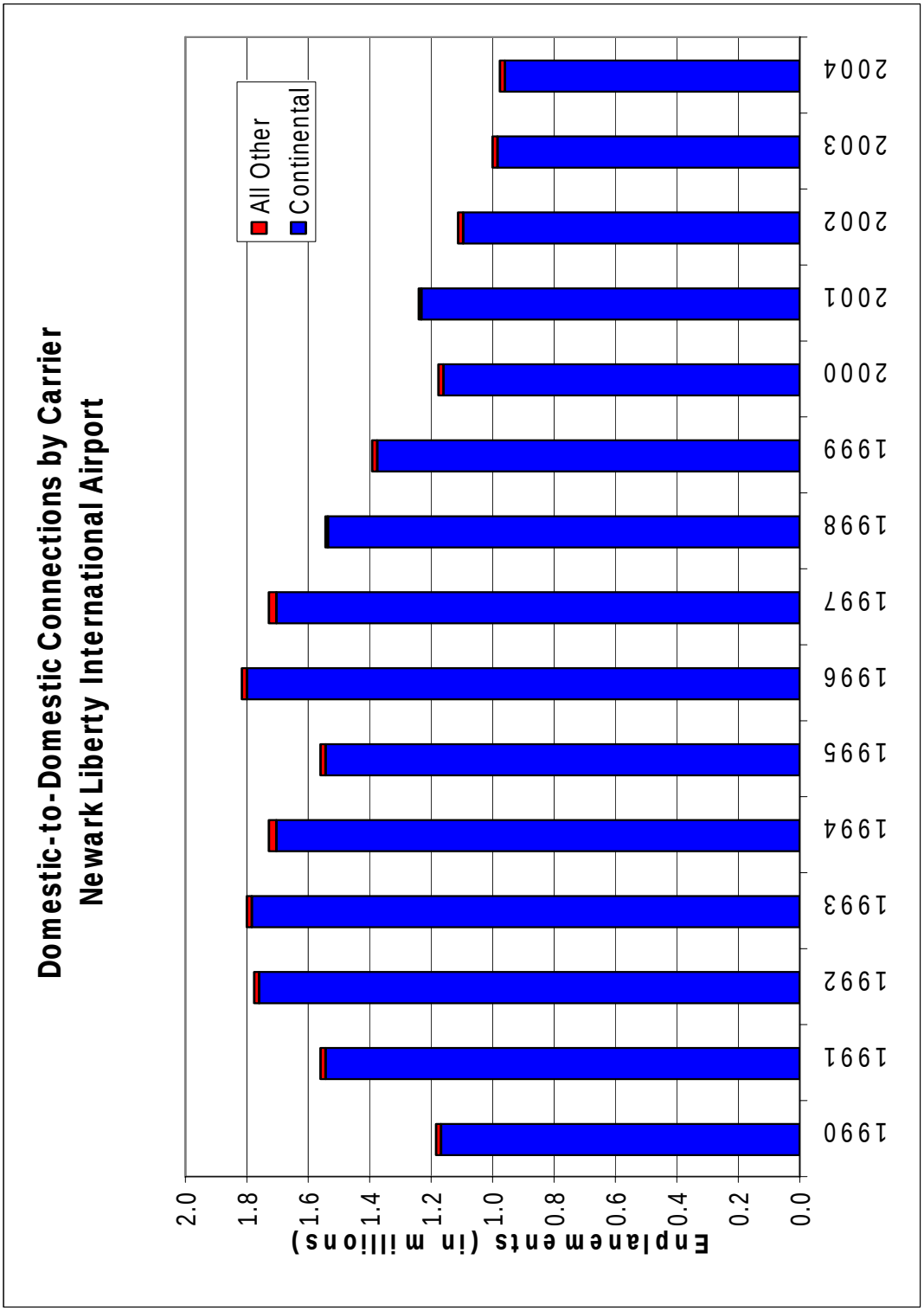
EWR connecting enplaned passengers as a percent of total enplaned passengers have grown from 15.4 percent in 1995 to 23.5 percent in 2005. The share of connecting enplanements by carrier is shown on **Exhibit VI-17**. EWR is a hub airport for Continental and as a result has a high level of connecting traffic. Historically, 87 to 92 percent of domestic to domestic connections are on Continental.

Based upon the surveys analyzed from the passenger intercept survey at EWR, approximately 20 percent of EWR's passengers are connecting, compared to the 23.5 percent reported in the U.S. DOT Passenger Ticket Survey database. It is important to note that the primary purpose of the passenger intercept survey was not to calculate the percentage of connecting passengers, but to document the reasons for why the passenger chose his/her departure airport, what other airports were considered, modes of transportation to the airport, etc. Thus, the connecting passenger forecasts presented here reflect past reporting trends for O&D and connecting demand.

Domestic connecting enplaned passengers as a percentage of total domestic enplanements are forecast to increase from 21.8 percent in 2005 to 23.6 percent in 2025. International connecting enplaned passengers are expected to hold in the mid 20 percent range throughout the forecast period, declining to 24 percent of international enplaned passengers by 2025. As shown on **Exhibit VI-18**, total EWR connecting enplaned passengers are forecast to increase from 3.9 million in 2005 to 6.7 million in 2025, an average annual growth rate of 2.7 percent.

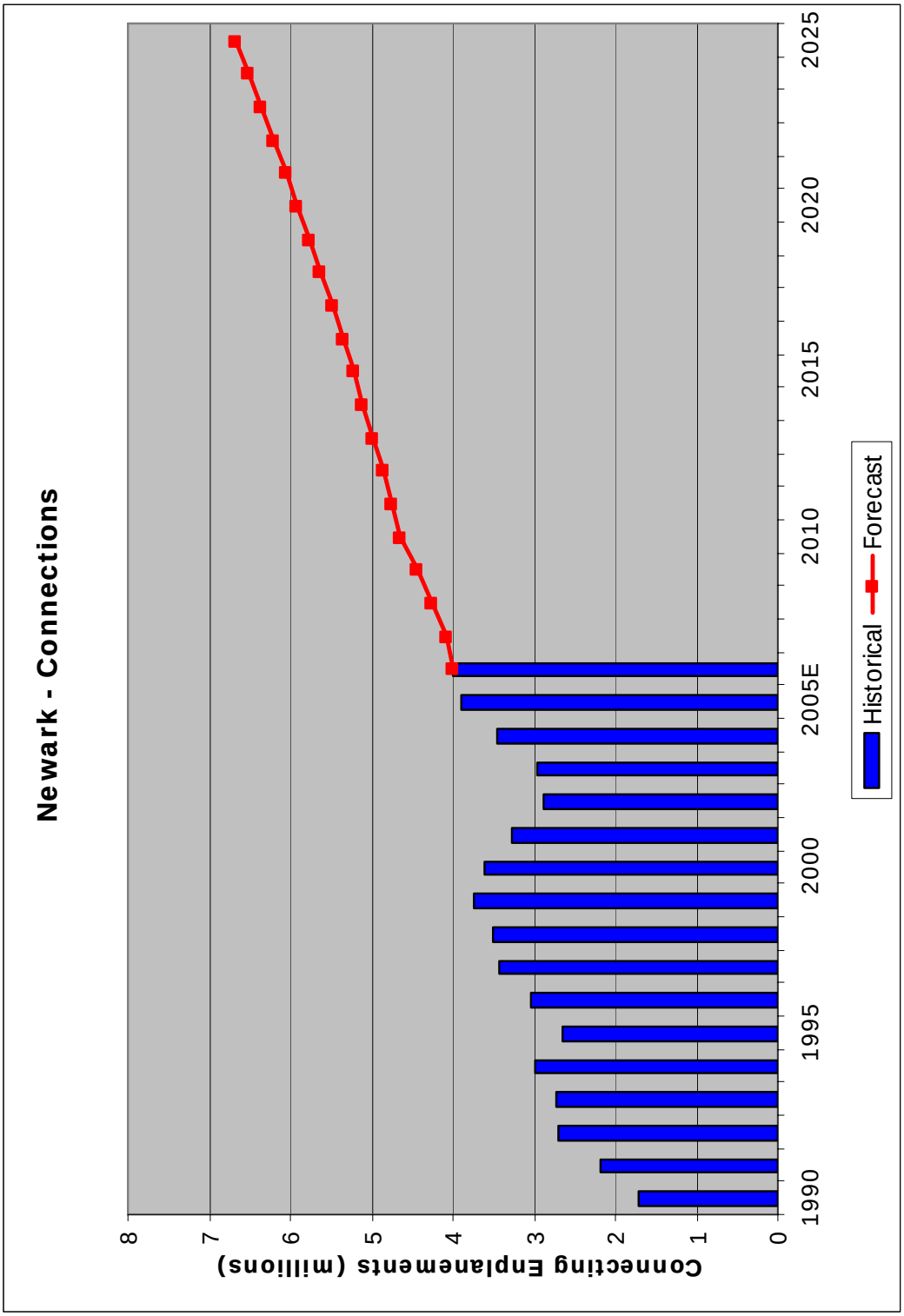
The resulting PANYNJ region connecting enplaned passenger forecast is shown on **Exhibit VI-19**. Total Port Authority connecting enplaned passengers are projected to increase from 49.8 million in 2005 to 74.4 million in 2025, an average annual growth rate of 2.0 percent.

Exhibit VI-17
EWR AIRPORT DOMESTIC-TO-DOMESTIC CONNECTING ENPLANED PASSENGERS



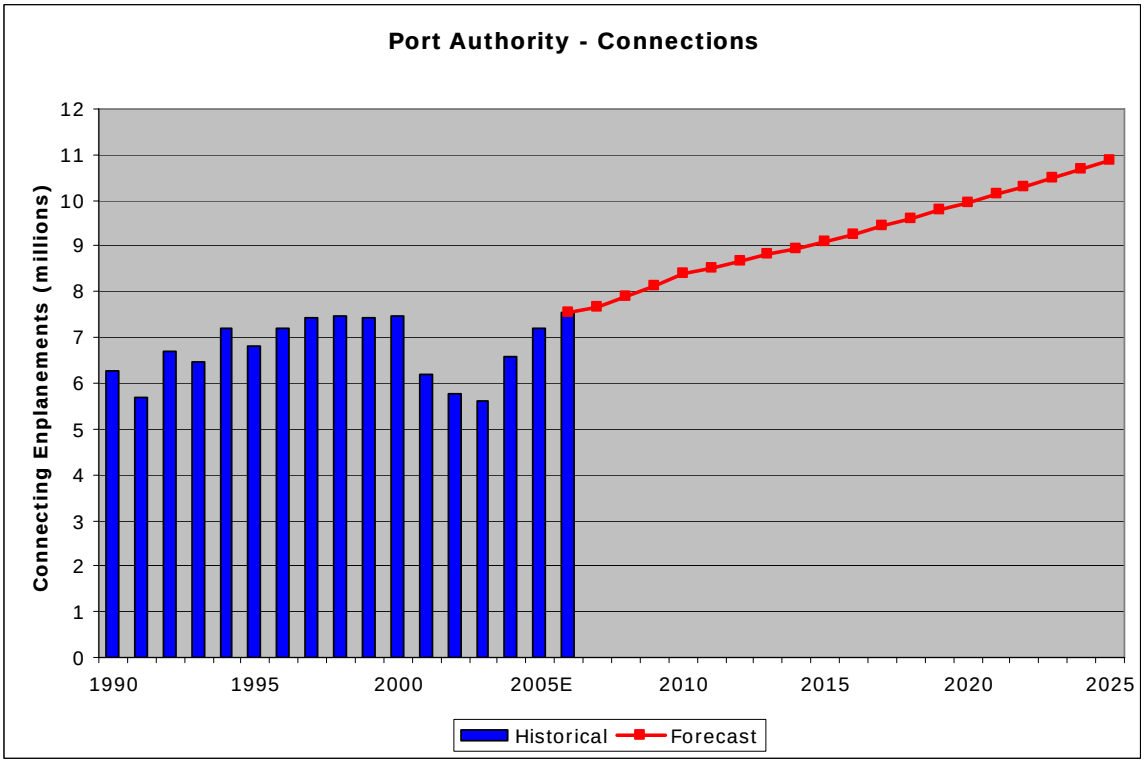
Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\Master Sheets\[Domestic-to-Domestic Connections NYC Airports.xls]JFK D-D_Exhibit

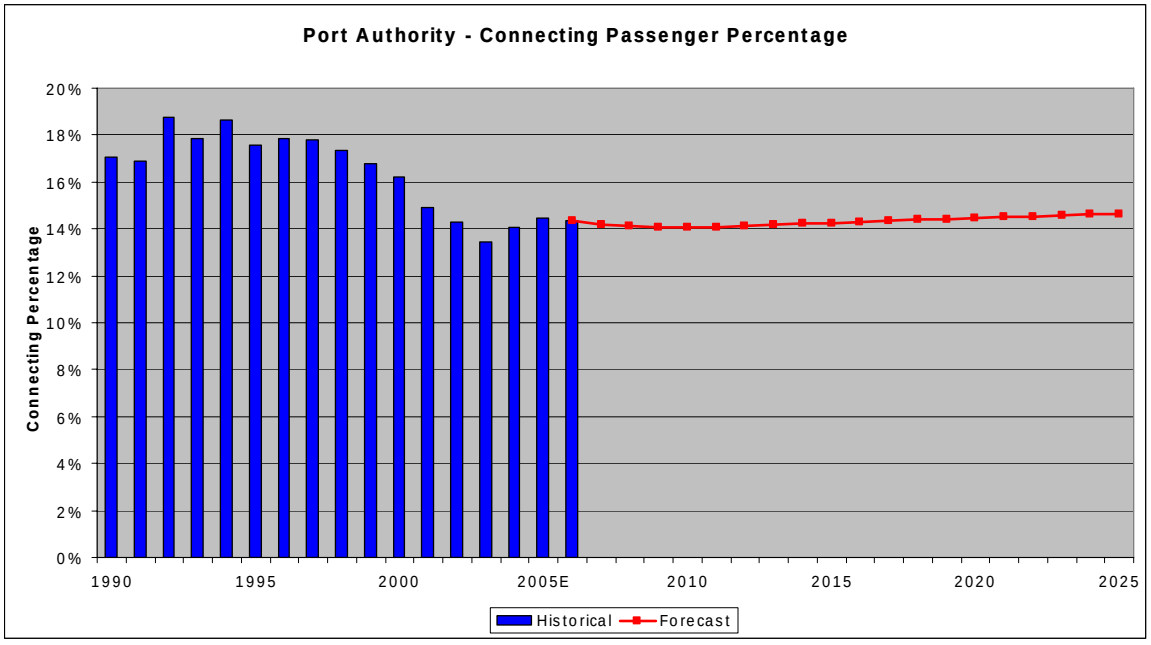
Exhibit VI-18
NEWARK FORECAST CONNECTING ENPLANED PASSENGERS



Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

Exhibit VI-19
PORT AUTHORITY FORECAST CONNECTING ENPLANED PASSENGERS





Sources: U.S. DOT T100 and Landrum & Brown Analysis
File: H:\New York System Forecast\Forecasts\2 Enpl Regression Forecasts\[SUMMARY O&D FCSTS.XLS]Regress Graphs

VI.4 Total Enplaned Passengers

The originating and connecting enplanements forecasts for JFK, LGA, EWR airports and the PANYNJ region are summarized in **Tables VI-4** through **VI-7**. Total JFK enplaned passengers are forecast to grow from 20.3 million in 2005 to 29.3 million in 2025, representing 1.8 percent average annual growth over the forecast period. LGA enplaned passengers are projected to increase from 13.0 in 2005 to 17.0 in 2025. This represents average annual growth of 1.4 percent. EWR enplaned passengers are forecast to grow at an average annual rate of 2.7 percent, from 16.5 million in 2005 to 28.1 million in 2025. The Port Authority region's total enplaned passengers are forecast to increase from 49.8 million in 2005 to 74.4 million in 2025, an average annual growth rate of 2.0 percent.

Table VI-4
KENNEDY ORIGINATING AND CONNECTING ENPLANED PASSENGERS

Originating and Connecting Passenger Forecast
Kennedy International Airport

	Calendar Year	Domestic O&D	International O&D	Connections	Total Enplanements
Actual	1990	4,144,790	6,200,123	3,988,173	14,333,086
	1995	4,681,730	6,945,248	3,358,854	14,985,832
	2000	5,304,650	7,873,852	3,078,269	16,256,771
	2001	5,321,540	6,940,968	2,307,103	14,569,611
	2002	5,916,960	6,708,485	2,234,473	14,859,918
	2003	6,950,440	6,877,082	1,939,760	15,767,282
	2004	8,484,210	7,810,393	2,391,696	18,686,299
Estimated	2005	9,379,300	8,381,662	2,575,213	20,336,175
Estimated	2006	10,003,500	8,600,900	2,776,800	21,381,200
Forecast	2007	10,426,300	8,792,500	2,812,500	22,031,300
	2008	10,867,000	9,017,600	2,856,000	22,740,600
	2009	11,326,300	9,229,200	2,894,800	23,450,300
	2010	11,805,000	9,445,800	2,945,000	24,195,800
	2011	11,874,100	9,628,800	2,966,600	24,469,500
	2012	11,943,600	9,815,300	2,988,200	24,747,100
	2013	12,013,500	10,005,400	3,009,600	25,028,500
	2014	12,083,800	10,199,200	3,030,900	25,313,900
	2015	12,154,500	10,396,700	3,052,000	25,603,200
	2020	12,527,400	11,589,400	3,180,700	27,297,500
	2025	12,929,400	13,010,500	3,325,400	29,265,300
Average Annual Growth Rates					
	1990-2005	5.6%	2.0%	-2.9%	2.4%
	2005-2010	4.7%	2.4%	2.7%	3.5%
	2010-2015	0.6%	1.9%	0.7%	1.1%
	2015-2020	0.6%	2.2%	0.8%	1.3%
	2020-2025	0.6%	2.3%	0.9%	1.4%
	2005-2025	1.6%	2.2%	1.3%	1.8%

H:\New York System Forecast\Forecasts\Master Sheets\[NY Master Sheet3.xls]JFK Summary
Sources: U.S. DOT T100 and Landrum & Brown Analysis

Table VI-5
LAGUARDIA ORIGINATING AND CONNECTING ENPLANED PASSENGERS

Originating and Connecting Passenger Forecast
LaGuardia Airport

	Calendar Year	Domestic O&D	International O&D	Connections	Total Enplanements
Actual	1990	10,243,160	582,118	580,149	11,405,427
	1995	9,020,020	531,433	797,455	10,348,908
	2000	11,373,210	528,456	774,920	12,676,586
	2001	10,240,200	451,149	613,853	11,305,202
	2002	9,937,580	476,273	657,422	11,071,275
	2003	10,170,160	432,036	715,846	11,318,042
	2004	10,992,960	531,364	752,814	12,277,138
Estimated	2005	11,636,200	566,967	752,754	12,955,921
Estimated	2006	12,350,000	563,600	773,300	13,686,900
Forecast	2007	12,524,700	569,200	773,860	13,867,760
	2008	12,701,800	572,000	784,080	14,057,880
	2009	12,881,400	574,900	794,540	14,250,840
	2010	13,063,600	577,800	798,520	14,439,920
	2011	13,206,600	580,700	806,420	14,593,720
	2012	13,351,100	583,600	814,440	14,749,140
	2013	13,497,200	586,500	815,840	14,899,540
	2014	13,644,900	589,400	823,840	15,058,140
	2015	13,794,200	592,300	832,040	15,218,540
	2020	14,587,900	607,300	860,740	16,055,940
	2025	15,450,900	622,700	891,780	16,965,380
Average Annual Growth Rates					
	1990-2005	0.9%	-0.2%	1.8%	0.9%
	2005-2010	2.3%	0.4%	1.2%	2.2%
	2010-2015	1.1%	0.5%	0.8%	1.1%
	2015-2020	1.1%	0.5%	0.7%	1.1%
	2020-2025	1.2%	0.5%	0.7%	1.1%
	2005-2025	1.4%	0.5%	0.9%	1.4%

H:\New York System Forecast\Forecasts\Master Sheets\[NY Master Sheet3.xls]LGA Summary
Sources: U.S. DOT T100 and Landrum & Brown Analysis

Table VI-6
NEWARK ORIGINATING AND CONNECTING ENPLANED PASSENGERS

Originating and Connecting Passenger Forecast
Newark Liberty International Airport

	Calendar Year	Domestic O&D	International O&D	Connections	Total Enplanements
Actual	1990	8,355,500	1,033,739	1,714,364	11,103,603
	1995	9,112,570	1,568,490	2,639,426	13,320,486
	2000	10,443,520	3,077,588	3,604,871	17,125,979
	2001	9,423,770	2,847,089	3,266,300	15,537,159
	2002	8,859,480	2,810,143	2,892,959	14,562,582
	2003	8,841,830	2,938,918	2,964,316	14,745,064
	2004	9,198,230	3,269,766	3,454,976	15,922,972
Estimated	2005	9,278,500	3,337,166	3,884,182	16,499,848
Estimated	2006	9,875,000	3,621,400	3,994,700	17,491,100
Forecast	2007	10,382,000	3,709,000	4,083,000	18,174,000
	2008	10,915,100	3,899,500	4,252,700	19,067,300
	2009	11,475,500	4,117,300	4,442,200	20,035,000
	2010	12,064,700	4,344,400	4,642,000	21,051,100
	2011	12,151,800	4,525,800	4,754,200	21,431,800
	2012	12,239,600	4,713,400	4,868,700	21,821,700
	2013	12,328,000	4,907,300	4,985,500	22,220,800
	2014	12,417,000	5,107,600	5,104,100	22,628,700
	2015	12,506,700	5,314,600	5,225,300	23,046,600
	2020	12,981,700	6,525,300	5,912,300	25,419,300
	2025	13,488,300	7,964,200	6,674,600	28,127,100
Average Annual Growth Rates					
	1990-2005	0.7%	8.1%	5.6%	2.7%
	2005-2010	5.4%	5.4%	3.6%	5.0%
	2010-2015	0.7%	4.1%	2.4%	1.8%
	2015-2020	0.7%	4.2%	2.5%	2.0%
	2020-2025	0.8%	4.1%	2.5%	2.0%
	2005-2025	1.9%	4.4%	2.7%	2.7%

H:\New York System Forecast\Forecasts\Master Sheets\[NY Master Sheet3.xls]EWR Summary
Sources: U.S. DOT T100 and Landrum & Brown Analysis

Table VI-7
PORT AUTHORITY ORIGINATING AND CONNECTING ENPLANED PASSENGERS

Originating and Connecting Passenger Forecast
EWR+JFK+LGA

	Calendar Year	Domestic O&D	International O&D	Connections	Total Enplanements
Actual	1990	22,743,450	7,815,980	6,282,686	36,842,116
	1995	22,814,320	9,045,171	6,795,735	38,655,226
	2000	27,121,380	11,479,896	7,458,060	46,059,336
Estimated	2005	30,294,000	12,285,795	7,212,149	49,791,944
Estimated	2006	32,228,500	12,785,900	7,544,800	52,559,200
Forecast	2007	33,333,000	13,070,700	7,669,360	54,073,060
	2008	34,483,900	13,489,100	7,892,780	55,865,780
	2009	35,683,200	13,921,400	8,131,540	57,736,140
	2010	36,933,300	14,368,000	8,385,520	59,686,820
	2011	37,232,500	14,735,300	8,527,220	60,495,020
	2012	37,534,300	15,112,300	8,671,340	61,317,940
	2013	37,838,700	15,499,200	8,810,940	62,148,840
	2014	38,145,700	15,896,200	8,958,840	63,000,740
	2015	38,455,400	16,303,600	9,109,340	63,868,340
	2020	40,097,000	18,722,000	9,953,740	68,772,740
	2025	41,868,600	21,597,400	10,891,780	74,357,780
Average Annual Growth Rates					
	1990-2005	1.9%	3.1%	0.9%	2.0%
	2005-2010	4.0%	3.2%	3.1%	3.7%
	2010-2015	0.8%	2.6%	1.7%	1.4%
	2015-2020	0.8%	2.8%	1.8%	1.5%
	2020-2025	0.9%	2.9%	1.8%	1.6%
	2005-2025	1.6%	2.9%	2.1%	2.0%

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Sources: U.S. DOT T100 and Landrum & Brown Analysis

The breakdown of domestic and international air carrier and commuter enplaned passengers at JFK is shown in **Table VI-8**. Domestic air carrier enplaned passengers are forecast to grow at an average annual rate of 1.7 percent while domestic commuter enplaned passengers are forecast to increase at the slower rate of 0.5 percent annually through 2025. International air carrier enplaned passengers are predicted to increase by 2.1 percent annually from 2005 to 2025. International commuter enplaned passengers are forecast to grow at a slightly faster rate of 2.7 percent annually over the forecast period. **Exhibit VI-20** presents the total enplaned passenger forecast for JFK.

Table VI-8
KENNEDY ENPLANED PASSENGER FORECAST

Enplaned Passenger Forecast
Kennedy International Airport

	Calendar Year	Domestic		International		
		Air Carrier	Commuter	Air Carrier	Commuter	Total
Actual	1995	5,643,509	933,665	8,380,987	27,671	14,985,832
	2000	6,201,083	845,616	9,165,614	44,458	16,256,771
Estimate	2005	10,087,313	877,200	9,287,362	84,300	20,336,175
Estimate	2006	10,881,000	819,000	9,579,500	101,700	21,381,200
Forecast	2007	11,296,800	850,300	9,780,400	103,800	22,031,300
	2008	11,736,700	879,600	10,018,300	106,000	22,740,600
	2009	12,191,800	909,800	10,240,600	108,100	23,450,300
	2010	12,675,800	941,900	10,467,900	110,200	24,195,800
	2011	12,756,400	943,800	10,657,400	111,900	24,469,500
	2012	12,837,400	945,700	10,850,400	113,600	24,747,100
	2013	12,918,800	947,500	11,046,900	115,300	25,028,500
	2014	13,000,500	949,400	11,246,900	117,100	25,313,900
	2015	13,082,600	951,200	11,450,500	118,900	25,603,200
	2020	13,520,500	961,400	12,685,700	129,900	27,297,500
	2025	13,995,100	972,900	14,154,300	143,000	29,265,300
Average Annual Growth Rates						
	1995-2005	6.0%	-0.6%	1.0%	11.8%	3.1%
	2005-2015	2.6%	0.8%	2.1%	3.5%	2.3%
	2015-2025	0.7%	0.2%	2.1%	1.9%	1.3%
	2005-2025	1.7%	0.5%	2.1%	2.7%	1.8%

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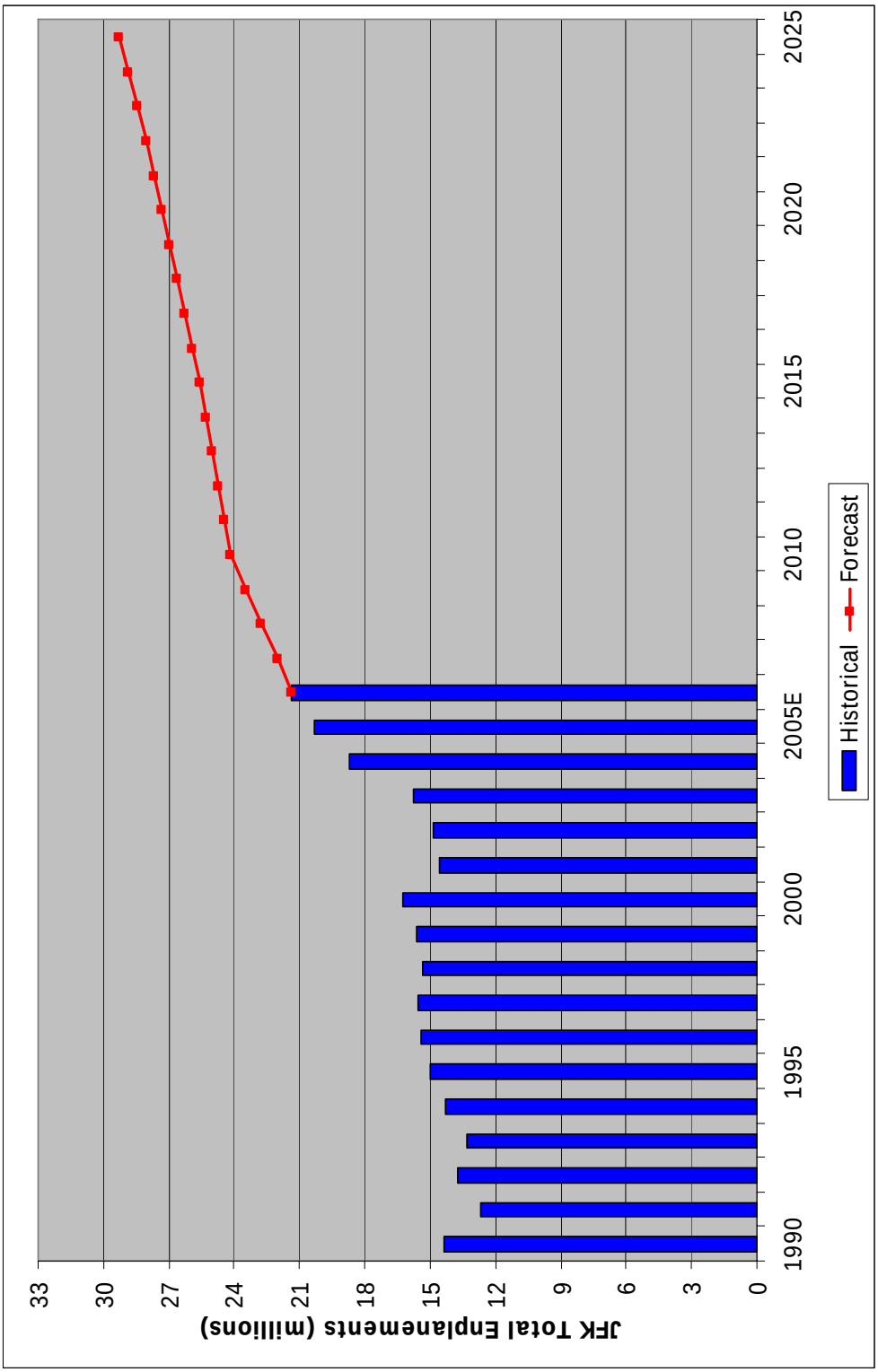
Sources: U.S. DOT T100 and Landrum & Brown Analysis

Exhibit VI-20
KENNEDY ENPLANED PASSENGER FORECAST



Sources: U.S. DOT T100 and Landrum & Brown Analysis

Table VI-9 presents the forecast of LGA enplaned passengers broken down into domestic air carrier and commuter, Canadian[2], and all other international enplaned passengers. LGA domestic air carrier enplaned passengers are forecast to increase at an average annual growth rate of 1.6 percent from 2005 to 2025 while domestic commuter enplaned passengers are projected to increase at a slower rate of 0.6 percent over the forecast period. LGA Canadian and other international enplaned passengers are projected to increase at an average annual rate of 0.3 percent from 2005 to 2025. **Exhibit VI-21** presents the total enplaned passenger forecast for LGA.

Table VI-9
LAGUARDIA ENPLANED PASSENGER FORECAST

Enplaned Passenger Forecast
LaGuardia Airport

	Calendar Year	Domestic		International		
		Air Carrier	Commuter	Canadian	All Other	Total
Actual	1995	9,262,550	440,045	585,552	70,579	10,358,726
	2000	10,924,539	1,099,931	608,548	67,792	12,700,810
Estimate	2005	9,983,754	2,266,200	600,067	105,900	12,955,921
Estimate	2006	10,504,000	2,496,000	577,000	109,900	13,686,900
Forecast	2007	10,608,530	2,565,500	582,730	111,000	13,867,760
	2008	10,849,340	2,511,400	586,040	111,100	14,057,880
	2009	11,091,770	2,458,400	589,370	111,300	14,250,840
	2010	11,330,310	2,405,400	592,710	111,500	14,439,920
	2011	11,538,660	2,347,600	595,860	111,600	14,593,720
	2012	11,747,320	2,291,100	599,020	111,700	14,749,140
	2013	11,950,670	2,234,900	602,170	111,800	14,899,540
	2014	12,082,220	2,258,700	605,320	111,900	15,058,140
	2015	12,215,270	2,282,800	608,470	112,000	15,218,540
	2020	12,910,270	2,408,400	624,670	112,600	16,055,940
	2025	13,665,790	2,544,800	641,590	113,200	16,965,380
Average Annual Growth Rates						
	1995-2005	0.8%	17.8%	0.2%	4.1%	2.3%
	2005-2015	2.0%	0.1%	0.1%	0.6%	1.6%
	2015-2025	1.1%	1.1%	0.5%	0.1%	1.1%
	2005-2025	1.6%	0.6%	0.3%	0.3%	1.4%

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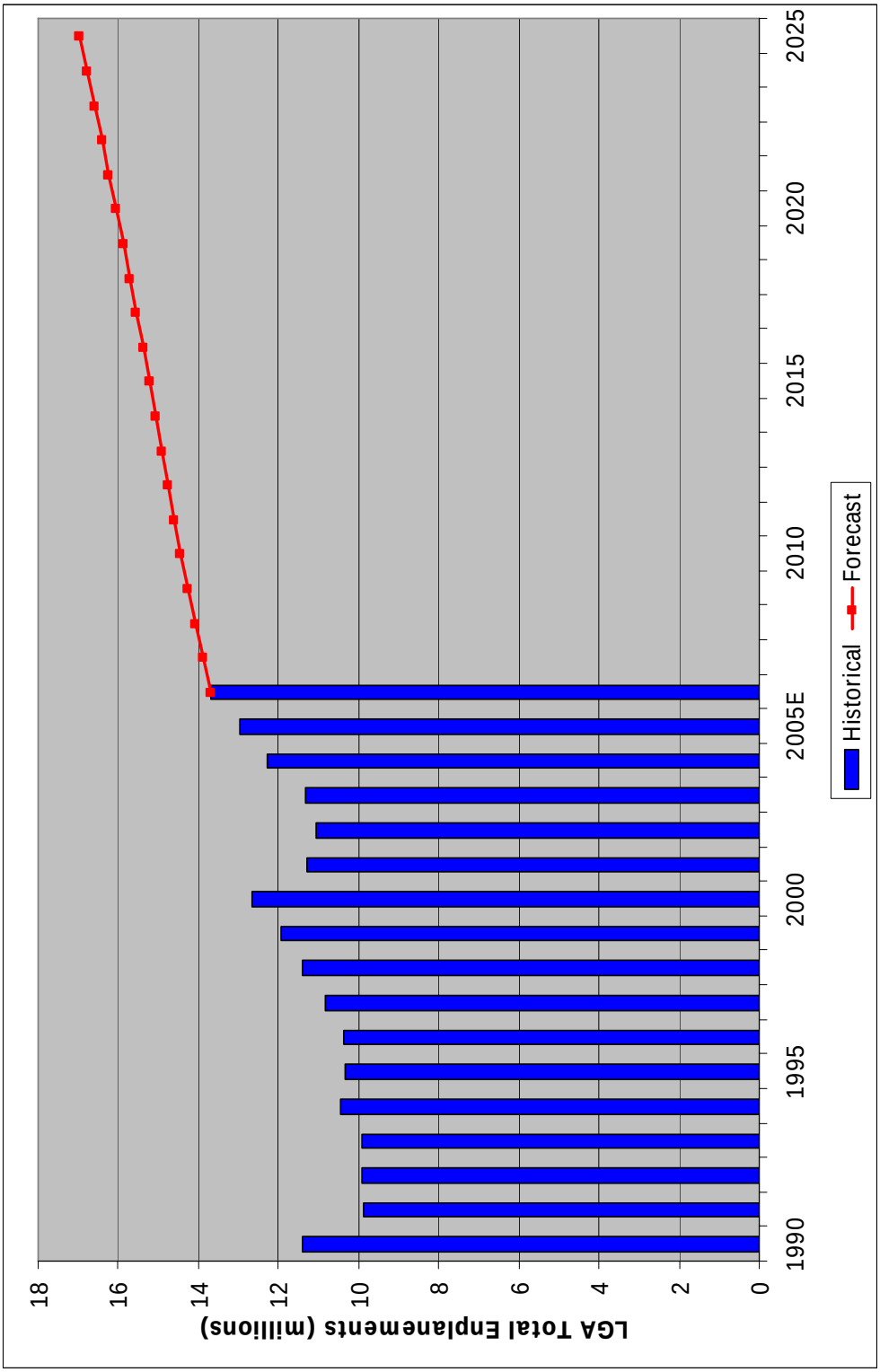
Sources: U.S. DOT T100 and Landrum & Brown Analysis

[2] Pre-cleared Canadian passengers.

Exhibit VI-21
LAGUARDIA ENPLANED PASSENGER FORECAST



Sources: U.S. DOT T100 and Landrum & Brown Analysis

The forecast of EWR enplaned passengers broken down into domestic air carrier, domestic commuter, Canadian, and all other international categories is shown in **Table VI-10**. EWR domestic air carrier enplaned passengers are forecast to grow at an average annual rate of 2.2 percent from 2005 to 2025. Domestic commuter enplaned passengers are predicted to increase at a slower rate of 1.2 percent over the same period. Canadian enplaned passengers are forecast to increase by 2.6 percent annually from 2005 to 2025 while all other international enplaned passengers are forecast to increase by 4.3 percent annually over the forecast period. **Exhibit VI-22** presents the total enplaned passenger forecast for EWR.

Table VI-10
NEWARK ENPLANED PASSENGER FORECAST

Enplaned Passenger Forecast
Newark Liberty International Airport

	Calendar Year	Domestic		International		
		Air Carrier	Commuter	Canadian	All Other	Total
Actual	1995	10,411,548	982,588	255,731	1,670,619	13,320,486
	2000	11,878,902	1,047,949	458,181	3,740,947	17,125,979
Estimate	2005	9,490,182	2,372,500	440,500	4,196,666	16,499,848
Estimate	2006	10,125,000	2,375,000	474,200	4,516,900	17,491,100
Forecast	2007	10,590,700	2,484,200	477,700	4,621,400	18,174,000
	2008	11,181,500	2,538,100	494,000	4,853,700	19,067,300
	2009	11,810,100	2,592,500	512,800	5,119,600	20,035,000
	2010	12,476,300	2,646,500	532,000	5,396,300	21,051,100
	2011	12,603,800	2,667,400	544,700	5,615,900	21,431,800
	2012	12,733,000	2,688,500	557,500	5,842,700	21,821,700
	2013	12,863,800	2,709,800	570,300	6,076,900	22,220,800
	2014	12,995,900	2,731,300	583,000	6,318,500	22,628,700
	2015	13,129,900	2,753,000	595,700	6,568,000	23,046,600
	2020	13,857,900	2,871,900	665,400	8,024,100	25,419,300
	2025	14,647,800	3,000,100	733,500	9,745,700	28,127,100
Average Annual Growth Rates						
	1995-2005	-0.9%	9.2%	5.6%	9.6%	2.2%
	2005-2015	3.3%	1.5%	3.1%	4.6%	3.4%
	2015-2025	1.1%	0.9%	2.1%	4.0%	2.0%
	2005-2025	2.2%	1.2%	2.6%	4.3%	2.7%

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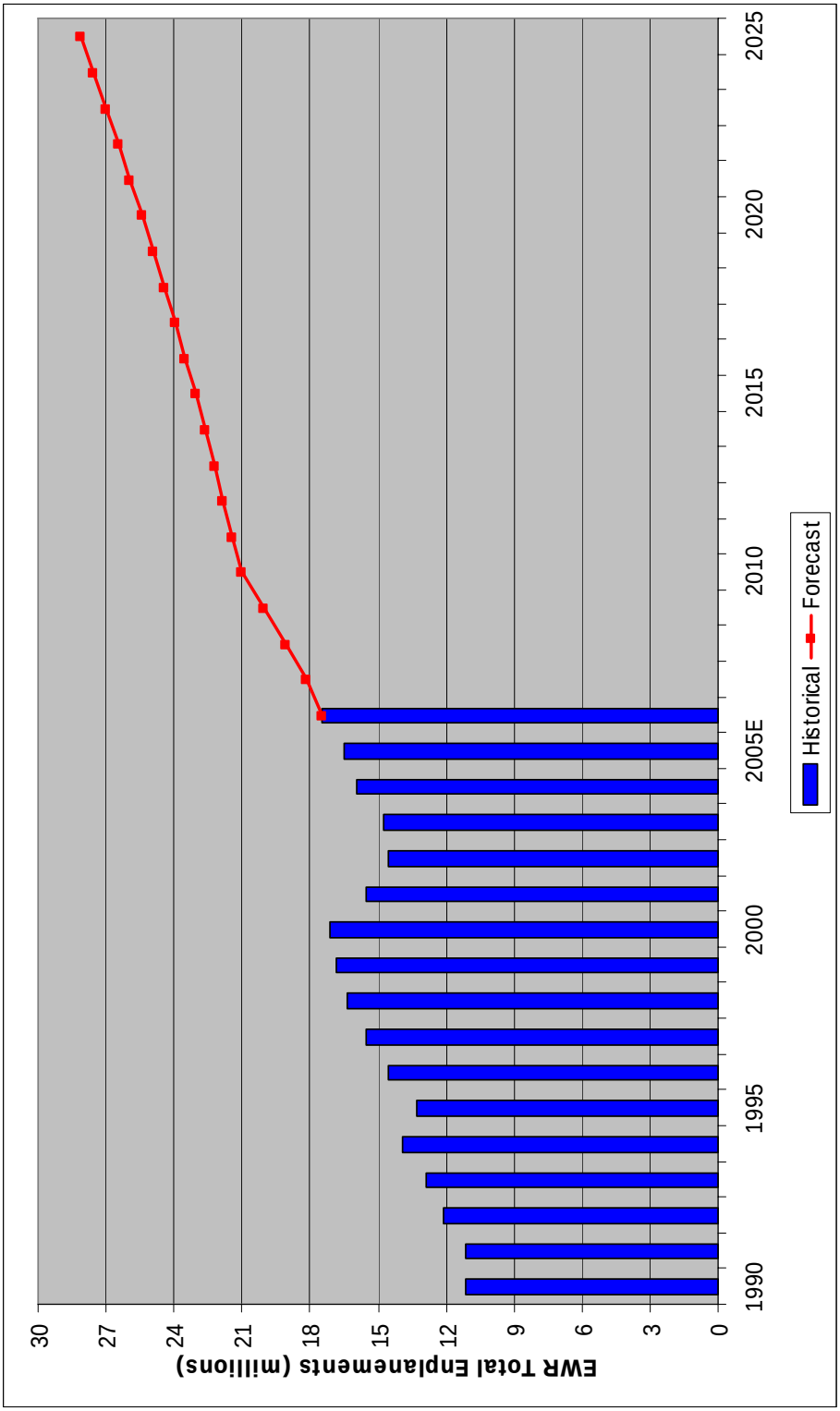
Sources: U.S. DOT T100 and Landrum & Brown Analysis

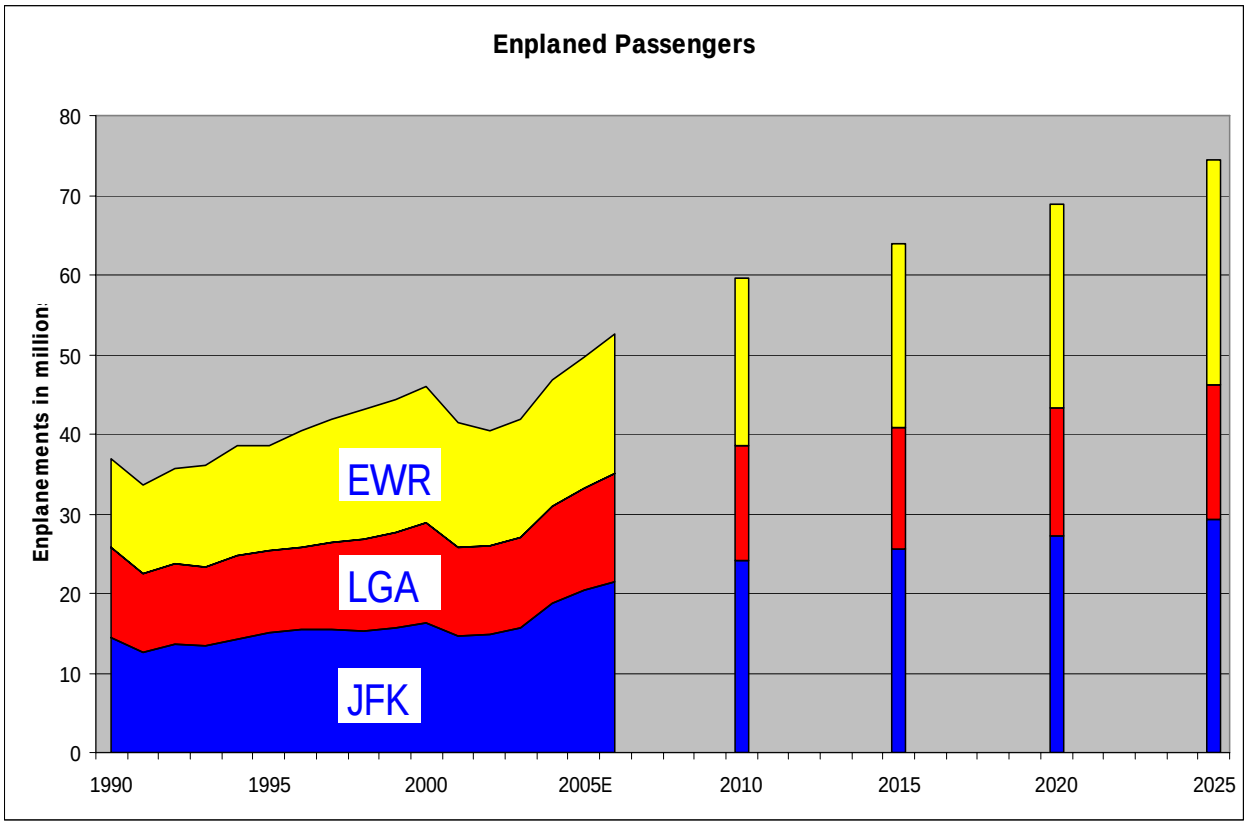
Exhibit VI-22
NEWARK ENPLANED PASSENGER FORECAST



Sources: U.S. DOT T100 and Landrum & Brown Analysis

The forecast of total enplaned passengers for the Port Authority region is shown on **Exhibit VI-23**. EWR is forecast to experience the fastest growth of the three airports and as a result, EWR's share of total enplaned passengers is projected to increase from 33.0 percent in 2005 to 37.8 percent in 2025. LGA is projected to grow at the slowest rate of the three airports and its share of total enplaned passengers is forecast to decrease from 26.0 percent in 2005 to 22.8 percent in 2025. JFK's share of total enplaned passengers is projected to remain essentially unchanged throughout the forecast period.

Exhibit VI-23
PORT AUTHORITY ENPLANED PASSENGER FORECAST



Source: Landrum & Brown Analysis
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VII. Air Cargo Volume Forecasts

VII.1 State of the Industry

VII.1.1 The Nature of Air Cargo

The Federal Aviation Administration (FAA) defines air cargo as freight and mail. It is also typically categorized as either international or domestic. The diverse roles of New York's airports enable them to accommodate the most diverse and largest air cargo market in the world. JFK Airport is the one of the largest international facilities handling wide-body domestic and foreign flag passenger aircraft with substantial amounts of belly capacity as well as freighters. This creates an ideal interline environment. The presence of two large integrators at EWR Airport complements the airport's own international traffic and the Continental Airlines passenger hub. Cargo traffic at LGA Airport is limited to belly freight.

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

VII.1.2 Air Cargo Success Factors

As the industry undergoes major changes, the basic ingredients of an airport's successful air cargo operation have remained essentially intact. These factors have played major roles in the success of the region to date. However, as airports mature, regional growth and evolving dynamics in goods movement may negatively impact the regions ability to meet the needs of the air cargo industry, and eventually force operations to shift to alternate facilities. In looking at these factors, there are indications that growing challenges pertaining specifically to JFK and EWR exist while the attractiveness of the region for air cargo remains strong. The challenges create opportunities to be explored regarding more efficient utilization of existing airport assets as well as development of new facilities and infrastructure.

VII.2 Historical Trends In Air Cargo

Air cargo activity data provided by the Port Authority for JFK, LGA, and EWR Airports was analyzed for the years 1990 through 2004. The data included air cargo tonnage and aircraft operations data by airline. As a result, data could be grouped into meaningful categories from which to analyze historical air cargo activity at the three airports and to develop an appropriate set of assumptions on which to base the forecast. Air cargo activity was disaggregated in to domestic and international segments and then by airline type i.e. dedicated all-cargo (or freighter) carriers and belly carriers. Airlines that were categorized as freighters

included integrators, freighter airlines and combination carriers. Airlines categorized as belly were passenger airlines that transported cargo in the belly compartments of passenger aircraft.

VII.2.1 New York Region

In 2004 the JFK, LGA, and EWR Airports collectively handled almost 3 million tons of air cargo. JFK Airport accounted for the largest share of air cargo handled at the three airports (63 percent), followed by EWR Airport (36 percent), and LGA Airport (1 percent). During the 1990s and into 2000, the Region experienced relatively strong growth in air cargo, averaging 4.4 percent per year. Under the weight of a national and global economic recession and the 9-11 terrorist attacks, air cargo volumes in the region declined 18 percent in 2001. Air cargo volumes in the Region recovered somewhat over the next few years but are yet to recover to their year 2000 peak. The 3 million tons of air cargo reported in 2004 were still 9 percent below pre 9-11 levels.

International air cargo in the Region has generally performed better than domestic air cargo, in part, because it is not as susceptible to mode substitution. In 2004, international air cargo accounted for 55 percent of total air cargo handled in the Region up from 50 percent in 1990.

Another significant trend worth noting is the change in the mode of air cargo transportation in the Region. In 1990, the majority of air cargo handled in the Region was transported in the belly compartment of passenger airlines. However, over the next 15 years, the volume of air cargo handled in the New York market by dedicated all-cargo aircraft increased significantly. By 2004, 63 percent of all air cargo handled was transported in dedicated freighter aircraft. The shift from belly freight to dedicated freighters has been particularly pronounced for domestic air cargo activity where 80 percent of air cargo is now handled by freighter carriers, primarily integrated cargo carriers.

VII.2.2 JFK Airport

According to statistics published by Airports Council International, JFK Airport ranked 6th among U.S. airports in terms of total air cargo handled in 2004, and 12th among airports worldwide. In 2004, JFK Airport handled over 1.8 million cargo tons with 73 percent of total cargo handled outbound or inbound from international destinations.

Domestic air cargo volumes at JFK Airport have been relatively unchanged over the past 15 years, ranging between 460 to 580 thousand tons during any given year. Domestic air cargo has increasingly been transported by dedicated freighter carriers at JFK Airport. In 2004, 70 percent of domestic air cargo was handled by freighter airlines, up from 40 percent in 1990. FedEx accounted for the largest share (almost 40 percent) of domestic air cargo at JFK Airport in 2004.

JFK Airport ranks second to only Miami International Airport in terms of international air cargo traffic at U.S. airports.[1] In 2004, a total of 1.37 million tons of international air cargo were reported by airlines at JFK Airport. This was still 5 percent below peak international air cargo volumes reported in 2000 (1.40 million tons) but represents a 2 percent average annual growth rate from 1990. Unlike domestic air cargo which is handled by a relatively small number of carriers at JFK Airport, international air cargo tonnage was reported by 84 different airlines in 2004. A number of airlines such as Korean, Asiana, Air France, and Northwest operate both passenger and dedicated freighter flights. The data provided by the Port Authority allowed for the disaggregating of these airlines operations into belly and freighter categories. The allocation of international air cargo tonnage was not possible from Port Authority data and was estimated using carrier filings to the U.S. DOT.

In 2004, it was estimated that almost 60 percent of international air cargo at JFK Airport was transported in dedicated freighter aircraft compared with 44 percent in 1990.

Table VII-1 presents historical trends in air cargo activity at JFK Airport.

Table VII-1
Kennedy Trends in Air Cargo Tonnage

	Domestic			International			Total		
Year	Freighter	Belly	Total	Freighter	Belly	Total	Freighter	Belly	Grand Total
1990	183,194	275,959	459,153	438,223	560,677	998,900	621,417	836,636	1,458,053
1991	297,404	250,158	547,562	424,694	512,380	937,074	722,098	762,538	1,484,636
1992	268,695	275,534	544,229	441,477	502,292	943,769	710,172	777,826	1,487,998
1993	268,772	247,540	516,312	454,009	553,698	1,007,707	722,781	801,238	1,524,019
1994	246,379	283,768	530,147	489,419	617,606	1,107,025	735,798	901,374	1,637,172
1995	240,193	251,009	491,202	645,060	643,915	1,288,975	885,253	894,924	1,780,177
1996	246,194	254,186	500,380	693,565	635,943	1,329,508	939,759	890,129	1,829,888
1997	278,075	254,981	533,056	697,786	632,065	1,329,851	975,862	887,046	1,862,908
1998	274,172	241,625	515,797	670,614	607,920	1,278,534	944,786	849,545	1,794,331
1999	325,623	256,993	582,616	709,216	640,685	1,349,901	1,034,840	897,678	1,932,517
2000	347,163	235,949	583,112	778,570	670,027	1,448,598	1,125,733	905,976	2,031,709
2001	303,410	199,217	502,627	680,772	489,215	1,169,987	984,182	688,432	1,672,614
2002	310,451	160,563	471,014	757,332	544,804	1,302,135	1,067,783	705,366	1,773,150
2003	341,497	164,626	506,123	796,869	521,808	1,318,677	1,138,366	686,434	1,824,800
2004	360,280	151,850	512,129	776,116	593,197	1,369,313	1,136,396	745,047	1,881,443
2005	339,376	138,618	477,994	757,528	595,201	1,352,728	1,096,903	733,819	1,830,722

Source: PANYNJ Records

VII.2.3 LGA Airport

Total cargo tonnage at LGA Airport has seen a steady decline during the 14 year period. In 2004, just 29,000 tons of air cargo was reported by airlines at LGA Airport, accounting for 1 percent of air cargo handled in the Region. Passenger carriers have historically accounted for most of the air cargo handled at the airport. However, the significant shift to regional carrier operations by airlines operating at LGA Airport has left limited available capacity for belly cargo.

[1] Anchorage International airport actually reports the highest volume of international air cargo traffic at U.S. airports, however, those totals include a high volume of transit freight from other U.S. airports.

There has been no dedicated freighter activity at LGA Airport since FedEx ceased operations at LGA Airport in 1999.

Table VII-2 presents historical trends in air cargo activity at LGA Airport.

Table VII-2
LAGUARDIA TRENDS IN AIR CARGO TONNAGE

	Domestic			International			Total		
Year	Freighter	Belly	Total	Freighter	Belly	Total	Freighter	Belly	Grand Total
1990	19,174	104,288	123,462	-	5,363	5,363	19,174	109,651	128,825
1991	2,247	99,892	102,139	-	3,460	3,460	2,247	103,352	105,599
1992	2,217	109,428	111,645	-	3,523	3,523	2,217	112,951	115,168
1993	2,243	102,727	104,970	-	3,772	3,772	2,243	106,499	108,742
1994	2,043	97,210	99,253	-	3,493	3,493	2,043	100,703	102,746
1995	2,282	95,942	98,224	-	3,979	3,979	2,282	99,921	102,203
1996	2,605	90,556	93,161	-	2,501	2,501	2,605	93,057	95,662
1997	3,600	86,164	89,764	-	2,743	2,743	3,600	88,907	92,507
1998	3,293	69,013	72,306	-	3,485	3,485	3,293	72,498	75,791
1999	518	76,456	76,974	-	2,468	2,468	518	78,925	79,443
2000	-	76,293	76,293	-	2,878	2,878	-	79,171	79,171
2001	-	58,996	58,996	-	1,990	1,990	-	60,986	60,986
2002	-	33,671	33,671	-	1,856	1,856	-	35,527	35,527
2003	-	29,730	29,730	-	1,635	1,635	-	31,364	31,364
2004	-	28,087	28,087	-	1,229	1,229	-	29,316	29,316
2005	-	30,420	30,420	-	1,106	1,106	-	31,525	31,525

Source: PANYNJ Records

VII.2.4 EWR Airport

While EWR Airport handles about 40 percent less air cargo than JFK, it is still one of the major air cargo airports in the world. According to ACI statistics for 2004, the 1.1 million tons of air cargo handled at EWR Airport placed it 8th among U.S. airports and 20th worldwide.

Domestic air cargo accounts for the majority of air cargo handled at EWR Airport (76 percent in 2004). Domestic air cargo at EWR Airport increased from 494,000 tons in 1990 to 820,000 tons in 2000, averaging growth of 6.7 percent per year. Domestic air cargo declined 18 percent in 2001 to 772,000 tons and has been relatively unchanged thereafter. Based on air cargo data for the 11 months ended November 2005, domestic air cargo volumes are projected at 785,000 tons for the full year.

Integrated cargo carriers have focused their New York operations at EWR Airport versus other airports in the Region. Collectively FedEx, UPS, and DHL/Airborne accounted for 80 percent of domestic air cargo handled at EWR Airport in 2004. Indeed, the share of domestic air cargo handled by dedicated freighter carriers has increased from 65 percent in 1990 to 88 percent in 2004. Belly cargo has declined by almost 50 percent over the past 15 years at EWR Airport, in part because of the presence of dedicated freighter lift, but also due to the decline in average aircraft gauge at EWR Airport and increased load factors which have left less available space for belly cargo.

Although international air cargo accounts for a relatively small percentage of air cargo at EWR Airport (24 percent in 2004) it has more than quadrupled in volume over the past 15 years. International air cargo is primarily transported in the belly of passenger aircraft. Unsurprisingly, Continental accounts for the largest share of international air cargo at EWR Airport, accounting for 46 percent of international tonnage.

Table VII-3 presents historical trends in air cargo activity at EWR Airport.

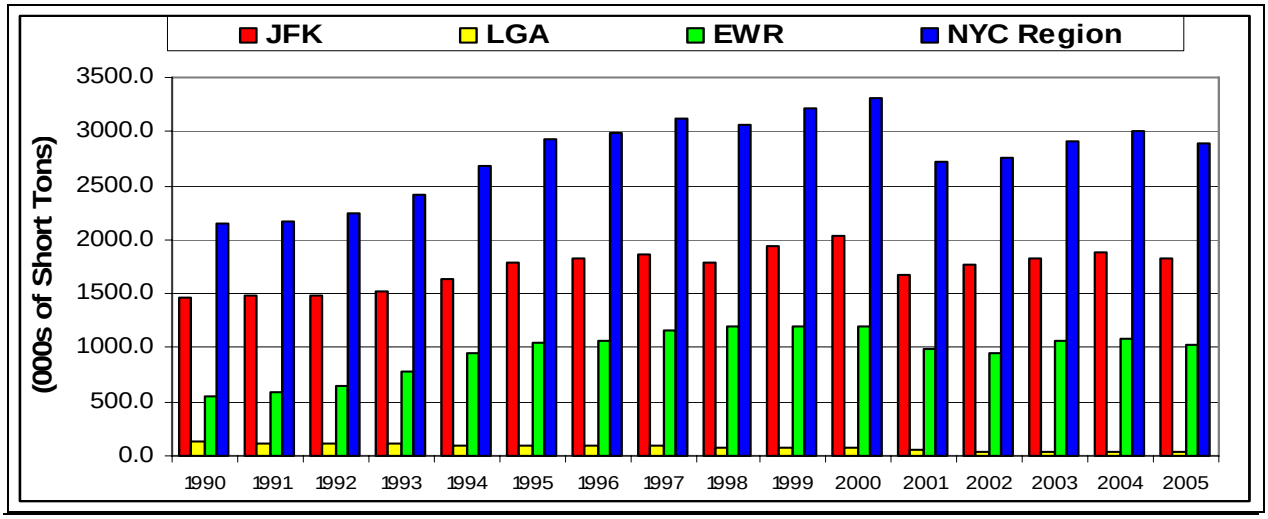
Table VII-3
NEWARK TRENDS IN AIR CARGO TONNAGE

	Domestic			International			Total		
Year	Freighter	Belly	Total	Freighter	Belly	Total	Freighter	Belly	Grand Total
1990	319,128	175,005	494,133	-	62,625	62,625	319,128	237,630	556,758
1991	348,775	161,215	509,990	257	72,732	72,989	349,032	233,947	582,979
1992	404,156	155,462	559,618	-	88,409	88,409	404,156	243,871	648,027
1993	460,581	175,642	636,223	30,467	106,967	137,434	491,048	282,609	773,657
1994	560,106	205,855	765,961	56,540	127,679	184,219	616,646	333,534	950,180
1995	694,522	158,496	853,018	56,123	134,096	190,219	750,645	292,592	1,043,237
1996	720,888	145,254	866,142	56,025	134,357	190,382	776,913	279,611	1,056,524
1997	751,702	172,993	924,695	56,918	174,148	231,066	808,620	347,141	1,155,761
1998	804,841	152,893	957,734	54,682	182,360	237,042	859,523	335,253	1,194,776
1999	794,899	162,901	957,799	47,554	200,427	247,980	842,452	363,327	1,205,780
2000	811,248	130,029	941,277	49,476	202,645	252,121	860,724	332,674	1,193,397
2001	692,472	79,883	772,355	40,609	174,038	214,647	733,081	253,920	987,001
2002	698,999	60,298	759,297	43,109	146,512	189,621	742,109	206,809	948,918
2003	710,812	98,787	809,599	42,390	208,198	250,588	753,202	306,984	1,060,186
2004	722,664	97,775	820,439	41,249	224,132	265,381	763,913	321,907	1,085,820
2005	698,247	86,300	784,547	36,753	208,267	245,020	735,000	294,567	1,029,567

Source: PANYNJ Records

A summary of historical air cargo trends at the three Port Authority airports is presented in **Exhibit VII-1.**

Exhibit VII-1
PORT AUTHORITY HISTORICAL AIR CARGO TRENDS



Source: PANYNJ/Landrum & Brown, Inc.

VII.3 Qualitative Forecast Assumptions

The preceding historical analysis of aviation activity was one of the key factors in developing a set of key assumptions underlying the forecast of air cargo for the NYC airports. However, the forecast assumptions were also based on broader industry trends, economic analysis, and review of peer forecasts such as those published by the FAA. The key assumptions underlying the domestic and international air cargo forecast for the Port Authority airports are laid out below:

VII.3.1 Domestic Air Cargo

- The U.S. economy is expected to expand over the 20 year planning horizon (2005-2025) supporting growth in domestic air cargo. The Office of Management and Budget (OMB) projects long-term growth (2004-2016) of 3.2 percent per year.
- Based on projections made by Woods & Poole Economics, Inc; employment and personal income for the three airport catchment area are projected to mirror broader national trends. Employment in the area is projected an average growth of 0.8 percent between 2005 and 2025 and personal income is projected to grow at 1.6 percent per year during the same period.[2]
- Passenger operations are expected to increase to accommodate future aviation demand in the NYC region. In order to better balance the variables of revenue and cost, it is assumed passenger airlines will increasingly look to air cargo to generate incremental revenues when aircraft size and frequency permit.
- Passenger airlines will tend toward higher load factors in order to utilize seat capacity more efficiently. Consequently, belly capacity available for air cargo will slightly decline. Despite the expected reduction in available belly capacity, current low-utilization rates will allow for continued growth in belly cargo above the rate of growth in passenger operations.
- Integrated carriers are expected to continue to increase share of domestic air cargo handled at JFK and EWR Airports. However, the expected increase in time definite second and third day delivery may temper growth in integrated all-cargo operations (particularly at EWR Airport).
- FedEx, which accounts for a quarter of all air cargo handled, in the Region is expected to maintain and expand its operation over the forecast period.

[2] Woods and Poole Economics, Inc. is an independent, non partisan organization that carries out research in the public interest. Woods & Poole obtains historical data from such government sources as the U.S. Department of Labor and the U.S. Department of Commerce. Economic and demographic forecast data provided by Woods & Poole was formulated using its own mathematical models of demographic and economic conditions within each U.S. county or a defined metropolitan statistical area. It is believed this data provides a realistic, independent estimate of future conditions.

VII.3.2 International Air Cargo

- The expansion of Asian economies is expected to drive growth in air cargo in the New York region. Asia was the fastest growing region in 2004 (up 5.2 percent). China is the primary driver of the Asian economy experiencing growth of 9.1 percent in 2004. Japan, which has been Asia's largest and slowest growing economy in the past ten years, also experienced relatively strong economic growth in 2004 (up 4.1 percent). Global Insight in its *World Economic Outlook*, November 2004, calls for long term growth of 3.6 percent in Asian economies. At the country level, Global Insight projects that Japan's GDP will expand at 1.7 percent annually over the long term while China's economy will grow at a significantly faster rate, averaging 6.8 percent per year.
- Western Europe experienced relatively moderate GDP growth in 2004 (up 2.4 percent) while GDP growth in Eastern Europe expanded at a more robust rate (up 7.1 percent). Over the long term, based on projections published by Global Insight, the economies of Western Europe and Eastern Europe are forecast to expand at 2.2 percent and 4.6 percent per annum, respectively.
- International air cargo transported by all-cargo carriers, and passenger carriers is expected to grow over the forecast period. Continental's international expansion is expected to shift a greater share of international air cargo into the belly of passenger aircraft. However, relatively high utilization of belly capacity will limit growth in international air cargo above the rate of growth of passenger operations.
- Continental and American, which rank first and second, respectively, in terms of international air cargo handled in the region, are expected to maintain and expand their international gateway operations at EWR and JFK Airports.

VII.4 Forecast Methodology

A regression model was developed to forecast air cargo demand for the NYC region. Total freight and mail tonnage was separated in to domestic and international segments and used as dependent variables to regress against several economic variables and one dummy variable.

Independent variables used for the regression model included US gross domestic product, several NYC catchment area variables; gross regional product, manufacturing earnings and wholesale earnings, and a dummy variable to offset the affect of September 11th from the model. One additional independent variable was used in the international regional model, world GDP; never the less an accurate model could not be found for either segment.

After carefully analyzing cargo tonnage trends at each airport it was clear that LGA Airport's declining cargo tonnage was affecting the regional cargo model. Therefore regression models were developed for each segment at JFK and

EWR Airports. All four models showed good fits (over 0.8 adjusted R squared) but the forecast tonnage from the domestic models were unrealistic. Therefore it was decided to use regression forecasting for international cargo tonnage at JFK and EWR Airports and to use simple trend analysis for the domestic forecasts at JFK and EWR and LGA Airport domestic and international cargo forecasts. The trend analysis used the average annual growth rate from 2002 to 2005. For the international regression forecast a small negative value was used consistently in the dummy variable for the forecast years to reduce the output's sensitivity to US GDP.

Table VII-4 presents the variables used for the international regressions for JFK and EWR. The final equations used the natural log (Ln) of US GDP and the respective dummy variable.

Table VII-4
INDEPENDENT VARIABLES USED IN INTERNATIONAL CARGO FORECASTS

Year	GDP (Biln 2000$)	Ln(US GDP)	Kennedy Dummy	Newark Dummy
1990	$7,112	8.87	-	-
1995	$8,032	8.99	-	-
2000	$9,817	9.19	-	-
2001	$9,891	9.20	(1.00)	(1.00)
2002	$10,049	9.22	-	(1.00)
2003	$10,321	9.24	-	-
2004	$10,756	9.28	-	-
2005	$11,134	9.32	(0.05)	(1.00)
2006	$11,555	9.35	(0.05)	(0.50)
2007	$11,991	9.39	(0.05)	(0.50)
2008	$12,396	9.43	(0.05)	(0.50)
2009	$12,780	9.46	(0.05)	(0.50)
2010	$13,149	9.48	(0.05)	(0.50)
2015	$14,976	9.61	(0.05)	(0.50)
2020	$17,285	9.74	(0.05)	(0.50)
2025	$20,048	9.86	(0.05)	(0.50)
Average Annual Growth Rate				
1990-2005	3.0%	0.3%	n/a	n/a
2005-2015	3.0%	0.3%	0.0%	-6.7%
2015-2025	2.9%	0.3%	0.0%	0.0%
2005-2025	2.8%	0.3%	0.0%	0.0%

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Sources: PANYNJ/Landrum & Brown, Inc.

VII.5 Air Cargo Forecast Results

Domestic belly cargo is the only component of air cargo that is projected to decline over the forecast period at the three airports collectively. However, domestic freighter activity will offset the decline in domestic belly cargo, resulting in average annual growth of 0.8 percent per year for domestic air cargo as a whole.

International air cargo is expected to grow at a higher rate, averaging 2.3 percent per year.

VII.5.1 JFK Airport

Domestic air cargo tonnage is forecasted to increase from 477,994 in 2005 to 527,240 in 2025, an average annual growth rate of 0.5 percent. International tonnage is forecasted to increase from 1,352,728 in 2005 to 1,969,908 in 2025, an average annual growth rate of 1.9 percent. Total air cargo tonnage for JFK Airport is forecasted to increase from 1,830,722 in 2005 to 2,497,149 in 2025, an average annual rate of 1.6 percent.

The allocation between freighter and belly cargo reflects the historical percentages for each market segment. The freighter percentage of domestic tonnage has grown from 39.9 percent in 1990 to 71.0 percent in 2005. This trend is expected to continue with freighter tonnage representing 85.0 percent of domestic tonnage by 2025. Conversely, belly tonnage will decline from 29.0 percent in 2005 to 15.0 percent in 2025. International freighter tonnage was 43.9 percent of the total in 1990, increasing to 60.4 percent by 2003 before dropping slightly to 56.0 percent in 2005. The percentage of international air cargo carried on freighters is expected to remain in this range during the forecast period, growing to only 58.0 percent in 2025.

These allocations result in domestic freighter tonnage increasing from 339,376 tons in 2005 to 448,154 tons in 2025, an average annual growth rate of 1.4 percent. Domestic belly tonnage is projected to decline from 138,618 tons in 2005 to 79,086 tons in 2025, an average annual decline of 2.8 percent. International freighter tonnage is forecast to increase from 757,528 tons in 2005 to 1,142,547 tons in 2025, and average annual growth rate of 2.1 percent. International belly tonnage is forecast to increase from 595,201 tons in 2005 to 827,361 tons in 2025, an average annual growth rate of 1.7 percent.

Table VII-5 presents the air cargo tonnage forecast for JFK Airport.

Table VII-5
KENNEDY AIR CARGO TONNAGE FORECAST

Air Cargo Tonnage Forecast
Kennedy International Airport

	Year	Domestic Freighter	Domestic Belly	Domestic Total	International Freighter	International Belly	International Total	Total Freighter	Total Belly	Total Total
Actual	1990	183,194	275,959	459,153	438,223	560,677	998,900	621,417	836,636	1,458,053
	1995	240,193	251,009	491,202	645,060	643,915	1,288,975	885,253	894,924	1,780,177
	2000	347,163	235,949	583,112	778,570	670,027	1,448,598	1,125,733	905,976	2,031,709
Estimate	2005	339,376	138,618	477,994	757,528	595,201	1,352,728	1,096,903	733,819	1,830,722
Forecast	2006	344,126	136,217	480,343	833,008	651,899	1,484,907	1,177,134	788,115	1,965,250
	2007	348,944	133,760	482,704	854,392	665,963	1,520,355	1,203,335	799,723	2,003,059
	2008	353,828	131,248	485,076	873,751	678,327	1,552,079	1,227,579	809,576	2,037,155
	2009	358,781	128,679	487,461	891,750	689,524	1,581,274	1,250,531	818,203	2,068,734
	2010	363,804	126,053	489,856	908,676	699,787	1,608,463	1,272,480	825,839	2,098,319
	2011	368,897	123,367	492,264	924,957	709,455	1,634,412	1,293,854	832,822	2,126,676
	2012	374,061	120,623	494,684	940,822	718,709	1,659,530	1,314,882	839,332	2,154,214
	2013	379,297	117,818	497,115	956,576	727,786	1,684,362	1,335,873	845,604	2,181,476
	2014	384,607	114,952	499,558	972,214	736,683	1,708,898	1,356,821	851,635	2,208,456
	2015	389,991	112,023	502,014	987,537	745,251	1,732,788	1,377,527	857,274	2,234,801
	2020	418,062	96,410	514,472	1,064,403	786,945	1,851,348	1,482,465	883,355	2,365,820
	2025	448,154	79,086	527,240	1,142,547	827,361	1,969,908	1,590,701	906,448	2,497,149
Average Annual Growth Rates										
	1990-2005	4.2%	-4.5%	0.3%	3.7%	0.4%	2.0%	3.9%	-0.9%	1.5%
	2005-2015	1.4%	-2.1%	0.5%	2.7%	2.3%	2.5%	2.3%	1.6%	2.0%
	2015-2025	1.4%	-3.4%	0.5%	1.5%	1.1%	1.3%	1.4%	0.6%	1.1%
	2005-2025	1.4%	-2.8%	0.5%	2.1%	1.7%	1.9%	1.9%	1.1%	1.6%

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Sources: PANYNJ/Landrum & Brown, Inc.

VII.5.2 LGA Airport

LaGuardia's air cargo will continue to decline with increasing trucking substitution and increase in security regulations. With no freighter service in the domestic or international segments and no new service in the foreseeable future, the airport's cargo will depend on passenger airlines. In the international segment, Air Canada is the largest cargo operator and operates to several Canadian destinations from LGA. This can easily be substituted by trucks, unlike international cargo at the other 2 airports. It is likely that by 2025, LGA will only handle some mail and a small amount of cargo deliveries.

Domestic air cargo tonnage is forecasted to decrease from 30,420 tons in 2005 to 15,456 tons in 2025, an average annual growth rate of -3.3 percent. International tonnage is forecasted to decrease from 1,106 in 2005 to 318 in 2025, an average annual growth rate of -6.0 percent. Total air cargo tonnage for LGA is forecasted to decrease from 31,525 in 2005 to 15,775 in 2025, an average annual rate of -3.4 percent.

Table VII-6 presents the air cargo tonnage forecast for LGA.

Table VII-6
LAGUARDIA AIR CARGO TONNAGE FORECAST

Air Cargo Tonnage Forecast
LaGuardia Airport

		Domestic			International			Total		
	Year	**Freighter**	**Belly**	**Total**	**Freighter**	**Belly**	**Total**	**Freighter**	**Belly**	**Total**
Actual	1990	19,174	104,288	123,462	-	5,363	5,363	19,174	109,651	128,825
	1995	2,282	95,942	98,224	-	3,979	3,979	2,282	99,921	102,203
	2000	-	76,293	76,293	-	2,878	2,878	-	79,171	79,171
Estimate	2005	-	30,420	30,420	-	1,106	1,106	-	31,525	31,525
Forecast	2006	-	29,407	29,407	-	1,039	1,039	-	30,446	30,446
	2007	-	28,428	28,428	-	976	976	-	29,404	29,404
	2008	-	27,482	27,482	-	917	917	-	28,399	28,399
	2009	-	26,567	26,567	-	862	862	-	27,429	27,429
	2010	-	25,683	25,683	-	810	810	-	26,493	26,493
	2011	-	24,828	24,828	-	761	761	-	25,589	25,589
	2012	-	24,001	24,001	-	715	715	-	24,716	24,716
	2013	-	23,202	23,202	-	672	672	-	23,874	23,874
	2014	-	22,430	22,430	-	631	631	-	23,061	23,061
	2015	-	21,683	21,683	-	593	593	-	22,277	22,277
	2020	-	18,307	18,307	-	435	435	-	18,741	18,741
	2025	-	15,456	15,456	-	318	318	-	15,775	15,775
Average Annual Growth Rates										
	1990-2005	-100.0%	-7.9%	-8.9%	n/a	-10.0%	-10.0%	-100.0%	-8.0%	-9.0%
	2005-2015	n/a	-3.3%	-3.3%	n/a	-6.0%	-6.0%	n/a	-3.4%	-3.4%
	2015-2025	n/a	-3.3%	-3.3%	n/a	-6.0%	-6.0%	n/a	-3.4%	-3.4%
	2005-2025	n/a	-3.3%	-3.3%	n/a	-6.0%	-6.0%	n/a	-3.4%	-3.4%

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Sources: PANYNJ/Landrum & Brown, Inc.

VII.5.3 EWR Airport

EWR Airport handles the largest volume of domestic cargo activity in the region. Domestic cargo tonnage is expected to grow driven by the primary integrators at the airport, FedEx and UPS, as well as freighter airlines such as Kalitta Air who initiated service after 2001. Domestic belly cargo is expected to continue to decline over the forecast period. Conversely, international air cargo is forecast to average growth of 4.0 percent per year, accommodated principally by passenger airlines (particularly Continental).

Domestic air cargo tonnage is forecasted to increase from 784,547 in 2005 to 975,742 in 2025, an average annual growth rate of 1.1 percent. International tonnage is forecasted to increase from 245,020 in 2005 to 537,988 in 2025, an average annual growth rate of 4.0 percent. Total air cargo tonnage for EWR Airport is forecasted to increase from 1,029,567 in 2005 to 1,513,730 in 2025, an average annual rate of 1.9 percent.

The allocation between freighter and belly cargo reflects the historical percentages for each market segment. The freighter percentage of domestic tonnage has grown from 64.6 percent in 1990 to 89.0 percent in 2005. This trend is expected to continue with freighter tonnage representing 94.0 percent of domestic tonnage by 2025. Conversely, belly tonnage will decline from 11.0 percent in 2005 to 6.0 percent in 2025. International freighters did not begin regular service at EWR Airport until 1993, quickly jumping to 30.7 percent of international tonnage by 1994. Freighter share of international tonnage has been declining since 1996 dropping to 15.0 percent in 2005. The percentage of international air cargo carried on freighters is expected to continue to decline during the forecast period, representing only 6.0 percent in 2025.

These allocations result in domestic freighter tonnage increasing from 698,247 tons in 2005 to 917,197 tons in 2025, an average annual growth rate of 1.4 percent. Domestic belly tonnage is projected to decline from 86,300 tons in 2005 to 58,545 tons in 2025, an average annual decline of 1.9 percent. International freighter tonnage is forecast to decrease from 367,753 tons in 2005 to 32,279 tons in 2025, and average annual growth rate of -0.6 percent. International belly tonnage is forecast to increase from 208,267 tons in 2005 to 505,709 tons in 2025, an average annual growth rate of 4.5 percent.

Table VII-7 presents the air cargo tonnage forecast for EWR Airport.

Table VII-7
NEWARK AIR CARGO TONNAGE FORECAST

Air Cargo Tonnage Forecast
Newark Liberty International Airport

		Domestic			International			Total		
	Year	Freighter	Belly	Total	Freighter	Belly	Total	Freighter	Belly	Total
Actual	1990	319,128	175,005	494,133	-	62,625	62,625	319,128	237,630	556,758
	1995	694,522	158,496	853,018	56,123	134,096	190,219	750,645	292,592	1,043,237
	2000	811,248	130,029	941,277	49,476	202,645	252,121	860,724	332,674	1,193,397
Estimate	2005	698,247	86,300	784,547	36,753	208,267	245,020	735,000	294,567	1,029,567
Forecast	2006	708,507	84,642	793,149	42,899	256,499	299,398	751,406	341,141	1,092,547
	2007	718,830	83,016	801,846	43,364	273,472	316,836	762,194	356,487	1,118,681
	2008	729,217	81,420	810,637	43,463	288,979	332,442	772,680	370,400	1,143,079
	2009	739,669	79,856	819,525	43,310	303,494	346,804	782,979	383,350	1,166,329
	2010	750,189	78,321	828,511	42,966	317,214	360,180	793,155	395,535	1,188,690
	2011	760,778	76,816	837,595	42,497	330,448	372,945	803,275	407,265	1,210,540
	2012	771,438	75,340	846,778	41,939	343,363	385,302	813,376	418,704	1,232,080
	2013	782,170	73,893	856,063	41,331	356,187	397,517	823,500	430,079	1,253,580
	2014	792,976	72,473	865,449	40,678	368,909	409,587	833,654	441,382	1,275,036
	2015	803,857	71,080	874,938	39,972	381,368	421,340	843,829	452,448	1,296,277
	2020	859,457	64,509	923,966	36,189	443,475	479,664	895,646	507,984	1,403,630
	2025	917,197	58,545	975,742	32,279	505,709	537,988	949,477	564,254	1,513,730
Average Annual Growth Rates										
	1990-2005	5.4%	-4.6%	3.1%	n/a	8.3%	9.5%	5.7%	1.4%	4.2%
	2005-2015	1.4%	-1.9%	1.1%	0.8%	6.2%	5.6%	1.4%	4.4%	2.3%
	2015-2025	1.3%	-1.9%	1.1%	-2.1%	2.9%	2.5%	1.2%	2.2%	1.6%
	2005-2025	1.4%	-1.9%	1.1%	-0.6%	4.5%	4.0%	1.3%	3.3%	1.9%

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Sources: PANYNJ/Landrum & Brown, Inc.

VII.5.4 Port Authority Region

Table VII-8 presents the air cargo tonnage forecast summary for the PA region.

Table VII-8
PORT AUTHORITY AIR CARGO TONNAGE FORECAST

Air Cargo Tonnage Forecast Summary
JFK+LGA+EWR

	Year	Kennedy	LaGuardia	Newark	Total
Actual	1990	1,458,053	128,825	556,758	2,143,636
	1995	1,780,177	102,203	1,043,237	2,925,617
	2000	2,031,709	79,171	1,193,397	3,304,278
Estimate	2005	1,830,722	31,525	1,029,567	2,891,815
Forecast	2006	1,965,250	30,446	1,092,547	3,088,242
	2007	2,003,059	29,404	1,118,681	3,151,144
	2008	2,037,155	28,399	1,143,079	3,208,633
	2009	2,068,734	27,429	1,166,329	3,262,493
	2010	2,098,319	26,493	1,188,690	3,313,502
	2011	2,126,676	25,589	1,210,540	3,362,804
	2012	2,154,214	24,716	1,232,080	3,411,010
	2013	2,181,476	23,874	1,253,580	3,458,930
	2014	2,208,456	23,061	1,275,036	3,506,553
	2015	2,234,801	22,277	1,296,277	3,553,355
	2020	2,365,820	18,741	1,403,630	3,788,192
	2025	2,497,149	15,775	1,513,730	4,026,654
Average Annual Growth Rates					
	1990-2005	1.5%	-9.0%	4.2%	2.0%
	2005-2015	2.0%	-3.4%	2.3%	2.1%
	2015-2025	1.1%	-3.4%	1.6%	1.3%
	2005-2025	1.6%	-3.4%	1.9%	1.7%

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Sources: PANYNJ/Landrum & Brown, Inc.

VIII. Aircraft Operations Forecast

The forecast of aircraft operations consists of projections of operations activity by major activity type at each of the three Port Authority airports. Aircraft operations, defined as arrivals plus departures, were forecast separately for the four major categories of users including: (1) commercial passenger carriers, (2) commercial all-cargo carriers, (3) general aviation, and (4) military.

Where appropriate, operations were also disaggregated into domestic and international segments and by carrier type. The segmentation is different for each airport and is detailed in the relevant section.

VIII.1 Passenger Operations

Passenger aircraft operations were derived from the enplaned passenger forecasts. The aggregate number of commercial operations at an airport depends on three factors: total passengers, average aircraft size, and average load factor (percent of seats occupied). The relationship is shown in the equation below.

$$Operations = \frac{TotalPassengers}{AverageLoadFactor * AverageAircraftSize}$$

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

Domestic passenger operations were further divided into domestic air carrier operations and domestic commuter operations. The breakout of domestic commuter service is based on the individual carrier's mode of operation (i.e., providing regional feed to its major airline partners, generally within 300 miles) and certification with the FAA. These commuter carriers typically operate turboprop and small (less than 72 seat) jet equipment.

For international passenger activity, operations to and from Canada were projected separately from the rest of the world. The primary reason for this segmentation is the fundamental difference in the fleet of aircraft operated to Canadian destinations from the three PANYNJ airports.

The fundamental approach to deriving the passenger operations forecast is identical for each of the Port Authority airports. However, the underlying assumptions at each

airport are inherently different due to differences in how airlines choose to serve the demand for air travel to, from, and over each airport. These differences may result, for example, from a strategic focus on unit revenue versus unit costs, or an emphasis on a hub and spoke system versus a point-to-point operation.

A number of sources were used to develop the historical passenger operations, load factor, and aircraft gauge data. Data provided by the Aviation Department of the PANYNJ was used to develop the annual operations and average passengers per flight data, while data from the *Official Airline Guide* and U.S. DOT, Schedule T-100 data was used to develop ratios of Average Seats Per Departure (ASPD) for each of the major groups of passenger activity. Aircraft load factors were calculated for each subgroup of passenger operations by dividing average passengers per departure (APPD) factors by ASPD factors.

VIII.1.1 JFK Airport

JFK experienced a net increase in commercial passenger operations from 294,530 in 1995 to 315,128 in 2005, representing average annual growth of 0.7 percent. Domestic and international operations grew at an almost identical rate over the ten-year period. Consequently, the share of passenger operations at Kennedy remained unchanged in 2005 at 66 percent domestic activity versus 44 percent international activity.

VIII.1.1.1 Domestic Passenger Operations

Although domestic passenger operations increased at JFK between 1995 and 2005, averaging growth of 0.7 percent per year, there was a significant shift in the share of domestic carrier activity between the air carrier and commuter categories of operation. **Table VIII-1** details historical and projected ASPD, load factor, and enplanements per departure projections from which the domestic operations forecast was calculated.

Table VIII-1
KENNEDY DOMESTIC AIRCRAFT GAUGE AND LOAD FACTOR ASSUMPTIONS

		Domestic Air Carrier			Domestic Commuter		
	Calendar Year	ASPD	Load Factor	Enpl./ Dep.	ASPD	Load Factor	Enpl./ Dep.
Actual	1995	195.1	59.0%	115.0	39.6	48.6%	19.3
	2000	173.6	66.7%	115.7	32.5	58.9%	19.2
Estimate	2005	169.0	80.0%	135.2	46.0	65.5%	30.1
Estimate	2006	164.0	81.9%	134.3	49.0	71.1%	34.9
Forecast	2007	163.2	81.4%	132.9	51.1	70.6%	36.1
	2008	162.5	80.9%	131.5	53.3	70.1%	37.3
	2009	161.7	80.5%	130.2	55.6	69.5%	38.7
	2010	161.0	80.0%	128.8	58.0	69.0%	40.0
	2011	160.8	79.6%	128.0	58.2	68.8%	40.0
	2012	160.6	79.2%	127.2	58.4	68.6%	40.1
	2013	160.4	78.8%	126.4	58.6	68.4%	40.1
	2014	160.2	78.4%	125.6	58.8	68.2%	40.1
	2015	160.0	78.0%	124.8	59.0	68.0%	40.1
	2020	160.0	78.0%	124.8	59.0	68.0%	40.1
	2025	160.0	78.0%	124.8	60.0	67.0%	40.2
Average Annual Growth Rates							
	1995-2005	-1.4%	3.1%	1.6%	1.5%	3.0%	4.6%
	2005-2015	-0.5%	-0.3%	-0.8%	2.5%	0.4%	2.9%
	2015-2025	0.0%	0.0%	0.0%	0.2%	-0.1%	0.0%
	2005-2025	-0.3%	-0.1%	-0.4%	1.3%	0.1%	1.5%

Source: Landrum & Brown Analysis

Domestic Air Carrier

Domestic air carrier operations averaged growth of 4.3 percent per year between 1995 and 2005, increasing from 98,000 operations to 150,000 operations. While most air carriers operated more frequencies at JFK than they did in 2005, the majority of the incremental domestic frequencies operated at JFK over the past ten years were the result of JetBlue establishing Kennedy as the first focus city for its domestic operations in February 2000.

APSD for domestic air carriers declined from 195 seats per flight in 1995 to 169 seats per flight in 2005. This change largely resulted from JetBlue beginning service with 156 seat A320 aircraft rather than a significant down-gauging of other airlines' aircraft at JFK. Over the forecast period, this trend toward smaller gauge aircraft is expected to continue as JetBlue takes delivery of its 100-seat Embraer-190 aircraft.

Assuming JetBlue takes delivery of its firm orders as published in its 10Q SEC Filing for the third quarter of 2005, the E190 should account for over a third of JetBlue's operating fleet by 2010 (**Table VIII-2**). By 2025, ASPD is projected to be 160 seats per flight.

Table VIII-2
JetBlue Aircraft Delivery Schedule

	Firm Orders			Options			Cumulative		
Year	A320	E90	Total	A320	E90	Total	A320	E190	Total
Remainder of 2005	3	6	9	-	-	-	87	6	93
2006	16	18	34	-	-	-	103	24	127
2007	17	18	35	-	-	-	120	42	162
2008	17	18	35	2	-	2	139	60	199
2009	18	18	36	2	-	2	159	78	237
2010	18	18	36	2	-	2	179	96	275
2011	12	3	15	9	15	24	200	114	314
2012	-	-	-	20	18	38	220	132	352
2013	-	-	-	15	18	33	235	150	385
2014	-	-	-	-	18	18	235	168	403
2015	-	-	-	-	18	18	235	186	421
2016	-	-	-	-	13	13	235	199	434
Total	101	99	200	50	100	150			

Note: Total Cumulative fleet includes options
Source: JetBlue 10Q SEC Filing for the 3rd quarter, 2005.
File: H:\New York System Forecast\Forecasts\Enpax & Ops\Eqpt Analysis\ [JetBlue AC orders.xls]Sheet1

Domestic air carrier load factors have increased sharply over the past ten years. In 2005, domestic flights were estimated to be 80 percent full on average versus 60 percent full a decade earlier. The increase in load factors at JFK is indicative of a broader U.S. trend; however, domestic air carrier load factors are particularly high at JFK due to the presence of JetBlue which operates at significantly higher than average loads. For the first 10 months of 2005, JetBlue operated at a load factor of 85 percent. Load factors are expected to remain relatively high over the forecast period. Despite the recent high load factors, these high levels are not believed to be sustainable long-term. Thus, load factors are forecast to decline moderately to 78 percent.

The result of the foregoing assumptions regarding load factor and ASPD is that air carrier operations are forecast to increase from 149,946 operations in 2005 to 224,200 operations in 2025, representing average annual growth of 2.0 percent.

Domestic Commuter

Domestic commuter operations have declined at JFK from 96,994 operations in 1995 to an estimated 58,494 operations in 2005. As a result, domestic commuter operations accounted for 28 percent of domestic passenger aircraft operations in 2005, down from a 50 percent share in 1995.

Notably, the total number of domestic seats offered by commuter carriers declined at a slower rate indicating an up-gauge in average aircraft size. Over the 10-year period, ASPD for commuter carriers increased from 40 seats to 46 seats. A shift

from turboprop aircraft, which were typically configured with 28 to 33 seats, to larger 50-seat regional jets accounted for the increase in ASPD at JFK. In 2006, this trend toward larger regional jet aircraft is expected to continue as commuter carriers, principally Comair and ASA, deploy more 70-seat regional jets at JFK. The result of this strategic shift is that commuter operations are expected to decline in 2006 to approximately 47,000 operations. This trend toward larger regional aircraft is expected to continue over the forecast period, increasing to an average of 60 seats per departure by 2025.

Commuter load factors are typically lower than air carrier load factors and this has certainly been the case at JFK. In 2005, load factors on domestic commuter flights were 66 percent, up from 49 percent ten years earlier. This upward trend in load factors is expected to continue in the near-term and then moderate. By 2025, a load factor of 67 percent for domestic commuter operations is projected.

Based on the projected domestic commuter ASPD and load factor assumptions, domestic commuter operations are expected to be lower in 2025 than 2005. However, the entire decline is expected to be experienced in 2006. Domestic commuter operations are expected to grow thereafter, reaching 48,400 annual operations by 2025.

Domestic Passenger Fleet Mix

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

Domestic air carrier operations were segmented into two primary aircraft groups: (1) wide-body jet aircraft and (2) narrow-body jet aircraft. Wide-body aircraft refer to commercial airliners with more than one aisle in the passenger cabin. Examples of wide-body aircraft include the Boeing 767 and A300. Narrow-body jet aircraft refer to commercial airliners with a single aisle in the passenger cabin. Examples include the Airbus 320 and Boeing 737.

Domestic commuter operations were segmented into three primary aircraft groups: (1) large regional jet aircraft, (2) small regional jet aircraft, and (3) turboprop aircraft. Large regional jet aircraft are defined as those with a seating configuration of greater than 50 seats and less than 85 seats. Examples include the 70 seat Embraer-170 regional jet and the 80-seat Canadair-900. Small regional jets typically range from 37-seat aircraft such as the Embraer-135 to the 50-seat Canadair regional jet. Turboprop aircraft are simply defined as all commuter propeller driven (i.e., non-jet) aircraft.

The allocation of domestic passenger operations by aircraft type is shown in **Table VIII-3**. The primary assumptions underpinning the fleet mix forecast are:

- Wide-body jet aircraft are expected to remain relatively unchanged in terms of frequencies over the forecast period but represent a declining share of air carrier operations (in line with historical trends). The wide-body fleet at JFK is expected to be made up primarily of A300 and B767 type aircraft.
- Narrow-body jet flight departures are expected to account for an increasing share of domestic passenger operations. By 2025, narrow-body jet operations are projected to account for 76 percent of domestic passenger operations, up from 60 percent in 2005. The continued expansion of JetBlue's operations is assumed to account for much of the increase in domestic narrow-body jet activity. As a result, both A320s and, in particular, the E190 are expected to experience material increases in share over the forecast period.
- Large regional jet aircraft will continue to account for an increasing share of domestic passenger operations. It is assumed that the operating advantages of these aircraft over smaller regional jets will make these aircraft increasingly attractive to commuter airlines and their mainline partners.
- The recent cessation of production of the 50-seat Canadair Regional Jet by Bombardier is indicative of the changing fortunes for small regional jet aircraft. In 2005, small regional jet operations accounted for 28 percent of domestic passenger operations. While these aircraft are not expected to disappear from the fleet over the forecast period, their relatively high unit costs will likely mean that where routes, scope clauses, and frequency permit, small regional jet activity will be supplanted with larger regional jet aircraft. Consequently, their share of domestic passenger operations is expected to decline to 8 percent by 2025.
- No airline has operated turboprop aircraft at JFK since 2004. Delta Air Lines has announced that Delta Connection carrier Freedom Airlines will begin flying DH8 (DeHavilland Dash 8) turboprop aircraft from JFK on July 5, 2006. If this new service is successful the equipment will be upgraded to regional jet aircraft. Thus, no turboprop aircraft are projected in JFK's domestic fleet over the forecast period.

Table VIII-3
KENNEDY DOMESTIC PASSENGER FLEET MIX

			Operations					Percent of Total				
Class	Aircraft Type	Seats	2005	2010	2015	2020	2025	2005	2010	2015	2020	2025
Wide Body Jet												
	A300	270	6,693	6,691	6,602	6,931	7,062	3.2%	2.7%	2.6%	2.6%	2.6%
	A310	175	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B744	377	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B747	474	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B762	160	11,140	10,824	9,432	6,931	4,708	5.3%	4.4%	3.7%	2.6%	1.7%
	B763	209	5,348	2,165	2,830	3,466	3,924	2.6%	0.9%	1.1%	1.3%	1.4%
	B764	285	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B767	206	12	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B777	238	182	-	-	-	-	0.1%	0.0%	0.0%	0.0%	0.0%
	Subtotal		**23,375**	**19,680**	**18,864**	**17,328**	**15,694**	**11.2%**	**8.1%**	**7.3%**	**6.5%**	**5.8%**
Narrow Body Jet												
	A319	125	2,052	2,657	2,861	2,989	3,128	1.0%	1.1%	1.1%	1.1%	1.1%
	A320	157	75,387	97,416	101,090	105,614	106,338	36.2%	40.0%	39.3%	39.9%	39.0%
	A32S	150	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B727	158	6	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B732	101	2	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B733	125	8	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B734	159	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B735	115	691	886	763	598	209	0.3%	0.4%	0.3%	0.2%	0.1%
	B738	156	3,930	2,657	5,913	8,369	13,344	1.9%	1.1%	2.3%	3.2%	4.9%
	B73G	124	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B73S	115	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B757	193	40,657	46,051	48,638	49,818	52,127	19.5%	18.9%	18.9%	18.8%	19.1%
	DC9	102	2,373	1,771	-	-	-	1.1%	0.7%	0.0%	0.0%	0.0%
	E90	101	1,002	23,911	30,518	31,884	33,361	0.5%	9.8%	11.9%	12.0%	12.2%
	F100	98	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	M80/83	143	463	1,771	954	-	-	0.2%	0.7%	0.4%	0.0%	0.0%
	Subtotal		**126,571**	**177,120**	**190,736**	**199,272**	**208,506**	**60.7%**	**72.6%**	**74.2%**	**75.3%**	**76.5%**
Large Regional Jet												
	CR7/E70	**73**	**1,446**	**23,500**	**26,070**	**26,400**	**27,104**	**0.7%**	**9.6%**	**10.1%**	**10.0%**	**9.9%**
Small Regional Jet												
	CRJ/ER4/ERJ	52	44,404	15,275	13,865	14,040	13,842	21.3%	6.3%	5.4%	5.3%	5.1%
	ER3	39	9,866	4,700	4,266	4,320	4,259	4.7%	1.9%	1.7%	1.6%	1.6%
	ERD	46	2,779	3,525	3,200	3,240	3,194	1.3%	1.4%	1.2%	1.2%	1.2%
	Subtotal		**57,048**	**23,500**	**21,330**	**21,600**	**21,296**	**27.4%**	**9.6%**	**8.3%**	**8.2%**	**7.8%**
Total Domestic Passenger			**208,440**	**243,800**	**257,000**	**264,600**	**272,600**	**100%**	**100%**	**100%**	**100%**	**100%**

Sources: Port Authority of New York & New Jersey; *Official Airline Guide;* DOT, Schedule T-100.

VIII.1.1.2 International Passenger Operations

According to airline schedules published in the *Official Airline Guide*, JFK ranked second in 2005 after Miami International Airport in terms of international passenger operations and first in terms of total seats offered by the airlines. JFK is the primary U.S. gateway to Europe, offering more flights and seats than any other U.S. gateway airport.

Between 1995 and 2005, international passenger operations at JFK averaged growth of 0.7 percent per year, increasing from 99,000 operations to 107,000 operations. At JFK, international passenger operations were developed in the same way as domestic passenger operations (i.e., operations were segmented into air carrier and commuter categories). Historically, virtually all the service provided to Canada from JFK has been provided by the regional affiliates of U.S. legacy carriers (in particular, American Eagle). In that respect this division served to segment Canadian from all other international activity at JFK.

Table VIII-4 presents historical and projected ASPD, load factor, and enplanements per departure projections from which the international operations forecast were calculated.

Table VIII-4
Kennedy International Aircraft Gauge and Load Factor Assumptions

		International Air Carrier			International Commuter		
	Calendar Year	ASPD	Load Factor	Enpl./ Dep.	ASPD	Load Factor	Enpl./ Dep.
Actual	1995	256.6	68.0%	174.4	38.9	42.7%	16.6
	2000	251.4	69.6%	175.1	35.5	59.7%	21.2
Estimate	2005	244.4	75.0%	183.3	40.5	74.0%	30.0
Estimate	2006	241.0	76.0%	183.2	43.1	75.0%	32.3
Forecast	2007	242.5	75.7%	183.7	44.5	74.7%	33.3
	2008	244.0	75.5%	184.2	46.0	74.5%	34.2
	2009	245.5	75.2%	184.7	47.5	74.2%	35.2
	2010	247.0	75.0%	185.3	49.0	74.0%	36.3
	2011	248.0	75.0%	186.0	50.0	73.8%	36.9
	2012	249.0	75.0%	186.7	50.9	73.6%	37.5
	2013	250.0	75.0%	187.5	51.9	73.4%	38.1
	2014	251.0	75.0%	188.2	53.0	73.2%	38.8
	2015	252.0	75.0%	189.0	54.0	73.0%	39.4
	2020	255.0	75.0%	191.3	55.0	72.0%	39.6
	2025	258.0	75.0%	193.5	57.0	71.0%	40.5
Average Annual Growth Rates							
	1995-2005	-0.5%	1.0%	0.5%	0.4%	5.6%	6.1%
	2005-2015	0.3%	0.0%	0.3%	2.9%	-0.1%	2.8%
	2015-2025	0.2%	0.0%	0.2%	0.5%	-0.3%	0.3%
	2005-2025	0.3%	0.0%	0.3%	1.7%	-0.2%	1.5%

Sources: Port Authority of New York & New Jersey; *Official Airline Guide;* DOT, Schedule T-100.

International Air Carrier

International air carrier operations accounted for 95 percent of all international passenger activity at JFK. Between 1995 and 2005, international air carrier operations increased from 96,092 to an estimated 100,820, averaging growth of 0.5 percent per annum.

International air carrier ASPD has declined from 257 seats in 1995 to 244 seats in 2005. ASPD has declined for a number of reasons. As U.S.-Europe air service has transitioned away from major gateway airports to some extent, airlines have down-gauged aircraft size at JFK in order to match city-pair demand. Additionally, on JFK-Asia routes historically only the Boeing 747 had the range to provide non-stop service. However, as new aircraft models and aircraft technology has improved destinations in the Far East are now reachable with aircraft such as the Boeing 777, which typically have lower seating configurations and are increasingly being deployed by airlines operating at JFK. One of the principal reasons for the decline in aircraft gauge is the increase in air carrier service to destinations in Central American and the Caribbean which are typically served using narrow-body jet aircraft. These regions have accounted for an increasing share of international air carrier operations at JFK in recent years, so the average size of aircraft has declined.

Although ASPD has been declining over the past ten years, these trends are expected to reverse gradually over the forecast period. Indeed by 2025, international air carrier ASPD is projected to be 258 seats, virtually identical to ASPD in 1995. The main factors driving this gradual increase in aircraft gauge are the expected appearance of next generation aircraft such as the Airbus 380 and the potential for replacement of aircraft such as the Boeing 767 with the Boeing 787 and Airbus 340 which typically have somewhat higher seating configurations.

Load factors for international air carriers have increased over the past ten years but not at the same rate as domestic load factors. Over the forecast period, international load factors are projected to remain relatively constant at 75 percent.

Based on the projected international ASPD and load factor assumptions, international air carrier operations are expected to increase from about 101,000 operations in 2005 to 146,200 operations in 2025, representing average annual growth of 1.9 percent.

International Commuter

International commuter operations have increased at JFK from 3,300 operations in 1995 to an estimated 5,900 operations in 2005. As mentioned earlier, international commuter operations have been deployed on routes between JFK and Canada.

ASPD for international commuter operations increased over the past decade at JFK as airlines moved from an entirely turboprop fleet to an entirely regional jet fleet. In 2005, ASPD for international commuter carriers was 41 seats, up from 39 seats in 1995 and 34 seats in 1996. This trend toward larger regional jet aircraft is assumed to continue over the forecast period, increasing to 57 seats by 2025.

Load factors for international commuter carriers at JFK also increased over the last decade, from 43 percent in 1995 to 74 percent in 2005. Current load factors are relatively high for commuter operations and are expected to moderate over the long term. By 2025, load factors for international commuter carriers are expected to fall to 71 percent.

International Passenger Fleet Mix

The development of the international passenger fleet mix used the identical top-down methodology as the domestic fleet mix. The only major difference in the approach was to create an additional air carrier aircraft group called “Jumbo Jets”. These aircraft were segmented from other wide-body aircraft primarily due to the wider wing span of these aircraft and the different requirements they have from a physical planning perspective. Jumbo Jets include FAA Design Group V and VI (ICAO Code E and Code F) aircraft. Examples of jumbo jets are the Boeing 747 and 777, the Airbus 330 and 340, as well as the next generation Boeing 787 (international version) and Airbus 350. For purposes of developing the forecast, the A380 was also included in the jumbo jet category.

The allocation of international passenger operations by aircraft type is shown in **Table VIII-5.** The primary assumptions underpinning the fleet mix forecast are:

Table VIII-5
KENNEDY INTERNATIONAL PASSENGER FLEET MIX

			Operations					Percent of Total				
Class	Aircraft	Seats	2005	2010	2015	2020	2025	2005	2010	2015	2020	2025
Jumbo Jet												
	A340 (100 thru 500)	248	7,705	8,068	8,920	9,096	9,693	7.2%	6.8%	7.0%	6.5%	6.3%
	A346	297	2,756	2,610	2,788	2,924	2,982	2.6%	2.2%	2.2%	2.1%	1.9%
	B747 (Mixed)	270	627	237	-	-	-	0.6%	0.2%	0.0%	0.0%	0.0%
	B747-100/200	278	205	499	-	-	-	0.2%	0.4%	0.0%	0.0%	0.0%
	B747-300/400	363	11,926	11,865	11,150	11,046	10,439	11.2%	10.0%	8.8%	7.9%	6.8%
	B773	300	1,026	2,349	3,903	6,173	8,202	1.0%	2.0%	3.1%	4.4%	5.4%
	B777	252	16,664	17,086	19,513	21,441	23,860	15.6%	14.4%	15.3%	15.4%	15.6%
	B787	250	-	3,322	5,575	7,797	9,693	0.0%	2.8%	4.4%	5.6%	6.3%
	A350	275	-	-	558	1,299	2,237	0.0%	0.0%	0.4%	0.9%	1.5%
	A380	555	-	1,424	3,345	5,198	7,456	0.0%	1.2%	2.6%	3.7%	4.9%
	Subtotal		**40,908**	**47,460**	**55,752**	**64,974**	**74,562**	**38.3%**	**39.9%**	**43.8%**	**46.7%**	**48.7%**
Wide Body Jet												
	A300	258	7,930	7,322	7,199	6,922	6,842	7.4%	6.2%	5.7%	5.0%	4.5%
	A310	211	832	814	400	-	-	0.8%	0.7%	0.3%	0.0%	0.0%
	A330	255	5,497	8,136	8,399	8,460	8,743	5.2%	6.8%	6.6%	6.1%	5.7%
	B763	203	20,146	21,154	20,798	19,996	19,766	18.9%	17.8%	16.4%	14.4%	12.9%
	B764	284	-	1,220	2,000	2,307	2,661	0.0%	1.0%	1.6%	1.7%	1.7%
	B767-100/200	170	3,308	2,034	1,200	769	-	3.1%	1.7%	0.9%	0.6%	0.0%
	D10	265	217	-	-	-	-	0.2%	0.0%	0.0%	0.0%	0.0%
	L10/L15/M11	283	859	-	-	-	-	0.8%	0.0%	0.0%	0.0%	0.0%
	Subtotal		**38,790**	**40,680**	**39,996**	**38,454**	**38,012**	**36.4%**	**34.2%**	**31.4%**	**27.6%**	**24.8%**
Narrow Body Jet												
	A318	97	377	599	382	438	504	0.4%	0.5%	0.3%	0.3%	0.3%
	A319	116	1,022	630	-	-	-	1.0%	0.5%	0.0%	0.0%	0.0%
	A320	148	5,150	5,469	5,599	6,126	7,061	4.8%	4.6%	4.4%	4.4%	4.6%
	A321	181	1,314	1,597	1,527	1,750	2,018	1.2%	1.3%	1.2%	1.3%	1.3%
	B727	155	4	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B737	120	706	1,151	1,018	875	673	0.7%	1.0%	0.8%	0.6%	0.4%
	B738	149	1,759	2,983	3,563	4,376	5,716	1.6%	2.5%	2.8%	3.1%	3.7%
	B757	180	10,792	11,187	11,326	12,398	13,619	10.1%	9.4%	8.9%	8.9%	8.9%
	E90	100	-	1,243	2,036	3,209	4,035	0.0%	1.0%	1.6%	2.3%	2.6%
	Subtotal		**21,122**	**24,860**	**25,452**	**29,172**	**33,626**	**19.8%**	**20.9%**	**20.0%**	**21.0%**	**21.9%**
Large Regional Jet												
	CR7/E70	**74**	**59**	**1,800**	**2,700**	**3,300**	**3,850**	**0.1%**	**1.5%**	**2.1%**	**2.4%**	**2.5%**
Small Regional Jet												
	CRJ/ER4/ERJ	53	816	673	528	528	504	0.8%	0.6%	0.4%	0.4%	0.3%
	ER3	39	3,812	2,641	2,075	2,075	1,981	3.6%	2.2%	1.6%	1.5%	1.3%
	ERD	46	1,182	886	696	696	665	1.1%	0.7%	0.5%	0.5%	0.4%
	Subtotal		**5,809**	**4,200**	**3,300**	**3,300**	**3,150**	**5.4%**	**3.5%**	**2.6%**	**2.4%**	**2.1%**
Total International Passenger Operations			**106,688**	**119,000**	**127,200**	**139,200**	**153,200**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Sources: Port Authority of New York & New Jersey; *Official Airline Guide;* DOT, Schedule T-100.

- Jumbo jet operations are expected to account for 48 percent of international passenger operations by 2025, up from 38 percent in 2005. Frequencies operated using older model aircraft such as the Boeing 747 are expected to remain relatively flat while current generation and next generation aircraft such as the Boeing 777 and 787 are expected to increase relatively robustly. Other wide-body aircraft are FAA Design Group IV (ICAO Code D) aircraft.
- The A380 is projected to be part of JFK's international fleet mix by 2010. Air France and Lufthansa currently have firm orders and are both expected to take delivery of their first A380s in 2008. Both airlines have said that they will operate the A380 between JFK and destinations in Europe. Beyond 2010 it is assumed that either these airlines will expand their A380 service at JFK or other airlines will begin A380 service.

- Wide-body (FAA Design Group IV/ICAO Code D) jet aircraft are expected to account for a declining share of international passenger operations at JFK. It is assumed that aircraft such as the Boeing 767 will be replaced over the long term with next generation aircraft such as the Boeing 787, which fall into the jumbo jet category. By 2025, wide-body jet aircraft are forecast to account for 25 percent of international passenger operations at JFK.
- Virtually all international narrow-body jet activity at JFK is destined for markets in Latin America or the Caribbean. Collectively, these markets have averaged growth of 2.6 percent per year for both operations and seats over the past decade. It is assumed that these markets will continue to experience growth in air service over the forecast period. As a result, narrow-body jet aircraft are expected to account for 21 percent of international passenger operations in 2025, up from 20 percent in 2005.
- Large regional jet aircraft operations are expected to increase over the forecast period as airlines take advantage of their more favorable economics compared with smaller regional jets. Conversely, small regional jet activity at JFK is forecast to decline on international routes.

VIII.1.1.3 Summary of JFK Commercial Passenger Operations

Table VIII-6 presents the forecast of operations for each of the primary components of passenger activity. Commercial passenger operations at JFK are forecast to increase by an average of 1.5 percent per year, increasing from an estimated 315,128 operations in 2005 to 425,800 operations in 2025. Increases in air carrier operations are expected to drive operations growth over the forecast period, averaging 2.0 percent per year. Commuter operations are not expected to return to 2005 levels by 2025, but are expected to experience positive growth from 2006 onward.

Table VIII-6
Kennedy Forecast of Total Passenger Operations

	Calendar	Domestic Passenger			International Passenger			Total—Passenger Operations		
	Year	Air Carrier	Commuter	Total	Air Carrier	Commuter	Total	Air Carrier	Commuter	Total
Actual	1995	98,114	96,994	195,108	96,092	3,330	99,422	194,206	100,324	294,530
	2000	107,196	88,230	195,426	104,706	4,194	108,900	211,902	92,424	304,326
Estimate	2005	149,946	58,494	208,440	100,820	5,868	106,688	250,766	64,362	315,128
Estimate	2006	162,000	47,000	209,000	104,896	6,908	111,805	266,896	53,908	320,805
Forecast	2007	170,000	47,200	217,200	106,400	6,200	112,600	276,400	53,400	329,800
	2008	178,400	47,200	225,600	108,800	6,200	115,000	287,200	53,400	340,600
	2009	187,400	47,000	234,400	110,800	6,200	117,000	298,200	53,200	351,400
	2010	196,800	47,000	243,800	113,000	6,000	119,000	309,800	53,000	362,800
	2011	199,400	47,200	246,600	114,600	6,000	120,600	314,000	53,200	367,200
	2012	201,800	47,200	249,000	116,200	6,000	122,200	318,000	53,200	371,200
	2013	204,400	47,200	251,600	117,800	6,000	123,800	322,200	53,200	375,400
	2014	207,000	47,400	254,400	119,400	6,000	125,400	326,400	53,400	379,800
	2015	209,600	47,400	257,000	121,200	6,000	127,200	330,800	53,400	384,200
	2020	216,600	48,000	264,600	132,600	6,600	139,200	349,200	54,600	403,800
	2025	224,200	48,400	272,600	146,200	7,000	153,200	370,400	55,400	425,800
Average Annual Growth Rates										
	1995-2005	4.3%	-4.9%	0.7%	0.5%	5.8%	0.7%	2.6%	-4.3%	0.7%
	2005-2015	3.4%	-2.1%	2.1%	1.9%	0.2%	1.8%	2.8%	-1.8%	2.0%
	2015-2025	0.7%	0.2%	0.6%	1.9%	1.6%	1.9%	1.1%	0.4%	1.0%
	2005-2025	2.0%	-0.9%	1.4%	1.9%	0.9%	1.8%	2.0%	-0.7%	1.5%

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Sources: Port Authority of New York & New Jersey; *Official Airline Guide;* DOT, Schedule T-100.

VIII.1.2 LGA Airport

Between 1995 and 2005, commercial passenger operations averaged growth of 1.9 percent at LGA. In 2005, almost 390,000 commercial passenger operations were reported at LGA, up from 323,138 operations in 1995. While total enplaned passenger volumes were 3.5 million lower than EWR and 7.3 million lower than JFK, passenger operations counts were on a par with EWR (392,000 operations in 2005) and significantly higher than at JFK (315,000 operations in 2005). In part, this is due to the primarily domestic orientation of flights at the airport, which has been engendered through both physical and regulatory constraints. Additionally, airlines at LGA have increasingly chosen to serve demand through regional partners in order to provide additional frequencies without making proportional capacity increases. In 2005, it is estimated that commuter carriers accounted for 44 percent of passenger operations at LGA, up from a 24 percent share in 1995.

VIII.1.2.1 Domestic Passenger Operations

In 2005, domestic passenger operations accounted for 94 percent of all commercial passenger activity at LGA. Domestic passenger activity at LGA increased from 302,000 operations in 1995 to 366,000 operations in 2005, averaging growth of 1.9 percent per year. Three airlines, including their regional affiliates, accounted for the majority of domestic passenger operations in 2005: US Airways (35 percent), American (22 percent), and Delta (20 percent). Over the past decade, American, primarily through its Eagle subsidiary, has accounted for much of the growth in passenger operations at LGA. It is also worth noting the expansion of LCC services

in recent years by carriers such as Spirit, JetBlue, AirTran, ATA, and Frontier, which collectively accounted for 9 percent of domestic passenger operations in 2005.

Table VIII-7 presents the historical and projected ASPD, load factor, and enplanements per departure projections from which the domestic passenger operations forecasts were derived.

Table VIII-7
LAGUARDIA DOMESTIC AIRCRAFT GAUGE AND LOAD FACTOR ASSUMPTIONS

		Domestic Air Carrier			Domestic Commuter		
	Calendar Year	ASPD	Load Factor	Enpl./ Dep.	ASPD	Load Factor	Enpl./ Dep.
Actual	1995	141.1	58.1%	82.0	28.5	40.8%	11.6
	2000	141.7	65.7%	93.1	40.2	52.5%	21.1
Estimate	2005	144.0	72.5%	104.4	43.2	61.0%	26.3
Estimate	2006	141.3	75.5%	106.7	44.0	64.0%	28.2
Forecast	2007	142.5	75.5%	107.6	44.7	64.5%	28.8
	2008	143.6	75.5%	108.4	45.5	65.0%	29.6
	2009	144.8	75.5%	109.3	46.2	65.5%	30.3
	2010	146.0	75.5%	110.2	47.0	66.0%	31.0
	2011	146.4	75.5%	110.5	47.4	66.4%	31.5
	2012	146.8	75.5%	110.8	47.8	66.8%	31.9
	2013	147.2	75.5%	111.1	48.2	67.2%	32.4
	2014	147.6	75.5%	111.4	48.6	67.6%	32.8
	2015	148.0	75.5%	111.7	49.0	68.0%	33.3
	2020	150.0	75.5%	113.3	51.0	70.0%	35.7
	2025	151.0	75.5%	114.0	52.0	70.0%	36.4
Average Annual Growth Rates							
	1995-2005	0.2%	2.2%	2.4%	4.2%	4.1%	8.5%
	2005-2015	0.3%	0.4%	0.7%	1.3%	1.1%	2.4%
	2015-2025	0.2%	0.0%	0.2%	0.6%	0.3%	0.9%
	2005-2025	0.2%	0.2%	0.4%	0.9%	0.7%	1.6%

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Source: Landrum & Brown, Inc.

Domestic Air Carrier

Domestic air carrier operations declined from 226,000 operations in 1995 to 196,000 operations in 2005, averaging negative growth of 1.4 percent per year. The decline in air carrier operations over the 10-year period was primarily due to US Airways replacing a significant amount of its mainline service with service provided by its regional partners and the introduction of new regional partner air service by American Eagle.

Aircraft gauge among air carriers increased somewhat over the past ten years, reaching 144 seats in 2005 versus 141 seats in 1995. This trend is expected to continue over the forecast period, with ASPD projected to be 151 seats per flight by 2025.

Domestic air carrier load factors at LGA have historically been lower than at either JFK or EWR. However, in line with trends at JFK and EWR, LGA has experienced load factor increases over the past ten years. In 2005, domestic air carrier load factors at LGA were 73 percent versus 58 percent in 1995. Domestic air carrier load factors at LGA are expected to average 75.5 percent over the forecast period.

As demand for air travel increases at LGA, due to the slot controls at the airport, a higher percentage of passengers will be transported on air carrier flights. In effect, this reverses some of the trends exhibited at LGA over the past ten years. Based on this assumption and the ASPD and load factors presented above, domestic air carrier operations are forecast to average growth of 1.0 percent per year, increasing to 239,700 air carrier operations by 2025.

Domestic Commuter

Domestic commuter operations more than doubled over the past ten years, increasing from 76,000 operations in 1995 to 170,000 operations in 2005. Regional affiliates of US Airways and American have driven the increase in domestic commuter operations at LGA.

Commuter aircraft gauge at LGA has also increased significantly as commuter carriers have shifted from an entirely turboprop fleet to a higher share of regional jet aircraft. In 2005, domestic commuter ASPD was 43 seats per flight versus 29 seats in 1995. This trend toward larger regional jet aircraft is expected to continue over the forecast period, increasing to 52 seats per flight by 2025.

In 2005, domestic commuter load factors were 61 percent compared with 41 percent 10 years earlier. Over the forecast period, domestic commuter load factors are projected to continue to increase, reaching 70 percent in 2025.

Domestic commuter carriers are expected to account for a declining share of domestic enplaned passengers at LGA. Consequently, domestic commuter enplaned passengers are forecast to average growth of 1.1 percent per year, between 2005 and 2025. Coupled with projected increases in ASPD and load factors, domestic commuter operations are forecast to decline from 170,000 operations in 2005 to 140,000 operations by 2025.

Domestic Passenger Fleet Mix

Once the aggregate level operations forecasts were developed for domestic air carrier and domestic commuter activity, a top-down approach was employed to allocate these operations to aircraft groups and specific aircraft types. The fleet mix was developed to match the aggregate level ASPD targets for domestic air carrier and domestic commuter categories presented in the previous subsections. However,

the fleet mix also allowed for the calibration of those assumptions and where appropriate modifications were made prior to finalizing the assumptions presented above.

Domestic air carrier operations were segmented into two primary aircraft groups: (1) wide-body jet aircraft (FAA Design Group IV/ICAO Code D) and (2) narrow-body jet aircraft (FAA Design Group III/ICAO Code C). Wide-body aircraft refer to commercial airliners with more than one aisle in the passenger cabin. Examples of wide-body aircraft include the Boeing 767 and A300. Narrow-body jet aircraft refer to commercial airliners with a single aisle in the passenger cabin. Examples include the Airbus 320 and Boeing 737.

Domestic commuter operations were segmented into three primary aircraft groups: (1) Large regional jet aircraft, (2) small regional jet aircraft, and (3) turboprop aircraft. Large regional jet aircraft are defined as those with a seating configuration of greater than 50 seats and less than 85 seats. Examples include the 70 seat Embraer-170 regional jet and the 80-seat Canadair-900. Small regional jets typically range from seating configurations of 37-seat aircraft such as the Embraer-135 to the 50-seat Canadair regional jet. Turboprop aircraft are simply defined as all commuter propeller driven (i.e. non-jet) aircraft.

The allocation of domestic passenger operations by aircraft type is shown in **Table VIII-8.** The primary assumptions underpinning the fleet mix forecast are summarized below:

- Due to physical and regulatory constraints, wide-body jet aircraft have historically accounted for a small percentage of commercial passenger operations at LGA. This is expected to remain relatively unchanged over the forecast period, with wide-body jet aircraft accounting for no more than 3 percent of domestic passenger operations at LGA.
- As air carrier activity declined at LGA over the past ten years, narrow-body jet flights have accounted for a declining share of domestic passenger flights. In 2005, narrow-body jet flights accounted for 52 percent of domestic activity down from a 72 percent share in 1995. This trend is expected to reverse as airlines shift to a higher percentage of air carrier operations over the forecast period in order to accommodate increased demand for air travel at a slot-controlled airport. By 2025, narrow-body jet aircraft are expected to account for 62 percent of domestic passenger flights. Narrow-body jet gauge is expected to increase from 142 seats in 2005 to 150 seats in 2025, as airlines operating at LGA replace the current fleet with aircraft with higher seat configurations such as the Boeing 737-800 and -900.
- Commuter carriers are expected to continue to operate a higher percentage of their operations with large regional jet aircraft. It is assumed that the operating advantages of these aircraft over smaller regional jets will make them increasingly attractive to commuter airlines and their mainline partners. By 2025, large regional jets such as the CR7 are forecast to account for 10 percent of domestic passenger operations.

- Small regional jet activity is projected to account for 20 percent of domestic passenger operations in 2025, down from 33 percent in 2005, due to an expected preference for larger regional jet aircraft by commuter operators at LGA.
- Although turboprop activity is projected to represent a declining share of domestic passenger activity at LGA, it is not expected to disappear completely, primarily because such a high percentage of routes served from the airport are within 750 miles.

Table VIII-8
LAGUARDIA DOMESTIC PASSENGER FLEET MIX

			Operations					Percent of Total				
Class	Aircraft	Seats	2005	2010	2015	2020	2025	2005	2010	2015	2020	2025
Widebody Jet												
	B763	207	2,136	4,112	4,372	4,560	4,794	0.6%	1.1%	1.2%	1.3%	1.3%
	B764	289	444	-	1,093	1,140	1,199	0.1%	0.0%	0.3%	0.3%	0.3%
	B767	207	1,812	-	-	-	-	0.5%	0.0%	0.0%	0.0%	0.0%
	Subtotal		**4,392**	**4,112**	**5,465**	**5,700**	**5,993**	**1.2%**	**1.1%**	**1.5%**	**1.6%**	**1.6%**
Narrow Body Jet												
	A319	127	37,034	42,312	42,627	44,460	46,742	10.1%	11.7%	12.0%	12.3%	12.3%
	A320	151	12,244	20,149	25,576	31,122	39,730	3.3%	5.6%	7.2%	8.6%	10.5%
	A321	184	3,930	4,634	5,115	5,558	5,843	1.1%	1.3%	1.4%	1.5%	1.5%
	A32S	201	653	-	-	-	-	0.2%	0.0%	0.0%	0.0%	0.0%
	B717	112	10,440	12,089	12,788	11,115	11,685	2.9%	3.4%	3.6%	3.1%	3.1%
	B732	101	266	-	-	-	-	0.1%	0.0%	0.0%	0.0%	0.0%
	B733	128	22,481	-	-	-	-	6.1%	0.0%	0.0%	0.0%	0.0%
	B734	146	1,367	-	-	-	-	0.4%	0.0%	0.0%	0.0%	0.0%
	B735	116	5,449	2,015	-	-	-	1.5%	0.6%	0.0%	0.0%	0.0%
	B738	152	16,240	30,223	33,249	40,681	57,258	4.4%	8.4%	9.4%	11.2%	15.1%
	B739	169	14	-	4,263	4,446	4,674	0.0%	0.0%	1.2%	1.2%	1.2%
	B73G	134	3,891	5,440	6,394	7,114	8,180	1.1%	1.5%	1.8%	2.0%	2.2%
	B73H	162	5,776	6,045	6,394	6,669	7,011	1.6%	1.7%	1.8%	1.8%	1.8%
	B753	232	-	2,015	4,263	5,558	7,011	0.0%	0.6%	1.2%	1.5%	1.8%
	B757	192	28,005	28,208	29,839	33,345	35,056	7.7%	7.8%	8.4%	9.2%	9.2%
	DC9	101	1,396	-	-	-	-	0.4%	0.0%	0.0%	0.0%	0.0%
	E90	100	-	4,030	8,525	10,004	10,517	0.0%	1.1%	2.4%	2.8%	2.8%
	M80/83	140	42,026	44,327	34,102	22,230	-	11.5%	12.3%	9.6%	6.1%	0.0%
	M90	152	4	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	Subtotal		**191,214**	**201,488**	**213,135**	**222,300**	**233,708**	**52.3%**	**55.9%**	**59.9%**	**61.3%**	**61.6%**
Large Regional Jet												
	CR7/E70	73	1,991	18,240	23,427	28,194	35,859	0.5%	5.1%	6.6%	7.8%	9.4%
	CR9	80	-	372	1,233	1,484	1,887	0.0%	0.1%	0.3%	0.4%	0.5%
	Subtotal		**1,991**	**18,612**	**24,660**	**29,678**	**37,746**	**0.5%**	**5.2%**	**6.9%**	**8.2%**	**9.9%**
Small Regional Jet												
	CRJ/ER4/ERJ	52	83,516	81,396	70,692	69,635	69,201	22.8%	22.6%	19.9%	19.2%	18.2%
	ER3	39	27,892	14,890	9,864	7,824	7,689	7.6%	4.1%	2.8%	2.2%	2.0%
	ERD	46	6,051	2,978	1,644	782	-	1.7%	0.8%	0.5%	0.2%	0.0%
	Subtotal		**117,459**	**99,264**	**82,200**	**78,242**	**76,890**	**32.1%**	**27.5%**	**23.1%**	**21.6%**	**20.3%**
Turboprop												
	BE1/J31	20	3,632	2,978	1,206	-	-	1.0%	0.8%	0.3%	0.0%	0.0%
	DH8/SH6/SF3	37	46,930	34,246	28,934	26,980	25,164	12.8%	9.5%	8.1%	7.4%	6.6%
	Subtotal		**50,562**	**37,224**	**30,140**	**26,980**	**25,164**	**13.8%**	**10.3%**	**8.5%**	**7.4%**	**6.6%**
Total Domestic Passenger			**365,618**	**360,700**	**355,600**	**362,900**	**379,500**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

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Sources: Port Authority of New York & New Jersey; *Official Airline Guide;* DOT, Schedule T-100.

VIII.1.2.2 International Passenger Operations

International passenger operations represented 6 percent of all commercial passenger operations at LGA in 2005. The majority (91 percent) of international flights at LGA are Canadian flights, with the remaining international flights bound for destinations in the Caribbean. Between 1995 and 2005, international passenger operations at LGA averaged growth of 0.9 percent per year, increasing from 21,620 operations in 1995 to 23,600 operations in 2025.

For purposes of developing the international passenger operations forecast, activity was segmented into Canadian operations and all other international operations. The historical and projected ASPD, load factor, and enplanements per departure projections from which the international operations forecast was calculated are presented in **Table VIII-9.**

Table VIII-9
LAGUARDIA INTERNATIONAL AIRCRAFT GAUGE AND LOAD FACTOR ASSUMPTIONS

		Canadian			All Other International		
	Calendar Year	ASPD	Load Factor	Enpl./ Dep.	ASPD	Load Factor	Enpl./ Dep.
Actual	1995	117.5	49.2%	57.8	149.2	70.0%	104.4
	2000	99.4	57.2%	56.9	167.5	69.4%	116.3
Estimate	2005	93.3	61.0%	56.9	142.9	71.0%	101.5
Estimate	2006	86.0	65.4%	56.3	110.0	74.8%	82.2
Forecast	2007	87.5	65.3%	57.1	110.0	74.8%	82.3
	2008	89.0	65.2%	58.0	110.0	74.9%	82.4
	2009	90.5	65.1%	58.9	110.0	74.9%	82.4
	2010	92.0	65.0%	59.8	110.0	75.0%	82.5
	2011	92.6	65.0%	60.2	110.0	75.0%	82.5
	2012	93.2	65.0%	60.6	110.0	75.0%	82.5
	2013	93.8	65.0%	61.0	110.0	75.0%	82.5
	2014	94.4	65.0%	61.4	110.0	75.0%	82.5
	2015	95.0	65.0%	61.8	110.0	75.0%	82.5
	2020	96.0	65.0%	62.4	110.0	75.0%	82.5
	2025	97.0	65.0%	63.1	110.0	75.0%	82.5
Average Annual Growth Rates							
	1995-2005	-2.3%	2.2%	-0.2%	-0.4%	0.1%	-0.3%
	2005-2015	0.2%	0.6%	0.8%	-2.6%	0.5%	-2.1%
	2015-2025	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%
	2005-2025	0.2%	0.3%	0.5%	-1.3%	0.3%	-1.0%

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Sources: Port Authority of New York & New Jersey; *Official Airline Guide;* DOT, Schedule T-100.

Canadian Operations

Between 1995 and 2005, Canadian operations at LGA increased moderately from 20,268 to an estimated 21,476 operations. Air Canada and American accounted for approximately 85 percent of all Canadian operations at LGA in 2005.

ASPD for Canadian operations declined from 117 in 1995 to 93 in 2005, as airlines shifted operations from narrow-body jet aircraft to regional jet aircraft in order to provide additional frequencies. An examination of future schedules published in the OAG shows that this trend toward smaller aircraft is expected to continue into 2006, with ASPD expected to fall to 86 seats. Thereafter, aircraft gauge is expected to increase gradually reaching 97 seats by 2025.

Load factors on Canadian flights increased from 49 percent in 1995 to 61 percent in 2005. Load factors for Canadian flights are expected to reach 65 percent in 2006 and remain relatively unchanged thereafter.

Based on the foregoing assumptions, Canadian passenger operations are expected to be relatively unchanged over the next twenty years. In 2025, 20,400 operations are forecast versus 21,500 in 2005.

All Other International Operations

All non-Canadian international operations at LGA over the past ten years have been bound for destinations in the Caribbean. In 2005, flight activity to the Caribbean accounted for 9 percent of international operations at LaGuardia. Historically, Delta and US Airways have been the sole providers of scheduled Caribbean service. In recent years, both American and Spirit have also added service from LGA to the Caribbean.

Caribbean-bound operations, albeit from a relatively small base, averaged growth of 4.6 percent per year, between 1995 and 2005. In 2005, 3 daily flight departures were operated to the Caribbean. There was not a significant change in aircraft gauge operated between LGA and the Caribbean with service being almost exclusively provided by narrow-body jet aircraft. In 2006, however, ASPD is expected to decline from 143 seats in 2005 to 110 seats. Airline schedule filings published in the OAG indicate that Delta will be replacing almost all its narrow-body jet service to the Caribbean with 70-seat regional jet service, operated by regional partner Comair. For purposes of developing the operations forecast, ASPD for LGA-Caribbean flights was held constant at 110 seats for the remainder of the forecast period. Load factors on LGA-Caribbean flights have hovered in the 70 percent range. With the reduction in LGA-Caribbean capacity projected in 2006, load factors are expected to reach 75 percent and remain constant thereafter. Consequently, international passenger operations (excluding Canadian) are expected to average about 2,700 annual operations over the 20-year forecast period.

International Passenger Fleet Mix

The development of the international passenger fleet mix at LGA used the identical top-down methodology as the domestic fleet mix. The allocation of international passenger operations by region and by aircraft type is shown in **Table VIII-10.** The primary assumptions underpinning the fleet mix forecast are summarized below:

- Canadian Assumptions:
    - Narrow-body jet aircraft are expected to represent a declining share of the Canadian fleet mix as airlines continue to shift operations to large regional jets such as the Embraer E-170 and E-190.
    - By 2025, large regional jets with seating configurations between 70 and 85 seats will account for over 34 percent of Canadian passenger operations, up from 4.6 percent today.
    - The decline in small regional jet service that has been witnessed since 2004 is expected to continue over the forecast period. By 2025, small regional jets are expected to account for 11 percent of Canadian operations, down from 39 percent in 2005.

- All Other International Operations Assumptions:
    - Narrow-body aircraft such as the A319 are expected to account for the majority of non-Canadian international operations.
    - Replacement aircraft such as the Boeing 737-700 and -800 are assumed to be operated on non-Canadian routes over the forecast period.
    - Large regional jet aircraft will account for 25 percent of the non-Canadian operations primarily as a result of Delta's apparent preference to serve Caribbean destinations with 70-seat regional jets rather than narrow-body jet aircraft.

Table VIII-10
LaGuardia International Passenger Fleet Mix

Canada Passenger Operations

Class	Aircraft	Seats	Operations 2005	2010	2015	2020	2025	Percent of Total 2005	2010	2015	2020	2025
Canadian												
Narrow Body Jet												
	A319	120	7,986	6,772	6,826	6,750	6,977	37.2%	34.2%	34.7%	33.8%	34.2%
	A320	166	1,075	579	550	513	459	5.0%	2.9%	2.8%	2.6%	2.3%
	A321	166	11	-	-	-	-	0.1%	0.0%	0.0%	0.0%	0.0%
	A32S	164	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B727	141	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B733	126	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B734	144	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B735	118	543	267	177	-	-	2.5%	1.4%	0.9%	0.0%	0.0%
	B737	118	75	-	-	-	-	0.3%	0.0%	0.0%	0.0%	0.0%
	B738	148	847	1,025	1,223	1,737	1,744	3.9%	5.2%	6.2%	8.7%	8.6%
	B73G	132	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B73W	136	590	-	-	-	-	2.7%	0.0%	0.0%	0.0%	0.0%
	B757	189	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	DC9	91	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	F100	95	140	-	-	-	-	0.7%	0.0%	0.0%	0.0%	0.0%
	M80/83	137	918	267	89	-	-	4.3%	1.4%	0.5%	0.0%	0.0%
	E90	100	17	392	1,138	1,568	1,975	0.1%	2.0%	5.8%	7.8%	9.7%
	Subtotal		**12,201**	**9,302**	**10,003**	**10,568**	**11,155**	**56.8%**	**47.0%**	**50.8%**	**52.8%**	**54.7%**
Large Regional Jet												
	CR7/E70	75	26	261	379	495	718	0.1%	1.3%	1.9%	2.5%	3.5%
	E75	73	955	5,881	6,068	6,188	6,283	4.4%	29.7%	30.8%	30.9%	30.8%
	Subtotal		**981**	**6,142**	**6,447**	**6,683**	**7,001**	**4.6%**	**31.0%**	**32.7%**	**33.4%**	**34.3%**
Small Regional Jet												
	BA142	90		-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	CRJ/ER4/E	50	4,957	2,483	1,820	1,458	1,077	23.1%	12.5%	9.2%	7.3%	5.3%
	ER3	37	2,733	1,568	1,203	1,100	1,010	12.7%	7.9%	6.1%	5.5%	5.0%
	ERD	44	604	305	228	193	157	2.8%	1.5%	1.2%	1.0%	0.8%
	Subtotal		**8,294**	**4,356**	**3,251**	**2,750**	**2,244**	**38.6%**	**22.0%**	**16.5%**	**13.8%**	**11.0%**
Total Canadian Passenger			**21,476**	**19,800**	**19,700**	**20,000**	**20,400**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Aircraft Fleet Mix - All Other International Passenger Operations
LaGuardia Airport

All Other International Passenger Operations (exc. Canada)

Class	Aircraft	Seats	Operations 2005	2010	2015	2020	2025	Percent of Total 2005	2010	2015	2020	2025
International excluding Canadian												
Widebody Jet												
	B763	204	39	-	-	-	-	1.8%	0.0%	0.0%	0.0%	0.0%
	B767	204	2	-	-	-	-	0.1%	0.0%	0.0%	0.0%	0.0%
	Subtotal		**41**	**-**	**-**	**-**	**-**	**1.9%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Narrow Body Jet												
	A319	121	984	1,620	1,620	1,620	1,620	46.4%	60.0%	60.0%	60.0%	60.0%
	A320	142	54	-	-	-	-	2.6%	0.0%	0.0%	0.0%	0.0%
	A321	-	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	A32S	120	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B727	149	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B733	127	240	-	-	-	-	11.3%	0.0%	0.0%	0.0%	0.0%
	B734	144	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B735	-	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B737	-	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B738	155	6	203	203	203	203	0.3%	7.5%	7.5%	7.5%	7.5%
	B73G	124	-	203	203	203	203	0.0%	7.5%	7.5%	7.5%	7.5%
	B73W	-	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B757	183	607	-	-	-	-	28.6%	0.0%	0.0%	0.0%	0.0%
	DC9	-	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	F100	-	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	M80/83	138	192	-	-	-	-	9.0%	0.0%	0.0%	0.0%	0.0%
	Subtotal		**2,083**	**2,025**	**2,025**	**2,025**	**2,025**	**98.1%**	**75.0%**	**75.0%**	**75.0%**	**75.0%**
Large Regional Jet												
	CR7/E70	**70**	**-**	**675**	**675**	**675**	**675**	**0.0%**	**25.0%**	**25.0%**	**25.0%**	**25.0%**
Total Other International			**2,124**	**2,700**	**2,700**	**2,700**	**2,700**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

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Sources: Port Authority of New York & New Jersey; *Official Airline Guide;* DOT, Schedule T-100.

VIII.1.2.3 Summary of LGA Commercial Passenger Operations

Table VIII-11 presents the forecast of operations for each of the primary components of passenger activity at LGA. Commercial passenger operations at LGA are forecast to average growth of 0.2 percent per year, increasing from 389,218 operations in 2005 to 402,600 operations in 2025. Increases in air carrier operations are expected to drive operations growth over the forecast period, averaging 0.9 percent per year. Commuter operations are forecast to decline through 2015 and then increase gradually thereafter. By 2025, 142,500 commuter passenger operations are forecast at LGA versus 172,136 operations in 2005.

Table VIII-11
LAGUARDIA FORECAST OF COMMERCIAL PASSENGER OPERATIONS

	Calendar	Domestic			International			Total—All Operations		
	Year	Air Carrier	Commuter	Total	Air Carrier	Commuter	Total	Air Carrier	Commuter	Total
Actual	1995	225,932	75,586	301,518	21,620	0	21,620	247,552	75,586	323,138
	2000	234,614	104,216	338,830	20,228	2,346	22,574	254,842	106,562	361,404
Estimate	2005	195,606	170,012	365,618	15,272	8,328	23,600	210,878	178,340	389,218
Estimate	2006	197,649	170,810	368,459	14,379	8,808	23,187	212,029	179,617	391,646
Forecast	2007	197,300	177,900	375,200	13,500	9,600	23,100	210,800	187,500	398,300
	2008	200,100	169,900	370,000	12,700	10,200	22,900	212,800	180,100	392,900
	2009	202,900	162,400	365,300	12,000	10,700	22,700	214,900	173,100	388,000
	2010	205,600	155,100	360,700	11,300	11,200	22,500	216,900	166,300	383,200
	2011	208,800	149,200	358,000	11,400	11,100	22,500	220,200	160,300	380,500
	2012	212,000	143,600	355,600	11,500	11,000	22,500	223,500	154,600	378,100
	2013	215,100	138,000	353,100	11,600	10,900	22,500	226,700	148,900	375,600
	2014	216,800	137,500	354,300	11,700	10,700	22,400	228,500	148,200	376,700
	2015	218,600	137,000	355,600	12,000	10,400	22,400	230,600	147,400	378,000
	2020	228,000	134,900	362,900	12,600	10,100	22,700	240,600	145,000	385,600
	2025	239,700	139,800	379,500	13,200	9,900	23,100	252,900	149,700	402,600
Average Annual Growth Rates										
	1995-2005	-1.4%	8.4%	1.9%	-3.4%	n/a	0.9%	-1.6%	9.0%	1.9%
	2005-2015	1.1%	-2.1%	-0.3%	-2.4%	2.2%	-0.5%	0.9%	-1.9%	-0.3%
	2015-2025	0.9%	0.2%	0.7%	1.0%	-0.5%	0.3%	0.9%	0.2%	0.6%
	2005-2025	1.0%	-1.0%	0.2%	-0.7%	0.9%	-0.1%	0.9%	-0.9%	0.2%

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Sources: Port Authority of New York & New Jersey; *Official Airline Guide;* DOT, Schedule T-100.

VIII.1.3 EWR Airport

Commercial passenger operations at EWR increased from 363,000 operations in 1995 to 392,000 operations in 2005, averaging growth of 0.8 percent per year. International passenger operations accounted for the entire increase, while domestic passenger operations declined. As a result, international operations accounted for almost 20 percent of total passenger operations in 2005, up from just 9 percent 10-years earlier.

As detailed previously, Continental operates both a domestic and international connecting hub at EWR. In 2005, Continental (including its regional partners) accounted for approximately 70 percent of all passenger operations at EWR. One of the fundamental assumptions of the enplaned passengers forecast is that Continental maintains and expands its hubbing operation at EWR over the 20-year forecast period. Consequently, understanding how Continental will strategically position itself in the future is of key importance in developing the assumptions underlying the EWR passenger operations forecast.

Continental's current fleet, along with firm orders and options is shown in **Table VIII-12**. As shown, the fleet mix of passenger aircraft operated at EWR is also expected to be heavily weighted by Continental's decisions more so than other airlines operating at EWR.

Table VIII-12
CONTINENTAL AIRLINES—CURRENT AND FUTURE FLEET

Aircraft Type	Total Aircraft	Owned	Leased	Firm Orders	Options
787-800	-	-	-	10	5
777-200ER	18	6	12	2	-
767-400ER	16	14	2	-	-
767-200ER	10	9	1	-	-
757-300	10	9	1	7	-
757-200	41	13	28	-	-
737-900	12	8	4	3	-
737-800	96	26	70	25	6
737-700	36	12	24	15	19
737-500	63	15	48	-	-
737-300	48	15	33	-	-
Mainline jets	350	127	223	62	30
ERJ-145XR	91	-	91	13	75
ERJ-145	140	18	122	-	-
ERJ-135	30	-	30	-	-
Regional jets	261	18	243	13	75
Total	611	145	466	75	105

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Source: Continental Airlines 10Q SEC Filing for the 3rd quarter 2005.

Note: Data does not include out of service aircraft.

Continental's mainline fleet is comprised entirely of Boeing aircraft. Boeing 737 variants account for 73 percent of Continental's active fleet. Notably, future Boeing 737 orders focus on the Boeing 737-700, -800, and -900 series of aircraft. Boeing 757 aircraft account for an additional 15 percent of Continental's fleet. Continental is currently using Boeing 757 aircraft to make a major push into second tier European markets. Wide-body aircraft account for 13 percent of Continental's mainline operations and are made up of Boeing 767 and 777 aircraft. Continental has orders for ten next generation Boeing 787-800 jumbo jet aircraft and these are expected to be delivered in 2009.

JetBlue is also a small but key component of the EWR operations forecast. JetBlue began service at EWR in October 2005 and currently operates 15 daily flight departures from 3 gates in Terminal A. The airline plans a relatively aggressive expansion of service in the near-term. It is assumed for purposes of the forecast that JetBlue operates 27 daily flights at EWR by no later than 2010.

VIII.1.3.1 Domestic Passenger Operations

Domestic air carrier operations declined from 331,000 operations in 1995 to 319,000 operations in 2005, representing negative growth of 0.4 percent per year. Much of the decline in passenger operations occurred after 2001, as Continental airlines and others adjusted their domestic schedules to better match capacity with demand during a recession and the post 9-11 operating environment. The start-up of JetBlue at JFK also caused some traffic to leak to JFK causing service on certain domestic routes to be trimmed at EWR.

Table VIII-13 details historical and projected ASPD, load factor, and enplanements per departure projections, from which the domestic operations forecasts were developed.

Table VIII-13
NEWARK DOMESTIC AIRCRAFT GAUGE AND LOAD FACTOR ASSUMPTIONS

		Domestic Air Carrier			Domestic Commuter		
	Calendar Year	ASPD	Load Factor	Enpl./ Dep.	ASPD	Load Factor	Enpl./ Dep.
Actual	1995	145.2	61.9%	89.9	40.5	49.0%	19.8
	2000	138.6	66.2%	91.8	43.5	61.7%	26.9
Estimate	2005	141.5	74.0%	104.7	49.1	68.1%	33.4
Estimate	2006	139.0	77.0%	107.0	49.2	69.0%	33.9
Forecast	2007	139.5	76.7%	107.1	49.6	69.0%	34.3
	2008	140.0	76.5%	107.1	50.1	69.0%	34.6
	2009	140.5	76.2%	107.1	50.5	69.0%	34.9
	2010	141.0	76.0%	107.2	51.0	69.0%	35.2
	2011	141.0	75.8%	106.9	51.0	69.0%	35.2
	2012	141.0	75.6%	106.6	51.0	69.0%	35.2
	2013	141.0	75.4%	106.3	51.0	69.0%	35.2
	2014	141.0	75.2%	106.0	51.0	69.0%	35.2
	2015	141.0	75.0%	105.8	51.0	69.0%	35.2
	2020	142.0	75.0%	106.5	51.0	69.0%	35.2
	2025	142.0	75.0%	106.5	52.0	69.0%	35.9
Average Annual Growth Rates							
	1995-2005	-0.3%	1.8%	1.5%	1.9%	3.4%	5.4%
	2005-2015	0.0%	0.1%	0.1%	0.4%	0.1%	0.5%
	2015-2025	0.1%	0.0%	0.1%	0.2%	0.0%	0.2%
	2005-2025	0.0%	0.1%	0.1%	0.3%	0.1%	0.4%

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Source: Landrum & Brown, Inc.

Domestic Air Carrier

EWR experienced a net decline in domestic air carrier operations. Between 1995 and 2000, domestic air carrier operations were relatively unchanged but then declined sharply between 2001 and 2005. As a result, 178,957 domestic air carrier operations were reported at EWR in 2005 versus 231,726 operations in 1995. A major reason for the decline in air carrier operations in recent years has been the shift by Continental of portions of its mainline operation to its regional partner Continental Express.

ASPD for domestic air carriers was relatively unchanged between 1995 and 2005. In 2005, there were 141 seats per flight on average. This is not expected to change materially over the forecast period, with ASPD projected to be 142 seats by 2025.
Domestic air carrier load factors at EWR increased from 62 percent in 1995 to 74 percent in 2005. With the expected growth in operations of JetBlue, which typically operate at higher load factors than the current average at EWR, it is assumed that load factors will continue to increase into 2006. Over the longer term, domestic air carrier load actors are expected to moderate at 75 percent.

The result of the foregoing assumptions coupled with the domestic air carrier enplanement forecast is that domestic air carrier operations are projected to average growth of 2.2 percent per year between 2005 and 2025. By the end of the forecast period, a total of 275,100 domestic air carrier operations are projected up from 178,957 operations in 2005.

Domestic Commuter

Domestic commuter operations have accounted for a relatively large share of domestic passenger operations at EWR, over the past ten years, due to the presence of Continental's hub at the airport. During the latter half of the 1990s it appeared that Continental was putting a declining emphasis on its regional partner. Since, 2000, however, there has been a material increase in domestic commuter activity at EWR as Continental has sought to replace and supplement mainline operations with smaller regional jet aircraft in order to maintain frequencies. In 2005, domestic commuter operations accounted for 44 percent of domestic passenger operations, up from 30 percent in 1995.

ASPD for domestic commuter carriers increased from 40 seats in 1995 to 49 seats in 2005. Over the ten year period, Continental shifted its regional partner (Continental Express) operations from entirely turboprop operations to higher gauge regional jet operations. The historical up tick in gauge is expected to continue at EWR but at a relatively gradual rate. Continental currently has a scope clause which prohibits the operation of aircraft with 70 seats and above by its regional partners. While these clauses have the potential to be relaxed (even eradicated) over the next twenty years, for purposes of the forecast it is assumed that it will constrain commuter gauge at EWR. As a result, domestic commuter ASPD is expected to reach 52 seats by 2025.

In 2005, domestic commuter load factors were 68 percent, up from 49 percent in 1995. Load factors are expected to increase to 69 percent in 2006 as domestic commuter capacity is held relatively flat. Thereafter, domestic commuter load factors at EWR were held constant at 69 percent for the remainder of the forecast period.

Based on the domestic commuter ASPD and load factor assumptions, domestic commuter operations at EWR are forecast to average growth of 0.4 percent over the forecast period, reaching 167,200 operations by 2025 (versus 140,000 operations in 2005).

Domestic Passenger Fleet Mix

Once the aggregate level operations forecasts were developed for domestic air carrier and domestic commuter activity, a top-down approach was employed to allocate these operations to aircraft groups and specific aircraft types. The fleet mix was developed to match the aggregate level ASPD targets for domestic air carrier and domestic commuter categories presented in the previous subsections. However, the fleet mix also allowed for the calibration of those assumptions and where

appropriate modifications were made prior to finalizing the assumptions presented above.

Domestic air carrier operations were segmented into two primary aircraft groups: (1) wide-body jet aircraft (FAA Design Group IV/ICAO Code D) and (2) narrow-body (FAA Design Group III/ICAO Code C) jet aircraft. Wide-body aircraft refer to commercial airliners with more than one aisle in the passenger cabin. Examples of wide-body aircraft include the Boeing 767 and A300. Narrow-body jet aircraft refer to commercial airliners with a single aisle in the passenger cabin. Examples include the Airbus 320 and Boeing 737.

Domestic commuter operations were segmented into three primary aircraft groups: (1) Large regional jet aircraft, (2) small regional jet aircraft, and (3) turboprop aircraft. Large regional jet aircraft are defined as those with a seating configuration of greater than 50 seats and less than 85 seats. Examples include the 70 seat Embraer-170 regional jet and the 80-seat Canadair-900. Small regional jets typically range from seating configurations of 37-seat aircraft such as the Embraer-135 to the 50-seat Canadair regional jet. Turboprop aircraft are simply defined as all commuter propeller-driven (i.e. non-jet) aircraft.

The allocation of domestic passenger operations by aircraft type is shown in **Table VIII-14.** The primary assumptions underpinning the fleet mix forecast are summarized below:

- Wide-body jet activity will continue to account for less than 1 percent of domestic passenger operations at EWR over the next twenty years.
- Narrow-body jet activity is expected to account for 62 percent of domestic passenger operations by 2025, up from 55 percent in 2005. Service expansion by Continental and JetBlue is expected to drive growth in domestic narrow-body jet operations. As a result, a significant increase in A320 and E190 operations are forecast at EWR. Continental's fleet plans are also built into the narrow-body fleet mix assumptions, with Boeing 737-700, -800, and -900 models all expected to account for a greater share of domestic passenger operations at EWR.
- Regional jet activity is expected to represent a declining share of domestic passenger operations over the forecast period. Due to scope clauses prohibiting the use of larger regional jets by Continental Express the regional jet fleet is expected to continue to be dominated by aircraft such as the 50-seat ERJ.
- No turboprops are operated at EWR today, nor are they projected during the forecast period.

Table VIII-14
NEWARK DOMESTIC PASSENGER FLEET MIX

			Operations					Percent of Total				
Class	Aircraft	Seats	2005	2010	2015	2020	2025	2005	2010	2015	2020	2025
Wide Body Jet												
	B762	178	1,196	1,726	1,840	1,735	1,631	0.4%	0.5%	0.5%	0.4%	0.4%
	B763	205	10	3	3	3	3	0.0%	0.0%	0.0%	0.0%	0.0%
	B764	241	884	541	577	544	511	0.3%	0.1%	0.1%	0.1%	0.1%
	B767	241	33	59	63	59	56	0.0%	0.0%	0.0%	0.0%	0.0%
	B777	290	344	-	-	-	-	0.1%	0.0%	0.0%	0.0%	0.0%
	Subtotal		**2,467**	**2,329**	**2,483**	**2,342**	**2,201**	**0.8%**	**0.6%**	**0.6%**	**0.6%**	**0.5%**
Narrow Body Jet												
	A319	125	5,299	9,223	9,341	9,799	10,097	1.7%	2.4%	2.3%	2.3%	2.3%
	A320	156	10,011	27,669	34,414	38,679	41,208	3.1%	7.2%	8.5%	9.1%	9.3%
	B717	109	5,754	11,529	12,291	10,314	8,187	1.8%	3.0%	3.0%	2.4%	1.9%
	B732	102	2,528	-	-	-	-	0.8%	0.0%	0.0%	0.0%	0.0%
	B733	127	14,301	10,376	-	-	-	4.5%	2.7%	0.0%	0.0%	0.0%
	B734	148	1,764	1,153	983	774	546	0.6%	0.3%	0.2%	0.2%	0.1%
	B735	117	38,132	46,114	47,443	48,477	50,486	12.0%	12.0%	11.7%	11.4%	11.4%
	B738	159	30,067	46,114	58,996	62,402	70,954	9.4%	12.0%	14.6%	14.7%	16.0%
	B739	172	3,908	9,223	9,833	10,314	10,916	1.2%	2.4%	2.4%	2.4%	2.5%
	B73G	127	10,101	18,446	27,040	30,685	32,748	3.2%	4.8%	6.7%	7.2%	7.4%
	B757	187	32,798	29,974	30,727	30,943	31,383	10.3%	7.8%	7.6%	7.3%	7.1%
	DC9	107	5,922	2,306	-	-	-	1.9%	0.6%	0.0%	0.0%	0.0%
	E90/F100	100	-	4,611	7,375	10,314	13,645	0.0%	1.2%	1.8%	2.4%	3.1%
	M80/83	142	15,905	13,834	7,375	5,157	2,729	5.0%	3.6%	1.8%	1.2%	0.6%
	Subtotal		**176,490**	**230,571**	**245,817**	**257,858**	**272,899**	**55.3%**	**60.2%**	**60.7%**	**60.9%**	**61.7%**
Large Regional Jet												
	ARJ	72	770	7,685	9,139	10,721	12,204	0.2%	2.0%	2.3%	2.5%	2.8%
	CR7/E70	73	715	-	-	-	-	0.2%	0.0%	0.0%	0.0%	0.0%
	CR7/E70/E75/F28	73	595	403	480	563	641	0.2%	0.1%	0.1%	0.1%	0.1%
	CR9	80	-	2,440	2,902	3,404	3,875	0.0%	0.6%	0.7%	0.8%	0.9%
	Subtotal		**2,080**	**10,528**	**12,520**	**14,688**	**16,720**	**0.7%**	**2.7%**	**3.1%**	**3.5%**	**3.8%**
Small Regional Jet												
	CRJ/ER4/ERJ	52	122,111	128,682	135,341	142,572	147,470	38.3%	33.6%	33.4%	33.7%	33.3%
	ER3	38	10,976	10,612	8,639	5,940	3,010	3.4%	2.8%	2.1%	1.4%	0.7%
	ERD	46	4,711	578	-	-	-	1.5%	0.2%	0.0%	0.0%	0.0%
	FRJ	33	162	-	-	-	-	0.1%	0.0%	0.0%	0.0%	0.0%
	Subtotal		**137,959**	**139,872**	**143,980**	**148,512**	**150,480**	**43.2%**	**36.5%**	**35.6%**	**35.1%**	**34.0%**
Total Domestic Passenger Operations			**318,996**	**383,300**	**404,800**	**423,400**	**442,300**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

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Sources: Port Authority of New York & New Jersey; *Official Airline Guide;* DOT, Schedule T-100.

VIII.1.3.2 International Passenger Operations

International operations have more than doubled at EWR between 1995 and 2005. A strategic emphasis by Continental on international operations has driven much of the growth in international passenger activity at the airport. Indeed, in 2005, Continental (including Continental Express) accounted for approximately 70 percent of international passenger flights at EWR and 64 percent of international seats. In 2005, a total of 73,500 international passenger operations were reported at EWR versus 31,800 operations in 1995, representing average growth of 8.7 percent annually. In relative terms, EWR's current volume of international operations is a little over two-thirds that of JFK. Europe is the primary region served from EWR, accounting for approximately 60 percent of international airline capacity at EWR. Latin America and Caribbean destinations account for an additional 24 percent of international capacity at EWR, with Canadian (11 percent share) and trans-Pacific (5 percent) capacity accounting for the remaining international capacity offered at EWR.

For purposes of developing the international passenger operations forecast, activity was segmented into Canadian operations and all other international operations. **Table VIII-15** presents historical and projected ASPD, load factor, and enplanements per departure projections from which the international operations forecasts were calculated.

Table VIII-15
NEWARK INTERNATIONAL AIRCRAFT GAUGE AND LOAD FACTOR ASSUMPTIONS

		Canadian			International-All Other		
	Calendar Year	ASPD	Load Factor	Enpl./ Dep.	ASPD	Load Factor	Enpl./ Dep.
Actual	1995	85.0	53.9%	45.8	234.5	68.9%	161.6
	2000	88.9	60.5%	53.8	236.3	69.5%	164.3
Estimate	2005	65.2	64.0%	41.7	199.9	80.4%	160.8
Estimate	2006	67.3	64.2%	43.3	196.8	80.3%	158.1
Forecast	2007	67.5	64.4%	43.5	196.1	80.3%	157.5
	2008	67.7	64.6%	43.7	195.4	80.3%	156.9
	2009	67.8	64.8%	44.0	194.7	80.3%	156.4
	2010	68.0	65.0%	44.2	194.0	80.3%	155.8
	2011	68.2	65.2%	44.5	195.0	80.3%	156.6
	2012	68.4	65.4%	44.7	196.0	80.3%	157.4
	2013	68.6	65.6%	45.0	197.0	80.3%	158.2
	2014	68.8	65.8%	45.3	198.0	80.3%	159.0
	2015	69.0	66.0%	45.5	199.0	80.3%	159.8
	2020	71.0	66.0%	46.9	199.0	80.3%	159.8
	2025	72.0	67.0%	48.2	199.0	80.3%	159.8
Average Annual Growth Rates							
	1995-2005	-2.6%	1.7%	-0.9%	-1.6%	1.6%	-0.1%
	2005-2015	0.6%	0.3%	0.9%	0.0%	0.0%	-0.1%
	2015-2025	0.4%	0.2%	0.6%	0.0%	0.0%	0.0%
	2005-2025	0.5%	0.2%	0.7%	0.0%	0.0%	0.0%

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Sources: Port Authority of New York & New Jersey; *Official Airline Guide;* DOT, Schedule T-100.

International Canadian Operations

Between 1995 and 2005, Canadian operations at EWR increased moderately from 11,200 operations in 1995 to 21,200 operations in 2005. Historically, Continental (including Express) and Air Canada (including Air Canada Jazz) have provided the majority of EWR-Canadian service.

ASPD for Canadian operations declined from 85 seats per flight in 1995 to 65 seats per flight in 2005, as airlines shifted an increasing number of operations from narrow-body jet aircraft to regional jet aircraft in order to provide additional

frequencies. By 2005, regional jet activity accounted for 80 percent of all EWR-Canadian operations. In 2006, the trend toward smaller aircraft is expected to reverse somewhat as airlines shift to larger regional jet aircraft such as the Embraer-170 and as narrow-body jet activity increases. This recent upward trend is expected to continue over the forecast period as airlines such as Air Canada take advantage of the 100 seat Embraer-190. By 2025, ASPD is expected to increase to 72 seats on EWR-Canadian routes.

Load factors on Canadian flights increased from 54 percent in 1995 to 64 percent in 2005. Load factors for Canadian flights are expected to continue to increase over the forecast period, reaching 67 percent by 2025.

Based on the prior ASPD and load factor assumptions, Canadian operations at EWR are expected to average growth of 1.8 percent annually over the next twenty years. In 2025, 30,400 Canadian operations are forecast at EWR versus 21,200 operations in 2005.

Other International Operations

In 2005, non-Canadian international passenger activity accounted for 71 percent of all international passenger operations. Air service to other international destinations increased from 20,670 operations in 1995 to 52,318 operations in 2025. In absolute terms, air service increases from EWR to Europe accounted for the largest share of the incremental service.

Notably, international ASPD for non-Canadian service has historically been lower at EWR than at JFK. For example, ASPD in 2005 for non-Canadian service was 244 seats at JFK compared with 200 seats at EWR. In part, this is due to a slightly higher percentage of Latin American and Caribbean air service at EWR, which are typically served using narrow-body jet aircraft. Another reason for the smaller aircraft gauge at EWR is Continental's decision to serve European markets with a limited number of jumbo (FAA Design Group V/ICAO CODE E) jet aircraft. However, Continental has outlined an aggressive system-wide expansion of international service for 2006 and beyond. At EWR, this expansion seems to be focused toward secondary European markets using Boeing 757-200 and 757-300 aircraft. As a result, ASPD for non-Canadian operations is expected to continue to decline through 2010 to 194 seats. Thereafter, non-Canadian gauge is expected to increase gradually to 199 seats by 2025.

Load factors on non-Canadian flights are comparatively high at EWR, 80 percent in 2005 versus 69 percent in 1995. Over the forecast period, load factors are expected to remain relatively constant at 80 percent.

Based on the foregoing assumptions, international passenger operations (excluding Canadian activity) are forecast to average growth of 4.3 percent per year. By 2025, 122,000 international passenger operations (excluding Canadian operations) are forecast, up from 52,000 operations in 2005.

International Passenger Fleet Mix

The development of the international passenger fleet mix used the identical top-down methodology as the domestic fleet mix. The allocation of international passenger operations by region and by aircraft type is shown in **Table VIII-16** and **Table VIII-17.** The primary assumptions underpinning the fleet mix forecast are summarized below:

- Canadian Assumptions:
    - Narrow-body jet activity is assumed to account for an increasing share of Canadian activity at EWR. In particular, airlines such as Air Canada are expected to take advantage of smaller narrow-body jet aircraft such as the Embraer-190. It is worth noting that Air Canada had orders for 40 E190 aircraft as of February 2006.
    - The recent scheduled increases in larger regional jet service to Canadian markets from EWR are expected to continue over the forecast period. By 2025, large regional jets are forecast to account for 20 percent of Canadian operations at EWR.
    - While small regional jet activity is expected to represent a declining share of Canadian activity at EWR, it is still expected to be the primary mode of transportation from EWR to Canadian destinations. This is in part due to the scope limitations discussed in the previous section regarding Continental's pilot scope clause for its Express affiliate.
- Other International Operations:
    - Jumbo jet activity at EWR is expected to increase, accounting for a 29 percent share of other international passenger operations. Growth is expected to be driven by the increased deployment of Boeing 777 aircraft, which currently accounts for most of the jumbo jet activity at EWR, and the next generation Boeing 787, which Continental is expected to bring online by 2010. The deployment of the Airbus A380 is less far less certain at EWR than it is at JFK, with only one carrier expressing any interest in deploying one flight per day for passenger air service. For planning purposes, the A380 was not factored into the EWR passenger aircraft fleet mix.
    - Wide-body aircraft are expected to represent a declining share of the non-Canadian fleet. Virtually all the wide-body activity is currently accounted for by Boeing 767 aircraft at EWR. Over the forecast period, aircraft such as the Boeing 787 and A350 are expected to be preferred over these older wide-body aircraft.

- Narrow-body jet aircraft are projected to account for 56 percent of non-Canadian passenger operations by 2025, up from 47 percent in 2005. Through 2010, relatively robust growth in Boeing 757 operations is assumed as Continental expands it European activity at EWR. As in the domestic fleet, newer Boeing aircraft such as the Boeing 737-700 and -800, along with the E190, are expected to account for a greater share of the international fleet.

Table VIII-16
NEWARK INTERNATIONAL PASSENGER FLEET MIX—CANADIAN

			Operations					Percent of Total				
Class	Aircraft	Seats	2005	2010	2015	2020	2025	2005	2010	2015	2020	2025
Canada												
Narrow Body Jet												
	A319	120	1,415	1,856	1,808	1,775	1,642	6.7%	7.7%	6.9%	6.3%	5.4%
	A320	166	251	-	-	-	-	1.2%	0.0%	0.0%	0.0%	0.0%
	A321	166	2	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B733	124	288	-	-	-	-	1.4%	0.0%	0.0%	0.0%	0.0%
	B735	114	1,006	1,060	964	923	821	4.8%	4.4%	3.7%	3.3%	2.7%
	B737/B73G	124	728	265	482	710	985	3.4%	1.1%	1.8%	2.5%	3.2%
	B738	155	342	901	964	1,065	1,149	1.6%	3.7%	3.7%	3.8%	3.8%
	E90	100	14	1,219	1,808	2,627	3,612	0.1%	5.1%	6.9%	9.3%	11.9%
	F100	95	212	-	-	-	-	1.0%	0.0%	0.0%	0.0%	0.0%
	Subtotal		**4,257**	**5,302**	**6,026**	**7,100**	**8,208**	**20.1%**	**22.0%**	**23.0%**	**25.0%**	**27.0%**
Large Regional Jet												
	CR7/E70/E75	**74**	**942**	**2,820**	**4,035**	**4,899**	**5,770**	**4.5%**	**11.7%**	**15.4%**	**17.3%**	**19.0%**
Small Regional Jet												
	CRJ/ER4/ERJ	50	14,629	15,339	15,655	15,909	16,012	69.1%	63.6%	59.8%	56.0%	52.7%
	ER3	37	1,174	639	484	492	411	5.5%	2.7%	1.8%	1.7%	1.4%
	Subtotal		**15,803**	**15,978**	**16,139**	**16,401**	**16,422**	**74.7%**	**66.3%**	**61.6%**	**57.8%**	**54.0%**
Turboprop												
	DH3	**50**	**160**	**-**	**-**	**-**	**-**	**0.8%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total Canada Passenger Ops			**21,162**	**24,100**	**26,200**	**28,400**	**30,400**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

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Sources: Port Authority of New York & New Jersey; *Official Airline Guide;* DOT, Schedule T-100.

Table VIII-17
NEWARK INTERNATIONAL PASSENGER FLEET MIX-ALL OTHER

			Operations					Percent of Total				
Class	Aircraft	Seats	2005	2010	2015	2020	2025	2005	2010	2015	2020	2025
International (exc. Canada)												
Jumbo Jet												
	A340 (100 thru 500)	230	1,955	2,772	3,222	3,655	4,242	3.7%	4.0%	3.9%	3.6%	3.5%
	A346	306	403	-	-	-	-	0.8%	0.0%	0.0%	0.0%	0.0%
	B747 (Mixed)	285	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B747-100/200	379	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B747-300/400	399	2,537	2,426	2,992	3,936	4,772	4.8%	3.5%	3.6%	3.9%	3.9%
	B777	272	9,404	10,395	12,659	14,618	18,206	18.0%	15.0%	15.4%	14.6%	14.9%
	B787	250	-	1,733	3,452	5,060	7,070	0.0%	2.5%	4.2%	5.0%	5.8%
	A350	275	-	-	690	843	1,061	0.0%	0.0%	0.8%	0.8%	0.9%
	A380	555	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	Subtotal		**14,299**	**17,325**	**23,016**	**28,112**	**35,351**	**27.3%**	**25.0%**	**28.0%**	**28.0%**	**29.0%**
Wide Body Jet												
	A310	204	902	699	829	906	970	1.7%	1.0%	1.0%	0.9%	0.8%
	A330	257	1,590	2,047	2,811	3,414	4,023	3.0%	3.0%	3.4%	3.4%	3.3%
	B763	243	253	436	577	289	127	0.5%	0.6%	0.7%	0.3%	0.1%
	B764	236	2,654	3,275	3,436	3,755	3,840	5.1%	4.7%	4.2%	3.7%	3.2%
	B767-100/200	186	7,612	6,711	7,965	8,705	9,325	14.5%	9.7%	9.7%	8.7%	7.7%
	Subtotal		**13,011**	**13,167**	**15,618**	**17,068**	**18,285**	**24.9%**	**19.0%**	**19.0%**	**17.0%**	**15.0%**
Narrow Body Jet												
	A319	48	714	776	653	690	853	1.4%	1.1%	0.8%	0.7%	0.7%
	A320	159	916	1,200	1,347	1,707	2,111	1.8%	1.7%	1.6%	1.7%	1.7%
	A321	187	172	-	-	-	-	0.3%	0.0%	0.0%	0.0%	0.0%
	B733	124	1,703	1,164	-	-	-	3.3%	1.7%	0.0%	0.0%	0.0%
	B735	114	14	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	B73G	124	5,620	6,209	6,971	8,835	10,922	10.7%	9.0%	8.5%	8.8%	9.0%
	B739	167	132	1,495	3,639	6,407	10,651	0.3%	2.2%	4.4%	6.4%	8.7%
	B73W	44	610	797	895	1,135	1,403	1.2%	1.2%	1.1%	1.1%	1.2%
	B738	142	4,601	7,762	9,585	12,701	16,383	8.8%	11.2%	11.7%	12.7%	13.4%
	B757	174	10,221	17,464	17,862	19,879	20,479	19.5%	25.2%	21.7%	19.8%	16.8%
	DC9	105	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	E90	100	-	1,940	2,614	3,865	5,461	0.0%	2.8%	3.2%	3.9%	4.5%
	Subtotal		**24,704**	**38,808**	**43,566**	**55,220**	**68,264**	**47.2%**	**56.0%**	**53.0%**	**55.0%**	**56.0%**
Small Regional Jet												
	CRJ/ER4/ERJ	**50**	**304**	**-**	**-**	**-**	**-**	**0.6%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Total International Passenger Ops			**52,318**	**69,300**	**82,200**	**100,400**	**121,900**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

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Sources: Port Authority of New York & New Jersey; *Official Airline Guide;* DOT, Schedule T-100.

VIII.1.3.3 Summary of EWR Airport Commercial Passenger Operations

Table VIII-18 presents the forecast of operations for each of the primary components of commercial passenger activity. Commercial passenger operations at EWR are forecast to average growth of 2.1 percent per year, increasing from 392,000 operations in 2005 to 595,000 operations in 2025. International operations are expected to drive growth in commercial passenger operations at EWR, averaging growth of 3.7 percent per year. By 2025, international passenger activity is forecast to account for 26 percent of total passenger operations at EWR, up from 19 percent in 2005.

Table VIII-18
NEWARK FORECAST OF COMMERCIAL PASSENGER OPERATIONS

	Calendar	Domestic			International			Total—All Operations		
	Year	Air Carrier	Commuter	Total	Air Carrier	Commuter	Total	Air Carrier	Commuter	Total
Actual	1995	231,726	99,178	330,904	25,210	6,632	31,842	256,936	105,810	362,746
	2000	258,762	78,000	336,762	57,510	5,068	62,578	316,272	83,068	399,340
Estimate	2005	178,957	140,039	318,996	55,716	17,814	73,530	234,673	157,853	392,526
Estimate	2006	189,199	139,941	329,140	59,065	20,005	79,071	248,264	159,947	408,211
Forecast	2007	197,800	145,100	342,900	62,600	18,100	80,700	260,400	163,200	423,600
	2008	208,800	146,900	355,700	66,400	18,100	84,500	275,200	165,000	440,200
	2009	220,500	148,700	369,200	70,400	18,400	88,800	290,900	167,100	458,000
	2010	232,900	150,400	383,300	74,600	18,800	93,400	307,500	169,200	476,700
	2011	235,900	151,600	387,500	77,100	19,100	96,200	313,000	170,700	483,700
	2012	238,900	152,800	391,700	79,700	19,400	99,100	318,600	172,200	490,800
	2013	242,000	154,000	396,000	82,400	19,700	102,100	324,400	173,700	498,100
	2014	245,100	155,200	400,300	85,200	20,100	105,300	330,300	175,300	505,600
	2015	248,300	156,500	404,800	88,200	20,200	108,400	336,500	176,700	513,200
	2020	260,200	163,200	423,400	107,500	21,300	128,800	367,700	184,500	552,200
	2025	275,100	167,200	442,300	130,100	22,200	152,300	405,200	189,400	594,600
Average Annual Growth Rates										
	1995-2005	-2.6%	3.5%	-0.4%	8.3%	10.4%	8.7%	-0.9%	4.1%	0.8%
	2005-2015	3.3%	1.1%	2.4%	4.7%	1.3%	4.0%	3.7%	1.1%	2.7%
	2015-2025	1.0%	0.7%	0.9%	4.0%	0.9%	3.5%	1.9%	0.7%	1.5%
	2005-2025	2.2%	0.9%	1.6%	4.3%	1.1%	3.7%	2.8%	0.9%	2.1%

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Sources: Port Authority of New York & New Jersey; *Official Airline Guide;* DOT, Schedule T-100.

VIII.2 All-Cargo operations Forecast

The forecast of air cargo tonnage for all-cargo operators was used to derive the operations forecast, based on assumptions of air cargo tonnage handled per flight. Historical all-cargo operations by aircraft type, T100 data, were analyzed to better understand the fleet mix for the all-cargo carriers at Kennedy and Newark for years 2003 and 2004. Additionally, aircraft orders of the largest all-cargo carriers were analyzed to evaluate how all-cargo carriers' fleet mix at the two airports might evolve in the future. Ultimately, these analyses allowed for the projection of all-cargo operations by aircraft type. In addition, other air cargo reports, International Air Freight and Express Industry Performance Analysis 2005 by the Air Cargo Management Group and press releases were reviewed to develop viable assumptions to find out if and when new aircraft such as the Airbus A380 and Boeing 747-800 aircrafts will start operating to airports in the region.

VIII.2.1 JFK Airport

As shown in **Tables VIII-19 and VIII-20**, Domestic and international cargo operations are expected to grow at 0.6 percent and 1 percent respectively. The reason for lower operations growth compared to cargo tonnage is due to the expected increase in aircraft size over the forecast period. With more and more Airbus A300s entering domestic service and airlines such as Kalitta, a B-747 operator, increasing service at the airport it is most likely that the domestic cargo fleet at JFK and in turn cargo tons per flight will increase. With increase in costs, airlines will look to reduce per unit cost by transporting more cargo tons in each flight. On the other hand international aircraft gauge can be expected to increase in the future. A number of combination airlines have placed orders for wide body aircrafts that will most likely be introduced in to service at JFK.

Table VIII-19
KENNEDY ALL-CARGO FLEET FORECAST

		2003	2004	2005	2010	2015	2020	2025
Total Cargo Operations		**23,994**	**23,977**	**23,171**	**25,253**	**26,107**	**26,847**	**27,537**
Domestic Cargo Operations		**8,831**	**9,274**	**8,769**	**9,053**	**9,345**	**9,647**	**9,959**
Wide Body Operations	**Subtotal**	**6,482**	**6,580**	**6,314**	**6,609**	**7,009**	**7,428**	**7,868**
	A300-600/B4	3,007	2,895	2,841	3,172	3,434	3,714	4,012
	B747-100/200/300/400/F	1,756	1,906	1,863	1,983	2,173	2,303	2,439
	DC-10-10/30/CF/40	1,201	1,295	1,168	661	350	149	79
	MD-11	499	444	379	463	421	297	157
	A310-200	17	22	32	132	210	297	236
	B767-200/300/ER/400	2	18	32	198	421	669	944
Narrow Body Operations	**Subtotal**	**2,342**	**2,686**	**2,447**	**2,444**	**2,336**	**2,219**	**2,091**
	DC-9-10/15/F/30/40/50	905	966	856	733	584	444	314
	DC-8-62/63/71/73/F	773	789	710	611	491	377	314
	B727-100/C/QC/200	273	563	538	562	537	444	376
	B757-200/300	390	367	343	513	654	843	941
	B737-300/C	0	0	0	24	70	111	146
Other Operations	**Subtotal**	**6**	**8**	**9**	**0**	**0**	**0**	**0**
	Dassault/Falcon	3	3	4	0	0	0	0
	Cessna 208	3	5	4	0	0	0	0
International Cargo Operations		**15,163**	**14,703**	**14,402**	**16,200**	**16,762**	**17,200**	**17,578**
Wide Body Operations	**Subtotal**	**14,526**	**13,548**	**13,394**	**15,228**	**15,924**	**16,512**	**17,050**
	B747-100/200/300/400/F	11,507	10,616	10,447	11,878	11,943	11,558	11,083
	MD-11	2,776	2,706	2,679	2,741	2,389	1,981	1,705
	DC-10-10/30/CF/40	179	198	201	152	80	0	0
	B767-200/300/ER/400	46	27	40	152	478	826	1,194
	B-777	11	0	13	76	239	495	853
	Antonov 124/225	7	1	0	0	0	0	0
	A300-600/B4	1	0	13	76	478	1,073	1,194
	B747-800	0	0	0	76	159	330	682
	A380	0	0	0	76	159	248	341
Narrow Body Operations	**Subtotal**	**637**	**890**	**864**	**972**	**838**	**688**	**527**
	B757-200/300	313	546	544	649	612	550	464
	DC-8-62/63/71/73/F	323	343	320	321	226	138	63
	B727-100/C/QC/200	1	0	1	2	0	0	0
	DC-9-10/15/F/30/40/50	0	1	0	0	0	0	0
Other Operations	**Subtotal**	**0**	**265**	**144**	**0**	**0**	**0**	**0**
(Canada & Carribean)	Beech 99	-	265	144	0	0	0	0

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Source: PANYNJ/Landrum & Brown, Inc.

Table VIII-20
KENNEDY ALL-CARGO OPERATIONS FORECAST

	Year	Domestic	International	Total
Actual	1995	12,957	13,647	26,604
	2000	11,511	13,824	25,335
Estimate	2005	8,769	14,402	23,171
Forecast	2006	8,825	15,837	24,662
	2007	8,882	16,243	25,125
	2008	8,938	15,886	24,825
	2009	8,995	16,055	25,050
	2010	9,053	16,200	25,253
	2011	9,111	16,329	25,439
	2012	9,169	16,447	25,615
	2013	9,227	16,558	25,786
	2014	9,286	16,665	25,951
	2015	9,345	16,762	26,107
	2020	9,647	17,200	26,847
	2025	9,959	17,578	27,537
Average Annual Growth Rates				
	1995-2005	-3.8%	0.5%	-1.4%
	2005-2015	0.6%	1.5%	1.2%
	2015-2025	0.6%	0.5%	0.5%
	2005-2025	0.6%	1.0%	0.9%

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Source: PANYNJ/Landrum & Brown, Inc.

VIII.2.2 EWR Airport

Air cargo handled by freighter airlines at EWR is expected to decline over the forecast period (0.6 percent per year). As shown in **Table VIII-21**, Freighter operations are forecast to decline at an even faster rate (0.9 percent per year) as airlines shift to larger gauge aircraft. By spreading costs, over more cargo tons per flight unit costs will decline.

Table VIII-22 shows that freighter airlines operating at EWR are expected to retire their aging narrow body aircraft such as the B727s, DC8s and DC9s and add larger A300s and B747s at the airport. On the international side, most wide body aircrafts are operated in Canadian and European routes and majority of narrow body aircrafts fly cargo in to the Caribbean. Consequently, a huge difference in the international cargo fleet at the airport is not predicted. Again, airlines will look to utilizing their existing A300, B727 and MD11 fleets. Declining freighter cargo tonnage and higher aircraft utilization will result in a drop in freighter operations at the airport during the forecast period.

Table VIII-21
NEWARK ALL-CARGO OPERATIONS FORECAST

Source: PANYNJ/Landrum & Brown, Inc.

	Year	Domestic	International	Total
Actual	1995	31,262	561	31,823
	2000	27,801	1,967	29,768
Estimate	2005	24,077	1,934	26,012
Forecast	2006	24,103	2,252	26,355
	2007	24,126	2,271	26,397
	2008	24,146	2,270	26,416
	2009	24,164	2,256	26,420
	2010	24,178	2,233	26,411
	2011	24,190	2,203	26,393
	2012	24,200	2,168	26,368
	2013	24,207	2,131	26,339
	2014	24,212	2,092	26,305
	2015	24,215	2,051	26,266
	2020	24,198	1,833	26,031
	2025	24,137	1,614	25,751
Average Annual Growth Rates				
	1995-2005	-2.6%	13.2%	-2.0%
	2005-2015	0.1%	0.6%	0.1%
	2015-2025	0.0%	-2.4%	-0.2%
	2005-2025	0.0%	-0.9%	-0.1%

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VIII.3 General Aviation Operations

This section summarizes the annual general aviation operations forecasts for each airport. According to the FAA, "the term general aviation is used to describe a diverse range of aviation activities and includes all segments of the aviation industry except commercial air carriers (including commuter/regional airlines) and military."[1]

[1] FAA Aerospace Forecasts, Fiscal Years 2005-2016.

Table VIII-22
NEWARK ALL-CARGO FLEET FORECAST

		2003	2004	2005	2010	2015	2020	2025
Total Cargo Operations		**26,657**	**27,125**	**26,012**	**26,411**	**26,266**	**26,031**	**25,751**
Domestic Cargo Operations		**24,405**	**25,056**	**24,077**	**24,178**	**24,215**	**24,198**	**24,137**
Missing Airline Operations		**2,968**	**3,744**	**3744**	**3744**	**3744**	**3744**	**3744**
Wiggins Airways		*2,572*	*3,352*	*3352*	*3352*	*3352*	*3352*	*3352*
Mountain Air Cargo		*396*	*392*	*392*	*392*	*392*	*392*	*392*
Domestic Cargo Operations		**21,437**	**21,312**	**20,333**	**20,434**	**20,471**	**20,454**	**20,393**
Wide Body Operations	**Subtotal**	**12,745**	**13,333**	**12,810**	**13,282**	**14,125**	**14,932**	**15,702**
	DC-10-10/30/CF/40	4,577	4,314	4,099	3,321	2,684	1,792	628
	A300-600/B4	3,729	3,983	3,638	4,357	4,831	5,540	6,517
	B767-200/300/ER/400	979	2,264	2,306	2,656	3,390	4,181	5,025
	MD-11	1,284	999	1,025	1,063	1,130	1,120	1,021
	A310-200	891	1,122	1,102	1,222	1,384	1,553	1,727
	B747-100/200/300/400/F	1,284	651	641	664	706	747	785
Narrow Body Operations	**Subtotal**	**6,249**	**5,074**	**4,738**	**4,700**	**4,299**	**4,091**	**3,875**
	B727-100/C/QC/200	4,133	3,552	3,316	3,055	2,579	2,250	1,937
	DC-8-62/63/71/73/F	1,763	819	758	705	430	164	39
	DC-9-10/15/F/30/40/50	151	376	332	282	215	164	116
	B757-200/300	191	325	332	517	731	900	930
	B737-100/200	10	2	0	141	344	614	852
Other Operations	**Subtotal**	**2,441**	**2,904**	**2,786**	**2,452**	**2,047**	**1,432**	**816**
(Includes Wiggins & M.A.C)	Cessna 208	4,752	5,866	5,738	5,394	4,983	4,370	3,762
	Dassault/Falcon	31	5	14	25	31	29	20
	Beech 18	3	0	0	0	0	0	0
(Wiggins)	Beech 99	64	84	84	84	84	84	84
(Wiggins)	DHC-6	450	587	587	587	587	587	587
(Mountain Air Cargo)	ATR-42	86	86	86	86	86	86	86
(Mountain Air Cargo)	ATR-72	22	21	21	21	21	21	21
International Cargo Operations		**2,252**	**2,069**	**1,934**	**2,233**	**2,051**	**1,833**	**1,614**
Wide Body Operations	**Subtotal**	**1,203**	**812**	**754**	**960**	**964**	**935**	**888**
	MD-11	627	612	573	701	655	589	515
	A310-200	491	118	113	154	164	168	169
	A300-600/B4	53	50	40	62	87	107	124
	B747-100/200/300/400/F	15	25	26	38	48	56	62
	Antonov 124	7	6	0	0	0	0	0
	DC-10-10/30/CF/40	10	1	1	0	0	0	0
	B767-200/300/ER/400	0	0	1	5	10	14	18
Narrow Body Operations	**Subtotal**	**916**	**1,254**	**1,180**	**1,273**	**1,087**	**898**	**726**
	B727-100/C/QC/200	916	1,254	1,180	1,247	1,022	808	581
	B757-200/300/C	0	0	0	25	65	90	145
Other Operations	**Subtotal**	**133**	**3**	**0**	**0**	**0**	**0**	**0**
(Canada & Carribean)	Beech 18	127	0	0	0	0	0	0
	Cessna 208	6	3	0	0	0	0	0
	RJ Conversion	0	0	0	0	0	0	0

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Source: PANYNJ/Landrum & Brown, Inc.

Historical general aviation operations data is based on records from the FAA ATCT and the PANYNJ. A reconciliation of the ATCT records and PANYNJ records was conducted which required that the general aviation operations data be adjusted in order to accurately reflect actual total operations activity at each airport. The

resulting reconciled historical data is considered reasonable for the purposes of this study.

As shown in **Table VIII-23**, general aviation operations activity at the three PANYNJ airports has declined from 1995 to 2005, despite the resurgence in demand for general aviation products nationally. The FAA Aerospace Forecasts for Fiscal Years 2005-2016 predicts a 1.1 percent average annual growth rate in national general aviation activity from 2004 to 2016. However, due to the current levels of congestion at each of the three PANYNJ airports and the role of EWR as a hub airport and JFK and EWR as major international gateways, general aviation activity is not expected to increase at this rate at any of the three airports.

JFK and LGA general aviation operations are forecast to increase at half the rate of the national FAA forecasts, or 0.55 percent per year, rounded to the nearest 10 operations. JFK general aviation operations are forecast to increase from 13,144 in 2005 to 14,680 in 2025. LGA general aviation operations are projected to grow from 14,005 in 2005 to 15,610 in 2025. Since GA operations have within a small range since 2001, no growth is projected for EWR general aviation operations.

Table VIII-23
FORECAST OF GENERAL AVIATION OPERATIONS

		General Aviation Operations			
	Year	JFK	LGA	EWR	Total
Actual	1995	18,534	21,729	25,664	65,927
	2000	14,823	22,757	21,076	58,656
Estimate	2005	13,144	14,005	16,079	43,228
Forecast	2006	13,220	14,080	16,080	43,380
	2007	13,290	14,160	16,080	43,530
	2008	13,360	14,240	16,080	43,680
	2009	13,430	14,320	16,080	43,830
	2010	13,500	14,400	16,080	43,980
	2011	13,570	14,480	16,080	44,130
	2012	13,640	14,560	16,080	44,280
	2013	13,720	14,640	16,080	44,440
	2014	13,800	14,720	16,080	44,600
	2015	13,880	14,800	16,080	44,760
	2020	14,280	15,200	16,080	45,560
	2025	14,680	15,610	16,080	46,370
Average Annual Growth Rates					
	1995-2005	-3.4%	-4.3%	-4.6%	-4.1%
	2005-2015	0.6%	0.5%	0.0%	0.4%
	2015-2025	0.6%	0.5%	0.0%	0.4%
	2005-2025	0.6%	0.5%	0.0%	0.4%

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Sources: Port Authority of New York & New Jersey, FAA ATCT counts and Landrum & Brown.

The general aviation aircraft operating at each airport were grouped into two categories: non-jet/small jet and large jet. **Table VIII-24** shows the 2004 fleet mix and the forecast fleet mix for each airport. It is assumed that large jets will increase as a proportion of total activity at the three airports. Large jets at JFK and EWR are projected to increase from approximately 35 percent of total general aviation operations to 55 percent. Large jets at LGA are forecast to increase from 42.8 percent of total general aviation operations to 65 percent.

Table VIII-24
GENERAL AVIATION FLEET MIX FORECAST

	Percent of General Aviation Operations				
	2004	2010	2015	2020	2025
JFK					
Non-jet/small jet	65.4%	60.0%	55.0%	50.0%	45.0%
Large jet	34.6%	40.0%	45.0%	50.0%	55.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
LGA					
Non-jet/small jet	57.2%	51.0%	45.0%	40.0%	35.0%
Large jet	42.8%	49.0%	55.0%	60.0%	65.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
EWR					
Non-jet/small jet	65.3%	60.0%	55.0%	50.0%	45.0%
Large jet	34.7%	40.0%	45.0%	50.0%	55.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

H:\New York System Forecast\Forecasts\3 Overall Forecasts\[non-commercial summary.xls]GA fleet mix

Sources: Port Authority of New York & New Jersey August 2004 CATER database and Landrum & Brown.

VIII.4 Military Operations

This section summarizes the annual military operations forecasts for each airport. Historical and forecast military operations at each airport are shown in **Table VIII-25**. Historically, military operations make up less than one percent of total aircraft operations at each airport. As military operations represent a small segment of total activity at each airport, and there is no known reason to project a future increase or decrease in military activity, military activity is forecast at the average of the previous 5 years: 380 operations annually at JFK, 370 at LGA, and 140 at EWR.

Table VIII-25
FORECAST OF MILITARY OPERATIONS

		Military Operations			
	Year	JFK	LGA	EWR	Total
Actual	1995	456	291	313	1,060
	2000	827	394	105	1,326
Estimate	2005	258	302	243	803
Forecast	2006	380	370	140	890
	2007	380	370	140	890
	2008	380	370	140	890
	2009	380	370	140	890
	2010	380	370	140	890
	2011	380	370	140	890
	2012	380	370	140	890
	2013	380	370	140	890
	2014	380	370	140	890
	2015	380	370	140	890
	2020	380	370	140	890
	2025	380	370	140	890
Average Annual Growth Rates					
	1995-2005	-5.5%	0.4%	-2.5%	-2.7%
	2005-2015	2.0%	1.0%	-2.7%	0.5%
	2015-2025	0.0%	0.0%	0.0%	0.0%
	2005-2025	2.0%	1.0%	-2.7%	0.5%

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Sources: Port Authority of New York & New Jersey, FAA ATCT counts and Landrum & Brown.

VIII.5 Total Aircraft Operations

Tables VIII-26 through **VIII-28** summarize the total operations forecasts for JFK, LGA, and EWR, respectively. Total JFK operations are forecast to increase from 351,701 in 2005 to 468,400 in 2025, an average annual growth rate of 1.4 percent. Total operations at LGA are predicted to increase at an average annual rate of 0.2 percent from 403,525 in 2005 to 418,580 in 2025. Total EWR operations are forecast to increase from 434,810 in 2005 to 636,570 in 2025, which represents a 1.9 percent average annual growth rate.

Table VIII-26
KENNEDY FORECAST OF TOTAL OPERATIONS

Total Aircraft Operations							
	Calendar	Passenger Ops.			General		
	Year	Domestic	International	All-Cargo	Aviation	Military	Total
Actual	1995	195,108	99,422	26,604	18,534	456	340,124
	2000	195,426	108,900	25,335	14,823	827	345,311
Estimate	2005	208,440	106,688	23,171	13,144	258	351,701
Estimate	2006	209,000	111,805	24,670	13,220	380	359,075
Forecast	2007	217,200	112,600	25,120	13,290	380	368,590
	2008	225,600	115,000	24,830	13,360	380	379,170
	2009	234,400	117,000	25,060	13,430	380	390,270
	2010	243,800	119,000	25,250	13,500	380	401,930
	2011	246,600	120,600	25,440	13,570	380	406,590
	2012	249,000	122,200	25,620	13,640	380	410,840
	2013	251,600	123,800	25,790	13,720	380	415,290
	2014	254,400	125,400	25,950	13,800	380	419,930
	2015	257,000	127,200	26,110	13,880	380	424,570
	2020	264,600	139,200	26,850	14,280	380	445,310
	2025	272,600	153,200	27,540	14,680	380	468,400
Average Annual Growth Rates							
	1995-2005	0.7%	0.7%	n/a	-3.4%	-5.5%	0.3%
	2005-2015	2.1%	1.8%	n/a	0.5%	3.9%	1.9%
	2015-2025	-0.6%	-1.8%	n/a	-0.6%	0.0%	-1.0%
	2005-2025	1.4%	1.8%	n/a	0.6%	2.0%	1.4%

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Source: Landrum & Brown.

Table VIII-27
LAGUARDIA FORECAST OF TOTAL OPERATIONS

		Total Aircraft Operations					
	Calendar	Passenger Ops.			General		
	Year	Domestic	International	All-Cargo	Aviation	Military	Total
Actual	1995	301,518	21,620	332	21,729	291	345,490
	2000	338,830	22,574	0	22,757	394	384,555
Estimate	2005	365,618	23,600	0	14,005	302	403,525
Estimate	2006	368,459	23,187	0	14,080	370	406,096
Forecast	2007	375,200	23,100	0	14,160	370	412,830
	2008	370,000	22,900	0	14,240	370	407,510
	2009	365,300	22,700	0	14,320	370	402,690
	2010	360,700	22,500	0	14,400	370	397,970
	2011	358,000	22,500	0	14,480	370	395,350
	2012	355,600	22,500	0	14,560	370	393,030
	2013	353,100	22,500	0	14,640	370	390,610
	2014	354,300	22,400	0	14,720	370	391,790
	2015	355,600	22,400	0	14,800	370	393,170
	2020	362,900	22,700	0	15,200	370	401,170
	2025	379,500	23,100	0	15,610	370	418,580
Average Annual Growth Rates							
	1995-2005	1.9%	0.9%	n/a	-4.3%	0.4%	1.6%
	2005-2015	-0.3%	-0.5%	n/a	0.6%	2.1%	-0.3%
	2015-2025	-0.6%	-0.3%	n/a	-0.5%	0.0%	-0.6%
	2005-2025	0.2%	-0.1%	n/a	0.5%	1.0%	0.2%

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Source: Landrum & Brown.

Table VIII-28
NEWARK FORECAST OF TOTAL OPERATIONS

	Calendar Year	Total Aircraft Operations: Passenger Ops. Domestic	Passenger Ops. International	All-Cargo	General Aviation	Military	Total
Actual	1995	330,904	31,842	31,823	25,664	313	420,546
	2000	336,762	62,578	29,768	21,076	105	450,289
Estimate	2005	318,996	73,480	26,012	16,079	243	434,810
Estimate	2006	329,140	79,071	26,350	16,080	140	450,781
Forecast	2007	342,900	80,700	26,400	16,080	140	466,220
	2008	355,700	84,500	26,420	16,080	140	482,840
	2009	369,200	88,800	26,420	16,080	140	500,640
	2010	383,300	93,400	26,410	16,080	140	519,330
	2011	387,500	96,200	26,390	16,080	140	526,310
	2012	391,700	99,100	26,370	16,080	140	533,390
	2013	396,000	102,100	26,340	16,080	140	540,660
	2014	400,300	105,300	26,300	16,080	140	548,120
	2015	404,800	108,400	26,270	16,080	140	555,690
	2020	423,400	128,800	26,030	16,080	140	594,450
	2025	442,300	152,300	25,750	16,080	140	636,570
Average Annual Growth Rates							
	1995-2005	-0.4%	8.7%	-2.0%	-4.6%	-2.5%	0.3%
	2005-2015	2.4%	4.0%	0.1%	0.0%	-5.4%	2.5%
	2015-2025	0.9%	3.5%	-0.2%	0.0%	0.0%	1.4%
	2005-2025	1.6%	3.7%	-0.1%	0.0%	-2.7%	1.9%

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Source: Landrum & Brown.

Table VIII-28
NEWARK FORECAST OF TOTAL OPERATIONS

	Calendar Year	Total Aircraft Operations: Passenger Ops. Domestic	Passenger Ops. International	All-Cargo	General Aviation	Military	Total
Actual	1995	330,904	31,842	31,823	25,664	313	420,546
	2000	336,762	62,578	29,768	21,076	105	450,289
Estimate	2005	318,996	73,480	26,012	16,079	243	434,810
Estimate	2006	329,140	79,071	26,350	16,080	140	450,781
Forecast	2007	342,900	80,700	26,400	16,080	140	466,220
	2008	355,700	84,500	26,420	16,080	140	482,840
	2009	369,200	88,800	26,420	16,080	140	500,640
	2010	383,300	93,400	26,410	16,080	140	519,330
	2011	387,500	96,200	26,390	16,080	140	526,310
	2012	391,700	99,100	26,370	16,080	140	533,390
	2013	396,000	102,100	26,340	16,080	140	540,660
	2014	400,300	105,300	26,300	16,080	140	548,120
	2015	404,800	108,400	26,270	16,080	140	555,690
	2020	423,400	128,800	26,030	16,080	140	594,450
	2025	442,300	152,300	25,750	16,080	140	636,570
Average Annual Growth Rates							
	1995-2005	-0.4%	8.7%	-2.0%	-4.6%	-2.5%	0.3%
	2005-2015	2.4%	4.0%	0.1%	0.0%	-5.4%	2.5%
	2015-2025	0.9%	3.5%	-0.2%	0.0%	0.0%	1.4%
	2005-2025	1.6%	3.7%	-0.1%	0.0%	-2.7%	1.9%

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Source: Landrum & Brown.

IX. Comparison to the FAA 2005 Terminal Area Forecast

The enplaned passenger and aircraft operations forecasts for each the PANYNJ airports was compared to the FAA 2005 TAF (Terminal Area Forecast).

IX.1 JFK Airport

Table IX-1 presents the enplaned passenger and aircraft operations forecasts for Kennedy. The TAF projects much more robust growth in both enplaned passengers and operations after 2010 than the Regional Demand Study forecast.

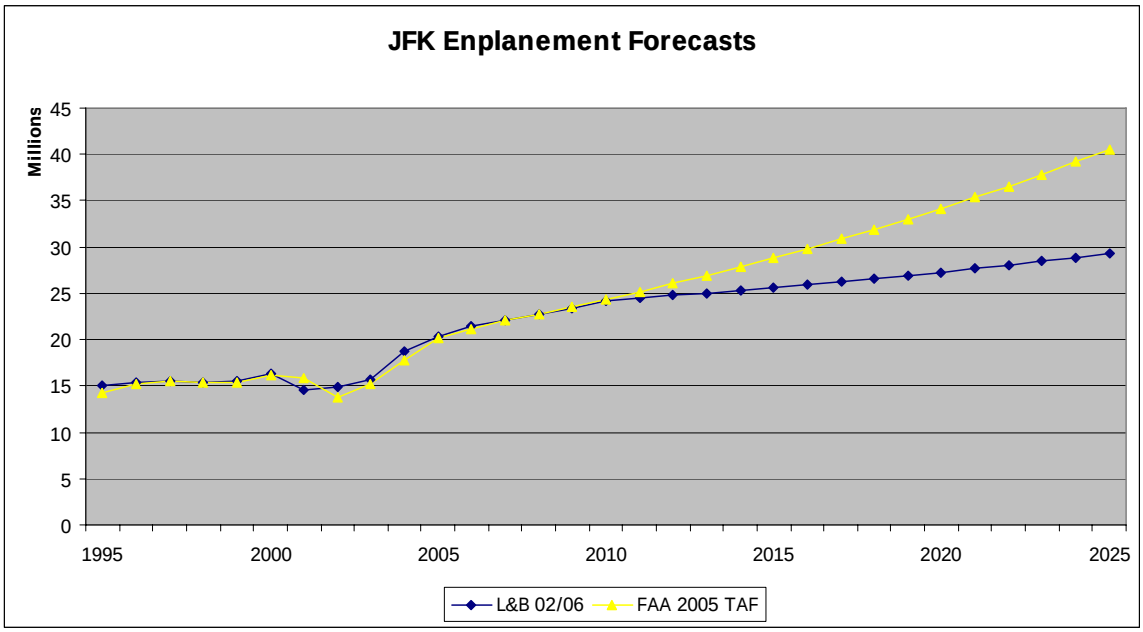
Table IX-1
KENNEDY FORECAST COMPARISON

	Enplaned Passengers			Aircraft Operations		
Year	L&B 02/06	FAA 2005 TAF	Variance	L&B 02/06	FAA 2005 TAF	Variance
1995	14,985,832	14,332,130	4.6%	340,124	345,263	-1.5%
2000	16,256,771	16,222,549	0.2%	345,311	358,977	-3.8%
2005	20,336,175	20,161,739	0.9%	351,701	360,007	-2.3%
2006	21,381,200	21,207,297	0.8%	359,075	370,030	-3.0%
2007	22,031,300	22,045,859	-0.1%	368,590	384,984	-4.3%
2008	22,740,600	22,797,834	-0.3%	379,170	398,475	-4.8%
2009	23,450,300	23,576,137	-0.5%	390,270	412,503	-5.4%
2010	24,195,800	24,381,725	-0.8%	401,930	427,098	-5.9%
2011	24,469,500	25,215,599	-3.0%	406,590	442,290	-8.1%
2012	24,747,100	26,078,792	-5.1%	410,840	458,108	-10.3%
2013	25,028,500	26,972,380	-7.2%	415,290	474,589	-12.5%
2014	25,313,900	27,897,486	-9.3%	419,930	491,768	-14.6%
2015	25,603,200	28,855,270	-11.3%	424,570	508,325	-16.5%
2020	27,297,500	34,178,370	-20.1%	445,310	600,139	-25.8%
2025	29,265,300	40,521,552	-27.8%	468,400	709,125	-33.9%
Average Annual Growth Rates						
1995-2005	3.1%	3.5%		0.3%	0.4%	
2005-2015	2.3%	3.7%		1.9%	3.5%	
2015-2025	1.3%	3.5%		1.0%	3.4%	
2005-2025	1.8%	3.6%		1.4%	3.4%	

H:\New York System Forecast\Forecasts\[Other_Forecasts.xls]JFK
Sources: FAA; Landrum & Brown.

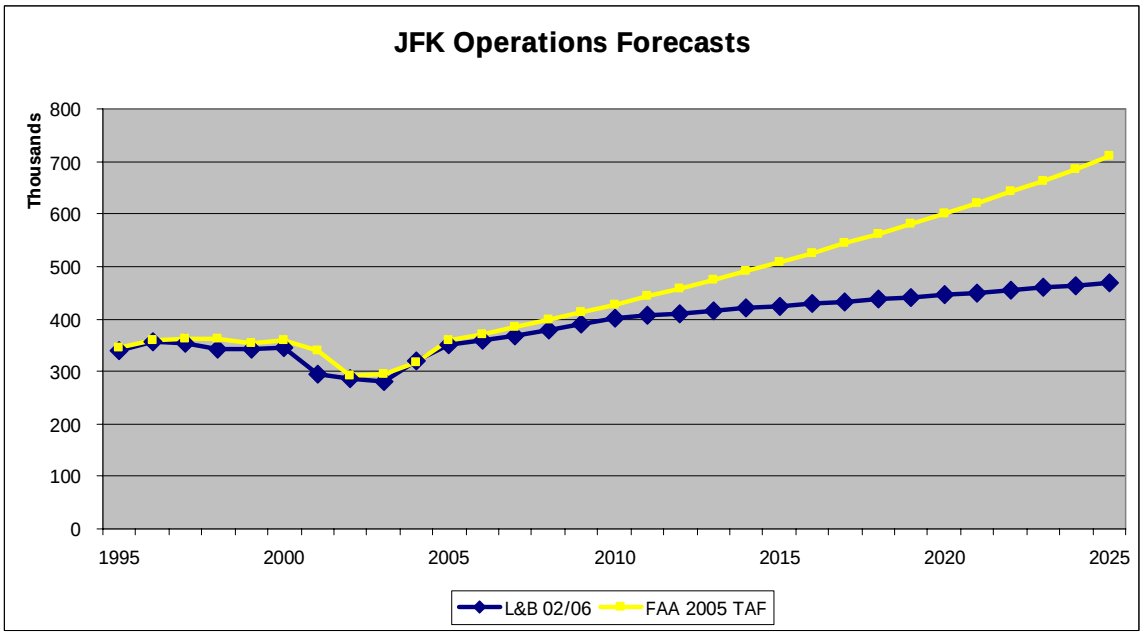
Exhibit IX-1 presents the enplaned passengers forecast comparison for JFK Airport. **Exhibit IX-2** shows the aircraft operations forecast comparison for JFK Airport.

Exhibit IX-1
KENNEDY ENPLANED PASSENGERS FORECAST COMPARISON



Sources: FAA; Landrum & Brown

Exhibit IX-2
KENNEDY OPERATIONS FORECAST COMPARISON



Sources: FAA; Landrum & Brown.

IX.2 LGA Airport

Table IX-2 presents the enplaned passenger and aircraft operations forecasts for LGA Airport. The TAF projects only slightly faster enplaned passenger growth than the Regional Demand Study forecast.

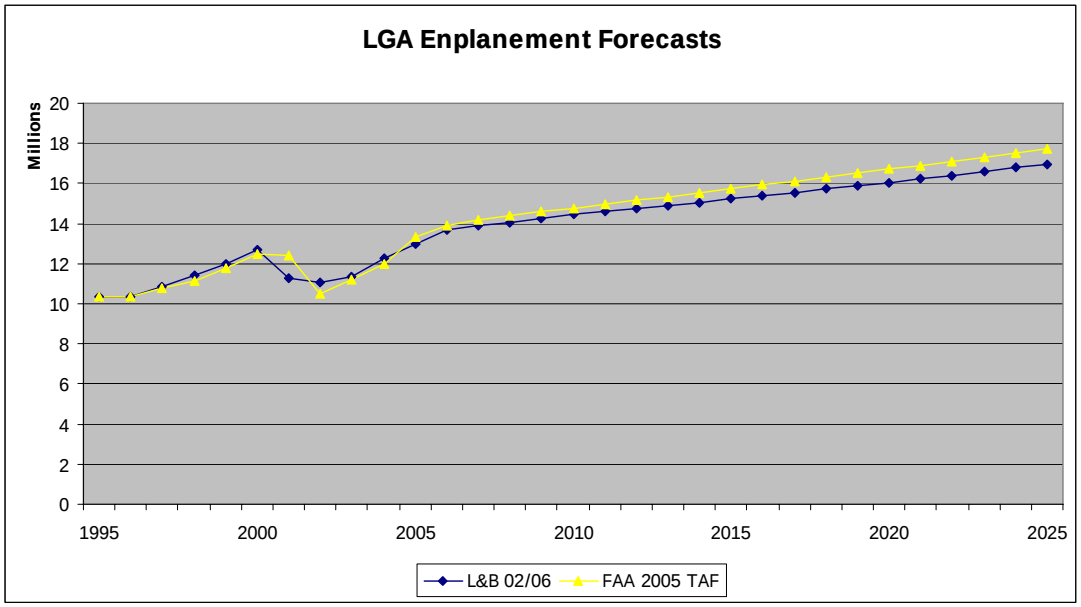
Table IX-2
LAGUARDIA FORECAST COMPARISON

	Enplaned Passengers			Aircraft Operations		
Year	L&B 02/06	FAA 2005 TAF	Variance	L&B 02/06	FAA 2005 TAF	Variance
1995	10,348,908	10,387,115	-0.4%	345,490	346,869	-0.4%
2000	12,676,586	12,499,696	1.4%	384,555	378,018	1.7%
2005	12,955,921	13,345,773	-2.9%	403,525	408,991	-1.3%
2006	13,686,900	13,886,427	-1.4%	406,096	414,909	-2.1%
2007	13,867,760	14,172,604	-2.2%	412,830	416,261	-0.8%
2008	14,057,880	14,379,343	-2.2%	407,510	416,261	-2.1%
2009	14,250,840	14,581,457	-2.3%	402,690	416,261	-3.3%
2010	14,439,920	14,778,833	-2.3%	397,970	416,261	-4.4%
2011	14,593,720	14,971,358	-2.5%	395,350	416,261	-5.0%
2012	14,749,140	15,165,110	-2.7%	393,030	416,261	-5.6%
2013	14,899,540	15,353,864	-3.0%	390,610	416,261	-6.2%
2014	15,058,140	15,543,770	-3.1%	391,790	416,261	-5.9%
2015	15,218,540	15,734,830	-3.3%	393,170	416,261	-5.5%
2020	16,055,940	16,707,395	-3.9%	401,170	416,261	-3.6%
2025	16,965,380	17,708,755	-4.2%	418,580	416,261	0.6%
Average Annual Growth Rates						
1995-2005	2.3%	2.5%		1.6%	1.7%	
2005-2015	1.6%	1.7%		-0.3%	0.2%	
2015-2025	1.1%	1.2%		0.6%	0.0%	
2005-2025	1.4%	1.4%		0.2%	0.1%	

H:\New York System Forecast\Forecasts\[Other_Forecasts.xls]LGA
Sources: FAA; Landrum & Brown.

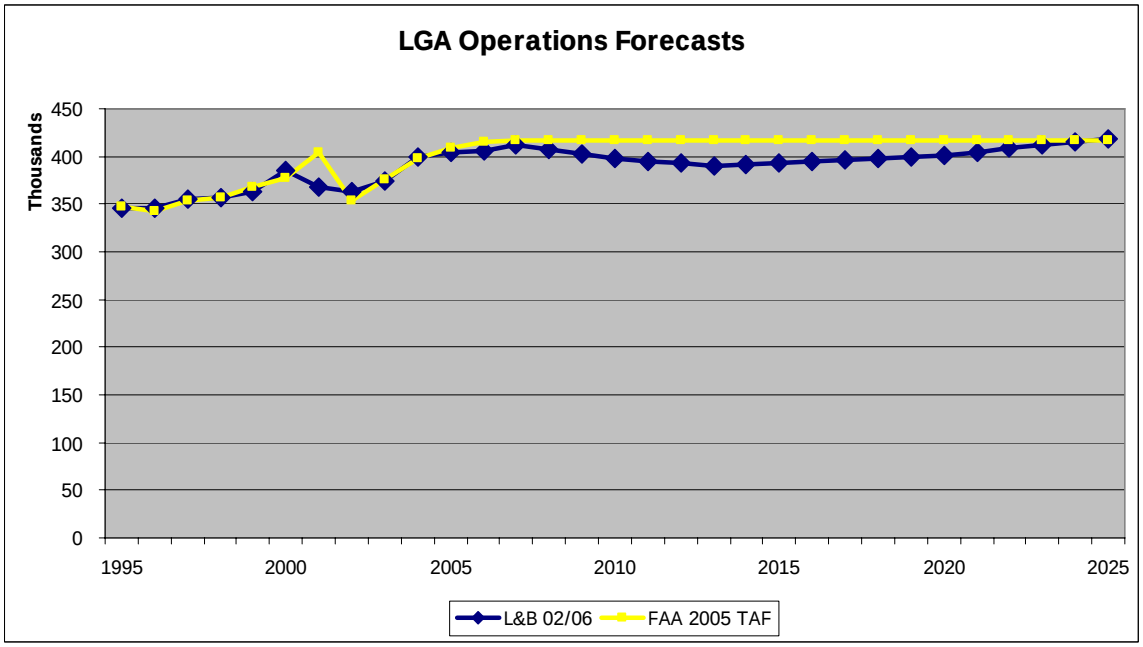
Exhibit IX-3 presents the enplaned passenger forecast comparison for LGA Airport. **Exhibit IX-4** shows the aircraft operations forecast comparison for LGA Airport.

Exhibit IX-3
LAGUARDIA ENPLANED PASSENGERS FORECAST COMPARISON



Sources: FAA; Landrum & Brown.

Exhibit IX-4
LAGUARDIA OPERATIONS FORECAST COMPARISON



Sources: FAA; Landrum & Brown.

IX.3 EWR Airport

Table IX-3 presents the enplaned passenger and aircraft operations forecasts for EWR Airport. The long-term growth rate assumptions are similar between the enplaned passenger forecasts. The Regional Demand Study forecast projects much higher short-term growth before moderating. The TAF projects very straight-line growth throughout the forecast period. The TAF projects more growth in operations due to a smaller average gauge assumption.

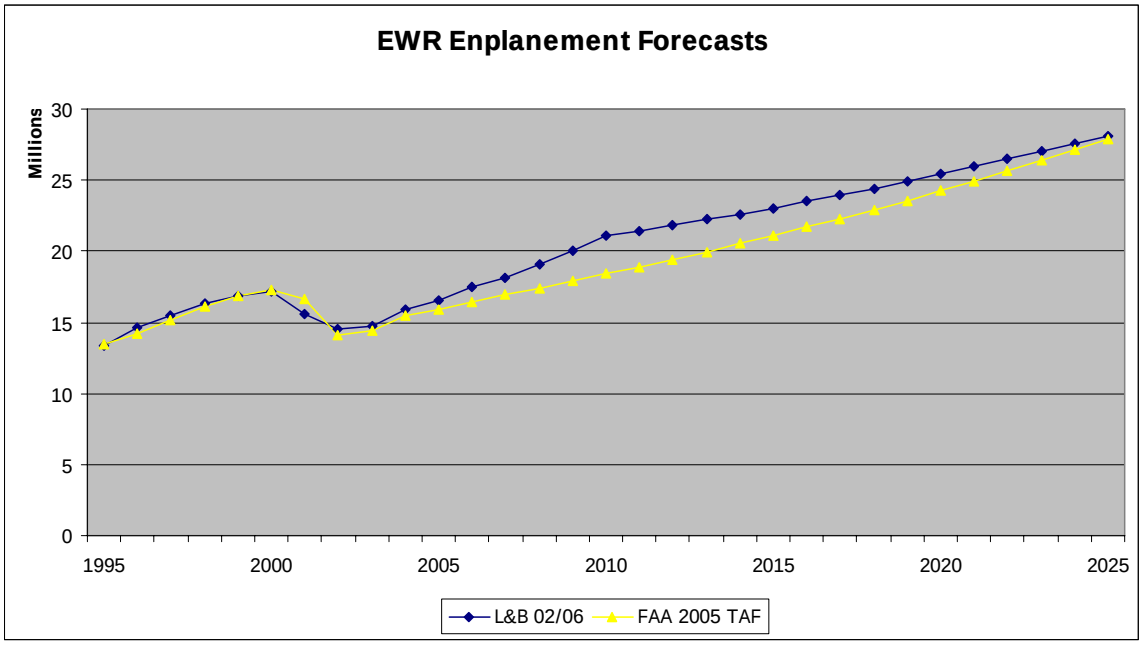
Table IX-3
NEWARK FORECAST COMPARISON

	Enplaned Passengers			Aircraft Operations		
Year	L&B 02/06	FAA 2005 TAF	Variance	L&B 02/06	FAA 2005 TAF	Variance
1995	13,320,486	13,446,484	-0.9%	420,546	428,703	-1.9%
2000	17,125,979	17,291,472	-1.0%	450,289	458,677	-1.8%
2005	16,499,848	15,892,708	3.8%	434,810	440,889	-1.4%
2006	17,491,100	16,404,377	6.6%	450,781	454,343	-0.8%
2007	18,174,000	16,969,250	7.1%	466,220	464,430	0.4%
2008	19,067,300	17,433,682	9.4%	482,840	475,312	1.6%
2009	20,035,000	17,912,010	11.9%	500,640	486,463	2.9%
2010	21,051,100	18,404,676	14.4%	519,330	497,892	4.3%
2011	21,431,800	18,912,146	13.3%	526,310	509,602	3.3%
2012	21,821,700	19,434,898	12.3%	533,390	521,606	2.3%
2013	22,220,800	19,973,428	11.3%	540,660	533,909	1.3%
2014	22,628,700	20,528,246	10.2%	548,120	546,520	0.3%
2015	23,046,600	21,099,881	9.2%	555,690	558,884	-0.6%
2020	25,419,300	24,230,140	4.9%	594,450	625,059	-4.9%
2025	28,127,100	27,871,394	0.9%	636,570	699,144	-9.0%
Average Annual Growth Rates						
1995-2005	2.2%	1.7%		0.3%	0.3%	
2005-2015	3.4%	2.9%		2.5%	2.4%	
2015-2025	2.0%	2.8%		1.4%	2.3%	
2005-2025	2.7%	2.8%		1.9%	2.3%	

H:\New York System Forecast\Forecasts\[Other_Forecasts.xls]EWR
Sources: FAA; Landrum & Brown.

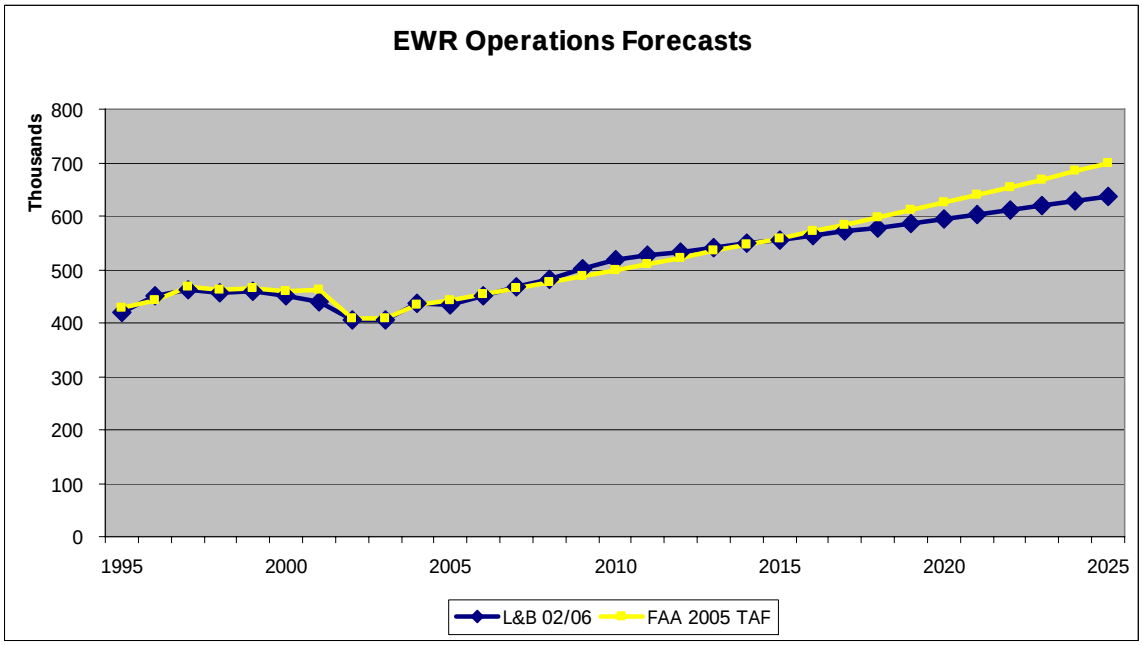
Exhibit IX-5 presents the enplaned passenger forecast comparison for EWR Airport. **Exhibit IX-6** shows the aircraft operations forecast comparison for EWR Airport.

Exhibit IX-5
NEWARK ENPLANED PASSENGERS FORECAST COMPARISON



Sources: FAA; Landrum & Brown

Exhibit IX-6
NEWARK OPERATIONS FORECAST COMPARISON



Sources: FAA; Landrum & Brown.

X. Peak Month Average Day

The annual enplaned passenger forecasts were converted into peak month average day (PMAD) equivalents using historical traffic statistics compiled by the PANYNJ. Historical enplaned revenue passenger statistics for the period 1990 to 2004 were used to derive the average percent of traffic served in the peak month relative to the annual volumes.

At JFK Airport, August represented the peak month for domestic enplaned passengers in 8 of the 15 years reviewed. August represented the peak month for international enplaned passengers in 13 of the 15 years reviewed. August was the peak month for total enplaned passengers in all 15 years.

At LGA Airport, August represented the peak month for domestic enplaned passengers in 12 of the 15 years reviewed. August represented the peak month for international enplaned passengers in 11 of the 15 years reviewed. August was the peak month for total enplaned passengers in 13 of the 15 years.

At EWR Airport, August represented the peak month for domestic enplaned passengers in 13 of the 15 years reviewed. August represented the peak month for international enplaned passengers in all 15 years reviewed. August was the peak month for total enplaned passengers in 14 of the 15 years.

For domestic enplaned passengers, the relationship of August traffic to annual totals was established for each year from 1995 to 2004 for each airport. A rolling ten-year average of the August to annual percentage was used to project the peak month enplaned passengers for each year of the forecast period. This peak month value was divided by 31 to develop the peak month average day volume. This same methodology was used for the international enplaned passengers at each airport.

At JFK Airport, PMAD enplaned passengers are projected to grow from 69,875 in 2005 to 99,816 in 2025, an average annual increase of 1.8 percent. At LaGuardia, PMAD enplaned passengers are projected to grow from 39,065 in 2005 to 51,788 in 2025, an average annual increase of 1.4 percent. At Newark, PMAD enplaned passengers are projected to grow from 53,370 in 2005 to 91,669 in 2025, an average annual increase of 2.7 percent.

X.1 PMAD Enplaned Passengers

Peak month average day enplaned passengers are presented in **Tables X-1** through **X-3** for each airport.

Table X-1
KENNEDY PMAD ENPLANED PASSENGERS

	Calendar Year	Domestic Enplanements	PMAD	International Enplanements	PMAD	Total Enplanements	PMAD
Actual	1995	6,577,174	22,937	8,408,658	30,357	14,985,832	53,294
	2000	7,046,699	23,613	9,210,072	30,585	16,256,771	54,199
Estimated	2005	10,964,513	37,310	9,371,662	32,565	20,336,175	69,875
Estimated	2006	11,700,000	39,714	9,681,200	33,510	21,381,200	73,224
Forecast	2007	12,147,100	41,125	9,884,200	34,107	22,031,300	75,232
	2008	12,616,300	42,624	10,124,300	34,883	22,740,600	77,507
	2009	13,101,600	44,359	10,348,700	35,671	23,450,300	80,030
	2010	13,617,700	46,052	10,578,100	36,517	24,195,800	82,569
	2011	13,700,200	46,373	10,769,300	37,319	24,469,500	83,692
	2012	13,783,100	46,235	10,964,000	37,743	24,747,100	83,978
	2013	13,866,300	46,477	11,162,200	38,463	25,028,500	84,940
	2014	13,949,900	46,993	11,364,000	39,133	25,313,900	86,126
	2015	14,033,800	47,418	11,569,400	39,947	25,603,200	87,365
	2020	14,481,900	48,830	12,815,600	44,216	27,297,500	93,046
	2025	14,968,000	50,491	14,297,300	49,325	29,265,300	99,816
Average Annual Growth Rates							
	1995-2005	5.2%	5.0%	1.1%	0.7%	3.1%	2.7%
	2005-2015	2.5%	2.4%	2.1%	2.1%	2.3%	2.3%
	2015-2025	0.6%	0.6%	2.1%	2.1%	1.3%	1.3%
	2005-2025	1.6%	1.5%	2.1%	2.1%	1.8%	1.8%

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Sources: PANYNJ; Landrum & Brown.

Table X-2
LAGUARDIA PMAD ENPLANED PASSENGERS

	Calendar Year	Domestic Enplanements	PMAD	International Enplanements	PMAD	Total Enplanements	PMAD
Actual	1995	9,702,595	28,056	646,313	2,068	10,348,908	30,124
	2000	12,024,470	35,232	652,116	2,039	12,676,586	37,271
Estimated	2005	12,249,954	36,706	705,967	2,359	12,955,921	39,065
Estimated	2006	13,000,000	39,090	686,900	2,305	13,686,900	41,395
Forecast	2007	13,174,030	39,692	693,730	2,333	13,867,760	42,025
	2008	13,360,740	40,459	697,140	2,357	14,057,880	42,816
	2009	13,550,170	41,272	700,670	2,381	14,250,840	43,653
	2010	13,735,710	42,030	704,210	2,415	14,439,920	44,445
	2011	13,886,260	42,671	707,460	2,448	14,593,720	45,119
	2012	14,038,420	42,577	710,720	2,431	14,749,140	45,008
	2013	14,185,570	42,910	713,970	2,411	14,899,540	45,321
	2014	14,340,920	43,400	717,220	2,433	15,058,140	45,833
	2015	14,498,070	43,940	720,470	2,444	15,218,540	46,384
	2020	15,318,670	46,566	737,270	2,513	16,055,940	49,079
	2025	16,210,590	49,221	754,790	2,567	16,965,380	51,788
Average Annual Growth Rates							
	1995-2005	2.4%	2.7%	0.9%	1.3%	2.3%	2.6%
	2005-2015	1.7%	1.8%	0.2%	0.4%	1.6%	1.7%
	2015-2025	1.1%	1.1%	0.5%	0.5%	1.1%	1.1%
	2005-2025	1.4%	1.5%	0.3%	0.4%	1.4%	1.4%

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Sources: PANYNJ; Landrum & Brown.

Table X-3
NEWARK PMAD ENPLANED PASSENGERS

	Calendar Year	Domestic Enplanements	PMAD	International Enplanements	PMAD	Total Enplanements	PMAD
Actual	1995	11,394,136	35,255	1,926,350	6,688	13,320,486	41,943
	2000	12,926,851	39,491	4,199,128	13,805	17,125,979	53,296
Estimated	2005	11,862,682	37,393	4,637,166	15,977	16,499,848	53,370
Estimated	2006	12,500,000	39,475	4,991,100	17,183	17,491,100	56,658
Forecast	2007	13,074,900	41,236	5,099,100	17,494	18,174,000	58,730
	2008	13,719,600	43,308	5,347,700	18,249	19,067,300	61,557
	2009	14,402,600	45,559	5,632,400	19,252	20,035,000	64,811
	2010	15,122,800	47,983	5,928,300	20,290	21,051,100	68,273
	2011	15,271,200	48,634	6,160,600	21,168	21,431,800	69,802
	2012	15,421,500	48,662	6,400,200	21,896	21,821,700	70,558
	2013	15,573,600	49,171	6,647,200	22,736	22,220,800	71,907
	2014	15,727,200	49,609	6,901,500	23,541	22,628,700	73,150
	2015	15,882,900	50,204	7,163,700	24,543	23,046,600	74,747
	2020	16,729,800	52,926	8,689,500	29,742	25,419,300	82,668
	2025	17,647,900	55,803	10,479,200	35,866	28,127,100	91,669
Average Annual Growth Rates							
	1995-2005	0.4%	0.6%	9.2%	9.1%	2.2%	2.4%
	2005-2015	3.0%	3.0%	4.4%	4.4%	3.4%	3.4%
	2015-2025	1.1%	1.1%	3.9%	3.9%	2.0%	2.1%
	2005-2025	2.0%	2.0%	4.2%	4.1%	2.7%	2.7%

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Sources: PANYNJ; Landrum & Brown.

X.2 PMAD Aircraft Operations

For aircraft operations, this same ten-year rolling average of the August to annual percentage was used to project the peak month operations by category for each year of the forecast period.

At Kennedy, PMAD operations are projected to grow from 1,037 in 2005 to 1,397 in 2025, an average annual increase of 1.5 percent. At LaGuardia, PMAD operations are projected to grow from 1,124 in 2005 to 1,163 in 2025, an average annual increase of 0.2 percent. At Newark, PMAD operations are projected to grow from 1,289 in 2005 to 1,868 in 2025, an average annual increase of 1.9 percent.

Peak month average day aircraft operations by category for each year are presented in **Tables X-4** through **X-6** for each airport.

Table X-4
KENNEDY PMAD AIRCRAFT OPERATIONS

	Calendar	Domestic		International		Domestic	International	General		
	Year	Air Carrier	Commuter	Air Carrier	Commuter	All-Cargo	All-Cargo	Aviation	Military	Total
Actual	1995	287	284	306	11	38	40	31	1	998
	2000	306	252	306	12	35	43	30	1	985
Estimate	2005	439	171	304	18	25	40	39	1	1,037
Estimate	2006	479	139	324	21	25	44	31	1	1,064
Forecast	2007	503	140	328	19	25	45	32	1	1,093
	2008	527	139	335	19	25	44	32	1	1,122
	2009	555	139	341	19	25	45	33	1	1,158
	2010	586	140	348	18	25	45	35	1	1,198
	2011	588	139	353	19	26	46	36	1	1,208
	2012	597	140	360	19	26	46	37	1	1,226
	2013	602	139	365	19	26	46	36	1	1,234
	2014	610	140	370	19	26	46	36	1	1,248
	2015	622	141	375	19	26	47	36	1	1,267
	2020	640	142	410	20	27	48	37	1	1,325
	2025	663	143	452	22	28	49	38	1	1,396
Average Annual Growth Rates										
	1995-2005	4.3%	-4.9%	-0.1%	5.0%	-4.1%	0.0%	2.3%	0.0%	0.4%
	2005-2015	3.5%	-1.9%	2.1%	0.5%	0.4%	1.6%	-0.8%	0.0%	2.0%
	2015-2025	0.6%	0.1%	1.9%	1.5%	0.7%	0.4%	0.5%	0.0%	1.0%
	2005-2025	2.1%	-0.9%	2.0%	1.0%	0.6%	1.0%	-0.1%	0.0%	1.5%

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Sources: PANYNJ; Landrum & Brown.

Table X-5
LAGUARDIA PMAD AIRCRAFT OPERATIONS

	Calendar	Domestic		International		Domestic	International	General		
	Year	Air Carrier	Commuter	Canadian	All Other	All-Cargo	All-Cargo	Aviation	Military	Total
Actual	1995	627	210	62	4	0	0	63	0	966
	2000	631	281	60	3	0	0	62	1	1,038
Estimate	2005	547	475	60	6	0	0	35	1	1,124
Estimate	2006	549	474	58	8	0	0	38	1	1,128
Forecast	2007	548	494	57	8	0	0	38	1	1,146
	2008	554	470	57	8	0	0	38	1	1,128
	2009	562	450	56	8	0	0	38	1	1,115
	2010	570	430	56	8	0	0	39	1	1,104
	2011	580	415	56	8	0	0	39	1	1,099
	2012	591	400	56	8	0	0	39	1	1,095
	2013	598	383	56	8	0	0	39	1	1,085
	2014	602	382	55	8	0	0	39	1	1,087
	2015	608	381	55	8	0	0	39	1	1,092
	2020	633	375	56	8	0	0	41	1	1,114
	2025	666	388	57	8	0	0	42	1	1,162
Average Annual Growth Rates										
	1995-2005	-1.4%	8.5%	-0.3%	4.1%	n/a	n/a	-5.7%	n/a	1.5%
	2005-2015	1.1%	-2.2%	-0.9%	2.9%	n/a	n/a	1.1%	0.0%	-0.3%
	2015-2025	0.9%	0.2%	0.4%	0.0%	n/a	n/a	0.7%	0.0%	0.6%
	2005-2025	1.0%	-1.0%	-0.3%	1.4%	n/a	n/a	0.9%	0.0%	0.2%

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Sources: PANYNJ; Landrum & Brown.

Table X-6
NEWARK PMAD AIRCRAFT OPERATIONS

	Calendar	Domestic		International		Domestic	International	General		
	Year	Air Carrier	Commuter	Air Carrier	Commuter	All-Cargo	All-Cargo	Aviation	Military	Total
Actual	1995	659	282	82	22	89	1	72	0	1,207
	2000	739	223	167	15	83	5	66	0	1,298
Estimate	2005	512	401	176	56	67	5	71	1	1,289
Estimate	2006	542	401	182	62	67	6	59	0	1,319
Forecast	2007	567	416	191	55	67	6	60	0	1,362
	2008	597	420	202	55	66	6	61	0	1,407
	2009	631	426	214	56	66	6	62	0	1,461
	2010	669	432	227	57	67	6	64	0	1,522
	2011	678	436	235	58	67	6	65	0	1,545
	2012	687	440	244	59	67	6	67	0	1,570
	2013	692	440	253	60	66	6	66	0	1,583
	2014	701	444	261	62	66	6	65	0	1,605
	2015	712	449	271	62	66	6	65	0	1,631
	2020	746	468	329	65	67	5	65	0	1,745
	2025	789	479	398	68	66	4	64	0	1,868
Average Annual Growth Rates										
	1995-2005	-2.5%	3.6%	7.9%	9.8%	-2.8%	17.5%	-0.1%	n/a	0.7%
	2005-2015	3.4%	1.1%	4.4%	1.0%	-0.2%	1.8%	-0.9%	n/a	2.4%
	2015-2025	1.0%	0.6%	3.9%	0.9%	0.0%	-4.0%	-0.2%	n/a	1.4%
	2005-2025	2.2%	0.9%	4.2%	1.0%	-0.1%	-1.1%	-0.5%	n/a	1.9%

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Sources: PANYNJ; Landrum & Brown.

XI. Terminal Level Forecasts

The annual enplanement forecasts for the 5-year horizon points (2010, 2015, 2020, and 2025) were converted into terminal level forecasts. For each terminal or terminal group, forecast enplanements are presented for domestic, international, and total. Each terminal's share of the domestic, international, and total enplanements is also presented. Historically, certain carriers have operated from several terminals, particularly at JFK Airport. Future terminal allocations were based upon the terminal that each carrier operated from in 2005. **Table XI-1** presents the assumed terminal assignments at JFK Airport.

Table XI-1
KENNEDY CARRIERS BY TERMINAL

T-1	T-4	T-4
Aeromexico	Aer Lingus	Omni Air Express
Air China International	Aerolineas Argentinas	Pakistan
Air France	Aerosvit Airlines	Planet Airways
Air Plus Comet	Air India	Ryan International
Alitalia	Air Jamaica	Singapore Airlines
Austrian Airlines	Air Luxor S.A.	Swiss Int'L Air Lines Ltd
Japan Airlines	Air Tahiti NUI	Taca International
Korean	Asiana	TAM Brazilian
Lufthansa	ATA	T.I.E. Aviation
MaxJet	Avianca	Trans Meridian
Olympic	Biman Bangladesh	Universal Airlines
Royal Air Maroc	Britania Airways	USA 3000
Thai Airways	BWIA	Uzbekistan Airways
Turk Hava Yollari	Champion Air	Varig
T2 & 3	Copa Airlines	Virgin Atlantic
Aeroflot	Egypt Air	World Airways
Alia Royal Jordan.	El Al	**T-6**
China Airlines	Emirates Airlines & Sky Cargo	Jetblue
Continental	EOS Airlines	**T-7**
Continental Express	EuroFly	Action Air
Csa Czech Airlines	Falcon Air Express	Air Canada
Delta & Song	Independence Air	America West
Delta Connection	Israir	ANA
Delta Express	Jetblue	British Airways
Malev-Hungarian	KLM	Cathay Pacific
Saudi Arabian Air.	Kuwait	Iberia
South African	LACSA	Icelandair
Sun Country	Lan Chile	Qantas Airways
	Lan Ecuador	United
	Lan Peru	United Express
	Lot Polish	US Air Express
	LTU	US Airways
	Mexicana	**T-8 & 9**
	Miami Air Intern'L	American
	North American	American Eagle/Connect
	Northwest	Finnair
	Northwest Airlink	

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Sources: PANYNJ; Landrum & Brown.

Tables XI-2 and **XI-3** present the terminal level forecasts at JFK Airport for enplaned passengers and passenger aircraft operations, respectively.

Table XI-2
KENNEDY ENPLANED PASSENGERS BY TERMINAL

Terminal	Enplaned Passengers					Percentage of Segment Total				
Segment	2005	2010	2015	2020	2025	2005	2010	2015	2020	2025
All JFK Terminals										
Domestic	10,964,513	13,617,700	14,033,800	14,481,900	14,968,000	100.0%	100.0%	100.0%	100.0%	100.0%
International	9,367,469	10,578,100	11,569,400	12,815,600	14,297,300	100.0%	100.0%	100.0%	100.0%	100.0%
Total	**20,331,982**	**24,195,800**	**25,603,200**	**27,297,500**	**29,265,300**	100.0%	100.0%	100.0%	100.0%	100.0%
TERMINAL 1										
Domestic	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
International	1,642,660	1,798,277	1,966,798	2,178,652	2,430,541	17.5%	17.0%	17.0%	17.0%	17.0%
Total	**1,642,660**	**1,798,277**	**1,966,798**	**2,178,652**	**2,430,541**	**8.1%**	**7.4%**	**7.7%**	**8.0%**	**8.3%**
TERMINAL 2 & 3										
Domestic	2,750,052	3,090,881	3,177,728	3,271,326	3,373,031	25.1%	22.7%	22.6%	22.6%	22.5%
International	1,266,990	1,375,153	1,388,328	1,409,716	1,429,730	13.5%	13.0%	12.0%	11.0%	10.0%
Total	**4,017,042**	**4,466,034**	**4,566,056**	**4,681,042**	**4,802,761**	**19.8%**	**18.5%**	**17.8%**	**17.1%**	**16.4%**
TERMINAL 4										
Domestic	226,347	183,272	187,898	192,889	198,325	2.1%	1.3%	1.3%	1.3%	1.3%
International	3,004,140	3,437,883	3,817,902	4,293,226	4,861,082	32.1%	32.5%	33.0%	33.5%	34.0%
Total	**3,230,487**	**3,621,155**	**4,005,800**	**4,486,115**	**5,059,407**	**15.9%**	**15.0%**	**15.6%**	**16.4%**	**17.3%**
TERMINAL 6										
Domestic	4,920,460	6,718,174	6,933,778	7,165,865	7,417,403	44.9%	49.3%	49.4%	49.5%	49.6%
International	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
Total	**4,920,460**	**6,718,174**	**6,933,778**	**7,165,865**	**7,417,403**	**24.2%**	**27.8%**	**27.1%**	**26.3%**	**25.3%**
TERMINAL 7										
Domestic	839,392	990,915	1,020,414	1,052,189	1,086,676	7.7%	7.3%	7.3%	7.3%	7.3%
International	1,312,903	1,480,934	1,619,716	1,794,184	2,001,622	14.0%	14.0%	14.0%	14.0%	14.0%
Total	**2,152,295**	**2,471,849**	**2,640,130**	**2,846,373**	**3,088,298**	**10.6%**	**10.2%**	**10.3%**	**10.4%**	**10.6%**
TERMINAL 8 & 9										
Domestic	2,228,262	2,634,458	2,713,982	2,799,631	2,892,565	20.3%	19.3%	19.3%	19.3%	19.3%
International	2,140,776	2,485,854	2,776,656	3,139,822	3,574,325	22.9%	23.5%	24.0%	24.5%	25.0%
Total	**4,369,038**	**5,120,312**	**5,490,638**	**5,939,453**	**6,466,890**	**21.5%**	**21.2%**	**21.4%**	**21.8%**	**22.1%**

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Sources: PANYNJ; Landrum & Brown.

Table XI-3
KENNEDY PASSENGER AIRCRAFT OPERATIONS BY TERMINAL

Terminal / Segment	Aircraft Operations					Percentage of Segment Total				
	2005	2010	2015	2020	2025	2005	2010	2015	2020	2025
All JFK Terminals										
Domestic	209,656	243,800	257,000	264,600	272,600	100.0%	100.0%	100.0%	100.0%	100.0%
International	103,858	119,000	127,200	139,200	153,200	100.0%	100.0%	100.0%	100.0%	100.0%
Total	313,514	362,800	384,200	403,800	425,800	100.0%	100.0%	100.0%	100.0%	100.0%
TERMINAL 1										
Domestic	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
International	15,238	16,806	18,128	19,806	21,798	14.7%	14.1%	14.3%	14.2%	14.2%
Total	**15,238**	**16,806**	**18,128**	**19,806**	**21,798**	4.9%	4.6%	4.7%	4.9%	5.1%
TERMINAL 2 & 3										
Domestic	69,040	64,264	65,438	66,992	68,686	32.9%	26.4%	25.5%	25.3%	25.2%
International	15,522	17,082	17,034	17,088	17,122	14.9%	14.4%	13.4%	12.3%	11.2%
Total	**84,562**	**81,346**	**82,472**	**84,080**	**85,808**	27.0%	22.4%	21.5%	20.8%	20.2%
TERMINAL 4										
Domestic	8,808	5,816	5,830	6,034	5,992	4.2%	2.4%	2.3%	2.3%	2.2%
International	30,846	35,812	38,760	42,508	47,426	29.7%	30.1%	30.5%	30.5%	31.0%
Total	**39,654**	**41,628**	**44,590**	**48,542**	**53,418**	12.6%	11.5%	11.6%	12.0%	12.5%
TERMINAL 6										
Domestic	74,456	111,044	121,646	125,716	130,130	35.5%	45.5%	47.3%	47.5%	47.7%
International	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
Total	**74,456**	**111,044**	**121,646**	**125,716**	**130,130**	23.7%	30.6%	31.7%	31.1%	30.6%
TERMINAL 7										
Domestic	19,672	21,640	21,984	22,608	23,290	9.4%	8.9%	8.6%	8.5%	8.5%
International	12,584	14,308	15,352	16,768	18,534	12.1%	12.0%	12.1%	12.0%	12.1%
Total	**32,256**	**35,948**	**37,336**	**39,376**	**41,824**	10.3%	9.9%	9.7%	9.8%	9.8%
TERMINAL 8 & 9										
Domestic	37,680	41,036	42,102	43,250	44,502	18.0%	16.8%	16.4%	16.3%	16.3%
International	29,668	34,992	37,926	43,030	48,320	28.6%	29.4%	29.8%	30.9%	31.5%
Total	**67,348**	**76,028**	**80,028**	**86,280**	**92,822**	21.5%	21.0%	20.8%	21.4%	21.8%

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Sources: PANYNJ; Landrum & Brown.

Future terminal allocations at LGA Airport were based upon the terminal that each carrier operated from in 2005. **Table XI-4** presents the assumed terminal assignments.

Table XI-4
LAGUARDIA CARRIERS BY TERMINAL

Central	US Airways
AirTran	US Airways
American	US Air Express
American Eagle/Connect	US Air Shuttle
Air Canada	
Air Canada Jazz	Delta
ATA	Delta
Canjet Airlines	Delta Connection
Continental	Delta Song
Continental Express	Northwest
Frontier	Northwest Airlink
Independence Air	
jetBlue	Marine
Jetsgo	Delta Shuttle
Miami Air Intern'L	
Midwest Airlines, Inc.	
Spirit Airlines	
United	
United Express	
Westjet	

H:\New York System Forecast\Forecasts\3 Overall Forecasts\LGA\[LGA Activity by Terminal.xls]LGA_Dom
Sources: PANYNJ; Landrum & Brown.

Tables XI-5 and **XI-6** present the terminal level forecasts at LGA Airport for enplaned passengers and passenger aircraft operations, respectively.

Table XI-5
LAGUARDIA ENPLANEMENTS BY TERMINAL

Terminal	Segment	Enplaned Passengers 2005	2010	2015	2020	2025	Percentage of Segment Total 2005	2010	2015	2020	2025
All LGA Terminals											
	Domestic	12,249,954	13,735,710	14,498,070	15,318,670	16,210,590	100.0%	100.0%	100.0%	100.0%	100.0%
	International	705,967	704,210	720,470	737,270	754,790	100.0%	100.0%	100.0%	100.0%	100.0%
	Total	**12,955,921**	**14,439,920**	**15,218,540**	**16,055,940**	**16,965,380**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Central											
	Domestic	6,202,830	7,382,449	7,769,697	8,363,663	8,877,152	50.6%	53.7%	53.6%	54.6%	54.8%
	International	576,208	577,452	590,785	604,561	618,928	81.6%	82.0%	82.0%	82.0%	82.0%
	Total	**6,779,038**	**7,959,901**	**8,360,482**	**8,968,225**	**9,496,080**	**52.3%**	**55.1%**	**54.9%**	**55.9%**	**56.0%**
US Airways											
	Domestic	2,349,265	2,424,980	2,550,162	2,592,545	2,704,002	19.2%	17.7%	17.6%	16.9%	16.7%
	International	50,849	49,295	50,433	51,609	52,835	7.2%	7.0%	7.0%	7.0%	7.0%
	Total	**2,400,114**	**2,474,275**	**2,600,595**	**2,644,154**	**2,756,837**	**18.5%**	**17.1%**	**17.1%**	**16.5%**	**16.2%**
Delta											
	Domestic	3,045,874	3,248,462	3,445,295	3,587,845	3,809,489	24.9%	23.6%	23.8%	23.4%	23.5%
	International	78,910	77,463	79,252	81,100	83,027	11.2%	11.0%	11.0%	11.0%	11.0%
	Total	**3,124,784**	**3,325,926**	**3,524,547**	**3,668,945**	**3,892,516**	**24.1%**	**23.0%**	**23.2%**	**22.9%**	**22.9%**
Marine											
	Domestic	651,985	679,819	732,916	774,616	819,947	5.3%	4.9%	5.1%	5.1%	5.1%
	International	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	Total	**651,985**	**679,819**	**732,916**	**774,616**	**819,947**	**5.0%**	**4.7%**	**4.8%**	**4.8%**	**4.8%**

Sources: Port Authority of New York & New Jersey; Landrum & Brown, Inc.
File: H:\New York System Forecast\Forecasts\3 Overall Forecasts\LGA\[LGA Activity by Terminal.xls]LGA Terminal Summary
Sources: PANYNJ; Landrum & Brown.

Table XI-6
LAGUARDIA PASSENGER OPERATIONS BY TERMINAL

Terminal	Segment	Aircraft Operations 2005	2010	2015	2020	2025	Percentage of Segment Total 2005	2010	2015	2020	2025
All LGA Terminals											
	Domestic	365,622	360,700	355,600	362,900	379,500	100.0%	100.0%	100.0%	100.0%	100.0%
	International	23,604	22,500	22,400	22,700	23,100	100.0%	100.0%	100.0%	100.0%	100.0%
	Total	**389,226**	**383,200**	**378,000**	**385,600**	**402,600**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Central											
	Domestic	142,468	148,794	152,218	163,212	171,866	39.0%	41.3%	42.8%	45.0%	45.3%
	International	19,750	18,778	18,756	19,042	19,342	83.7%	83.5%	83.7%	83.9%	83.7%
	Total	**162,218**	**167,572**	**170,974**	**182,254**	**191,208**	**41.7%**	**43.7%**	**45.2%**	**47.3%**	**47.5%**
US Airways											
	Domestic	129,560	117,874	111,640	108,572	112,134	35.4%	32.7%	31.4%	29.9%	29.5%
	International	1,130	1,140	1,128	1,162	1,184	4.8%	5.1%	5.0%	5.1%	5.1%
	Total	**130,690**	**119,014**	**112,768**	**109,734**	**113,318**	**33.6%**	**31.1%**	**29.8%**	**28.5%**	**28.1%**
Delta											
	Domestic	76,211	75,904	72,328	70,732	74,064	20.8%	21.0%	20.3%	19.5%	19.5%
	International	2,724	2,582	2,516	2,496	2,574	11.5%	11.5%	11.2%	11.0%	11.1%
	Total	**78,935**	**78,486**	**74,844**	**73,228**	**76,638**	**20.3%**	**20.5%**	**19.8%**	**19.0%**	**19.0%**
Marine											
	Domestic	17,383	18,128	19,414	20,384	21,436	4.8%	5.0%	5.5%	5.6%	5.6%
	International	-	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%
	Total	**17,383**	**18,128**	**19,414**	**20,384**	**21,436**	**4.5%**	**4.7%**	**5.1%**	**5.3%**	**5.3%**

Sources: Port Authority of New York & New Jersey; Landrum & Brown, Inc.
File: H:\New York System Forecast\Forecasts\3 Overall Forecasts\LGA\[LGA Activity by Terminal.xls]LGA Terminal Summary
Sources: PANYNJ; Landrum & Brown.

Future terminal allocations at EWR Airport were based upon the terminal that each carrier operated from in 2005. **Table XI-7** presents the assumed terminal assignments.

Table XI-7
NEWARK CARRIERS BY TERMINAL

Term A	Air Canada	Term B	Delta
	Air Canada Jazz		Delta Connection
	AirTran		Delta Song
	Alaska		El Al
	America West		Ethiopian Airlines
	American		EVA
	American Eagle/Connect		Jetsgo
	ATA		KLM
	Continental		Lot Polish
	Independence Air		Lufthansa
	jetBlue		Malaysia Airlines
	United		Miami Air Intern'L
	United Express		Midwest Airlines, Inc.
	US Air Express		Midwest Connect:Skyway Airline
	US Airways		Northwest
			Northwest Airlink
Term B	Air France		Pace Airlines
	Air India		SAS
	Air Jamaica		Singapore Airlines
	Air Portugal(Tap)		Swissair/Swiss Int'l Air Lines
	Alitalia		USA 3000
	British Airways		Virgin Atlantic
	Csa Czech Airlines		
		Term C	Continental
			Continental Express

H:\New York System Forecast\Forecasts\3 Overall Forecasts\EWR\[EWR Activity by Terminal.xls]EWR_Dom_Summ

Sources: PANYNJ; Landrum & Brown.

Tables XI-8 and **XI-9** present the terminal level forecasts at EWR Airport for enplanements and passenger operations, respectively.

Table XI-8
NEWARK ENPLANEMENTS BY TERMINAL

Terminal	Segment	Enplaned Passengers 2005	2010	2015	2020	2025	Percentage of Segment Total 2005	2010	2015	2020	2025
All EWR Terminals											
	Domestic	11,862,682	15,122,800	15,882,900	16,729,800	17,647,900	100.0%	100.0%	100.0%	100.0%	100.0%
	International	4,637,166	5,928,300	7,163,700	8,689,500	10,479,200	100.0%	100.0%	100.0%	100.0%	100.0%
	Total	**16,499,848**	**21,051,100**	**23,046,600**	**25,419,300**	**28,127,100**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
TERMINAL A											
	Domestic	3,439,896	4,711,917	5,085,868	5,502,036	5,957,500	29.0%	31.2%	32.0%	32.9%	33.8%
	International	139,679	177,849	214,911	260,685	314,376	3.0%	3.0%	3.0%	3.0%	3.0%
	Total	**3,579,575**	**4,889,766**	**5,300,779**	**5,762,721**	**6,271,876**	**21.7%**	**23.2%**	**23.0%**	**22.7%**	**22.3%**
TERMINAL B											
	Domestic	1,263,487	1,548,919	1,695,084	1,719,120	1,743,176	10.7%	10.2%	10.7%	10.3%	9.9%
	International	1,520,365	1,897,056	2,256,566	2,693,745	3,196,156	32.8%	32.0%	31.5%	31.0%	30.5%
	Total	**2,783,852**	**3,445,975**	**3,951,649**	**4,412,865**	**4,939,332**	**16.9%**	**16.4%**	**17.1%**	**17.4%**	**17.6%**
TERMINAL C											
	Domestic	7,159,299	8,861,964	9,101,949	9,508,644	9,947,224	60.4%	58.6%	57.3%	56.8%	56.4%
	International	2,977,122	3,853,395	4,692,224	5,735,070	6,968,668	64.2%	65.0%	65.5%	66.0%	66.5%
	Total	**10,136,421**	**12,715,359**	**13,794,172**	**15,243,714**	**16,915,892**	**61.4%**	**60.4%**	**59.9%**	**60.0%**	**60.1%**

Sources: Port Authority of New York & New Jersey; Landrum & Brown, Inc.
File: H:\New York System Forecast\Forecasts\3 Overall Forecasts\EWR\[EWR Activity by Terminal.xls]EWR Terminal Summary
Sources: PANYNJ; Landrum & Brown.

Table XI-9
NEWARK PASSENGER OPERATIONS BY TERMINAL

Terminal	Segment	Aircraft Operations 2005	2010	2015	2020	2025	Percentage of Segment Total 2005	2010	2015	2020	2025
All EWR Terminals											
	Domestic	319,488	383,300	404,800	423,400	442,300	100.0%	100.0%	100.0%	100.0%	100.0%
	International	73,542	93,400	108,400	128,800	152,300	100.0%	100.0%	100.0%	100.0%	100.0%
	Total	393,030	476,700	513,200	552,200	594,600	100.0%	100.0%	100.0%	100.0%	100.0%
TERMINAL A											
	Domestic	82,120	107,054	115,738	124,516	134,110	25.7%	27.9%	28.6%	29.4%	30.3%
	International	6,108	6,468	7,164	8,022	8,982	8.3%	6.9%	6.6%	6.2%	5.9%
	Total	**88,228**	**113,522**	**122,902**	**132,538**	**143,092**	22.4%	23.8%	23.9%	24.0%	24.1%
TERMINAL B											
	Domestic	28,726	34,260	37,402	37,984	38,570	9.0%	8.9%	9.2%	9.0%	8.7%
	International	16,452	19,970	23,144	26,938	31,182	22.4%	21.4%	21.4%	20.9%	20.5%
	Total	**45,178**	**54,230**	**60,546**	**64,922**	**69,752**	11.5%	11.4%	11.8%	11.8%	11.7%
TERMINAL C											
	Domestic	208,642	241,986	251,660	260,900	269,620	65.3%	63.1%	62.2%	61.6%	61.0%
	International	50,982	66,962	78,092	93,840	112,136	69.3%	71.7%	72.0%	72.9%	73.6%
	Total	**259,624**	**308,948**	**329,752**	**354,740**	**381,756**	66.1%	64.8%	64.3%	64.2%	64.2%

Sources: Port Authority of New York & New Jersey; Landrum & Brown, Inc.
File: H:\New York System Forecast\Forecasts\3 Overall Forecasts\EWR\[EWR Activity by Terminal.xls]EWR Terminal Summary
Sources: PANYNJ; Landrum & Brown.

XII. Sensitivity Scenarios

Optimistic and Pessimistic Scenarios were developed to show the range of likely aviation activity that could be experienced at JFK, LGA, and EWR Airports over the next 20 years. Optimistic and pessimistic levels of activity were developed for enplaned passengers and cargo tonnage, and their associated aircraft operations. Distinct activity levels for general aviation and military operations were not developed for these scenarios. The Optimistic Scenario is not meant to represent the absolute maximum activity that is possible at each airport during the forecast period. By the same token, the Pessimistic Scenario does not represent a gloom-and-doom scenario.

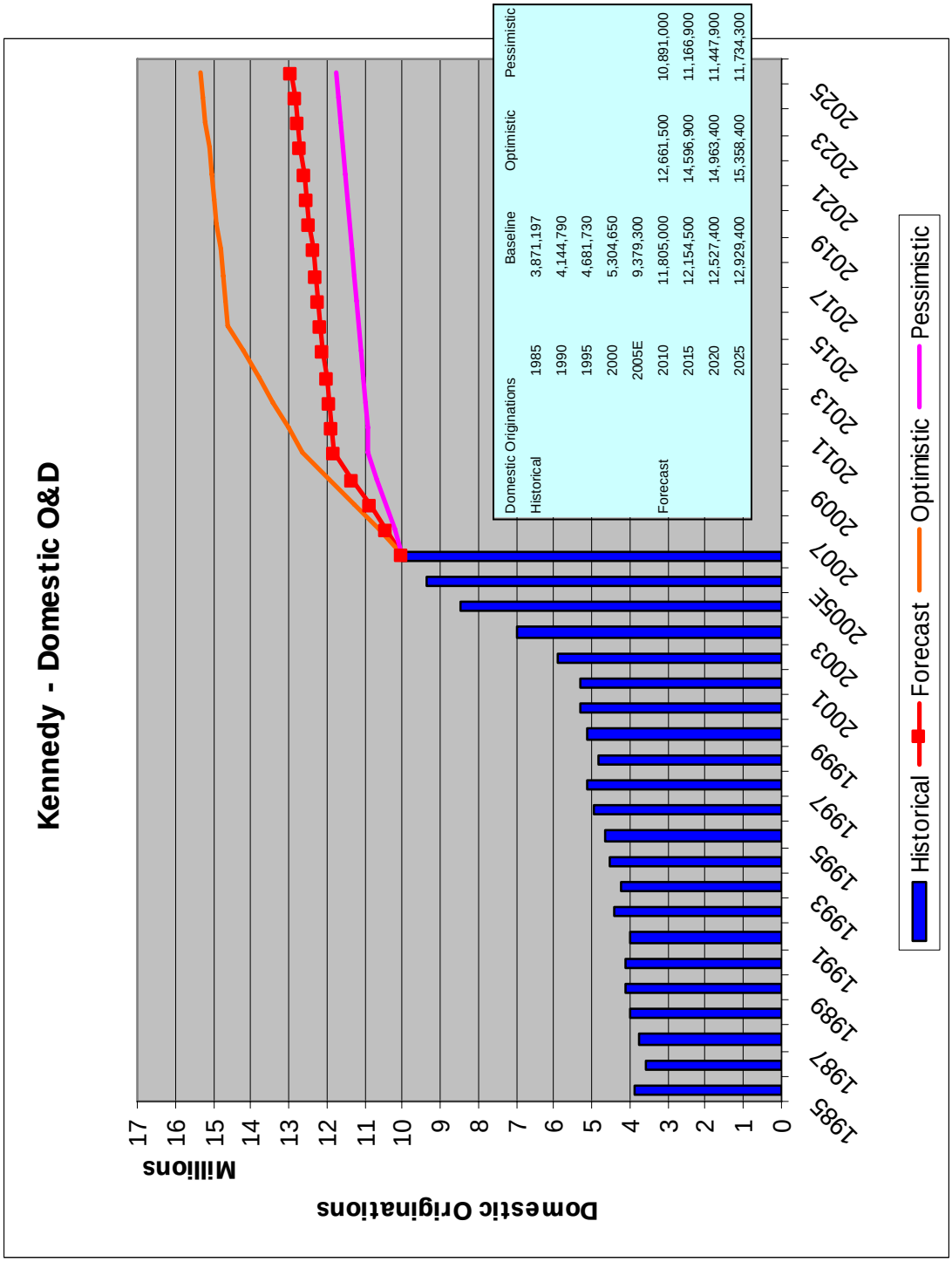
The enplanement forecast is comprised of three components: domestic originations, international originations, and connecting enplanements. The optimistic scenarios for domestic and international originations were modeled separately. Connecting enplanements were forecasted as a function of the associated domestic and international activity.

XII.1 JFK Airport

The optimistic scenario for domestic originations assumes a continuation of the success of the Low Cost Carriers (LCCs) to stimulate traffic above the level correlated to growth in the underlying demographic and economic variables for the airport's air service area.

The pessimistic scenario for domestic originations assumes that the underlying demographic and economic variables for the airport service area increase at 75 percent of the original growth rate.

Exhibit XII-1
KENNEDY DOMESTIC ORIGINATIONS –SCENARIOS



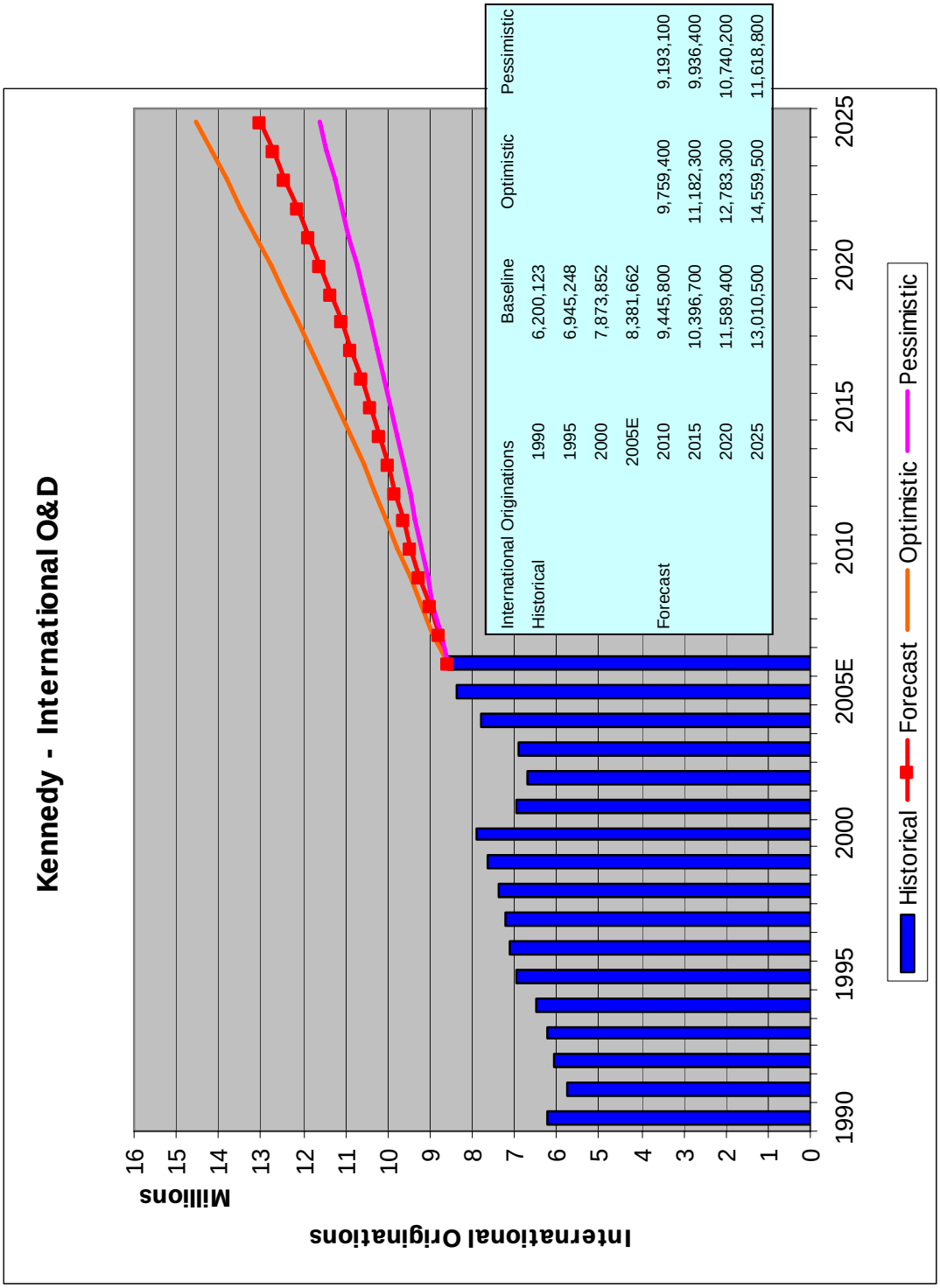
Domestic Originations		Baseline	Optimistic	Pessimistic
Historical	1985	3,871,197		
	1990	4,144,790		
	1995	4,681,730		
	2000	5,304,650		
	2005E	9,379,300		
Forecast	2010	11,805,000	12,661,500	10,891,000
	2015	12,154,500	14,596,900	11,166,900
	2020	12,527,400	14,963,400	11,447,900
	2025	12,929,400	15,358,400	11,734,300

Sources: DOT Passenger Ticket Survey; Landrum & Brown.

The international originations model for the optimistic scenario used the combination of JFK and EWR Airports' historical traffic, as was done for the baseline forecast. The optimistic scenario for international originations assumes that the U.S. legacy carriers' recent emphasis on international service generates 2.4 million additional international originations than the baseline forecast. The additional traffic was allocated 60 percent to JFK Airport and 40 percent to EWR Airport.

The pessimistic scenario for international originations assumes that the underlying demographic and economic variables for the airport service area increase at 75 percent of the original growth rate.

Exhibit XII-2
KENNEDY INTERNATIONAL ORIGINATIONS –SCENARIOS

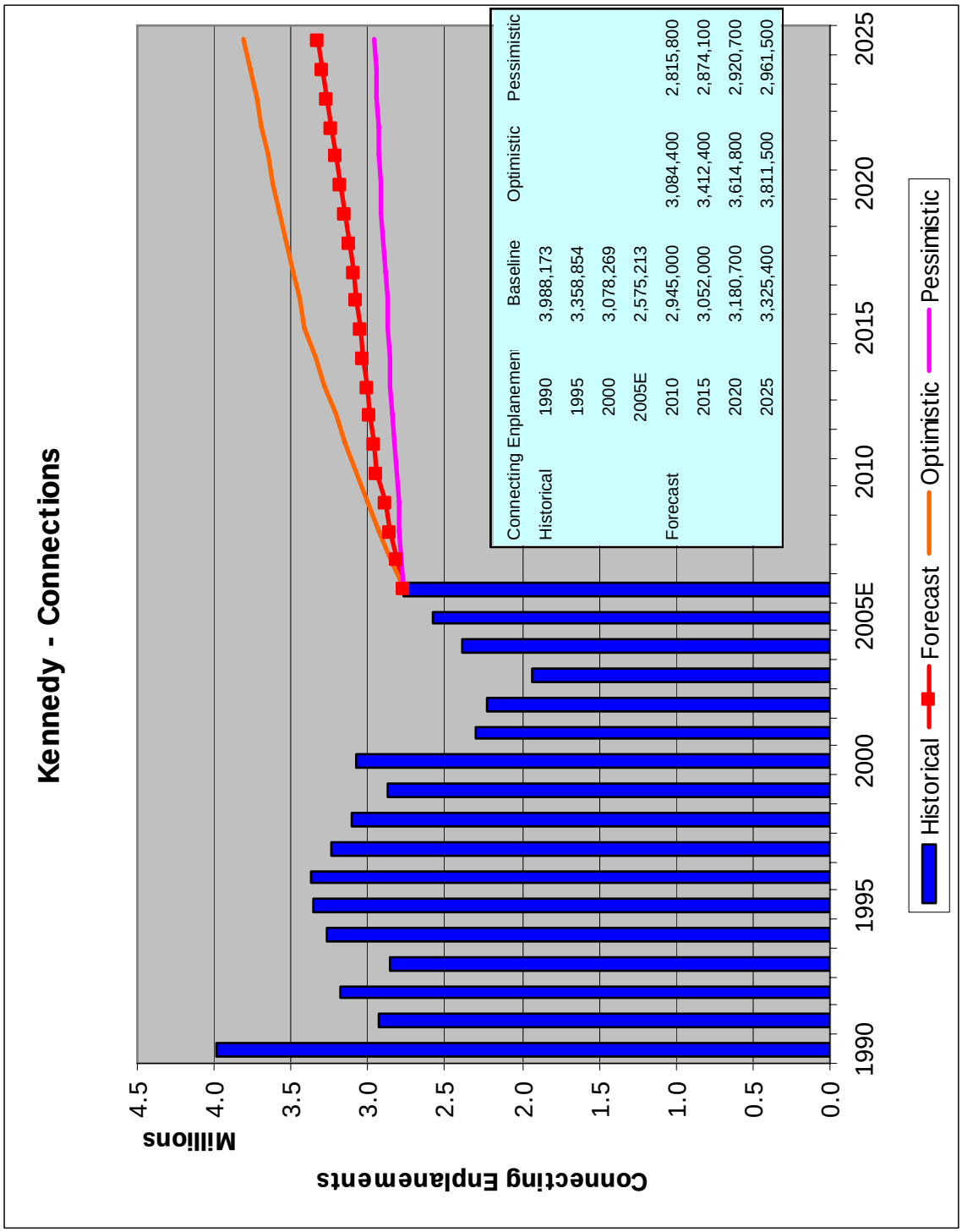


International Originations		Baseline	Optimistic	Pessimistic
Historical	1990	6,200,123		
	1995	6,945,248		
	2000	7,873,852		
	2005E	8,381,662		
Forecast	2010	9,445,800	9,759,400	9,193,100
	2015	10,396,700	11,182,300	9,936,400
	2020	11,589,400	12,783,300	10,740,200
	2025	13,010,500	14,559,500	11,618,800

Sources: DOT Passenger Ticket Survey; Landrum & Brown.

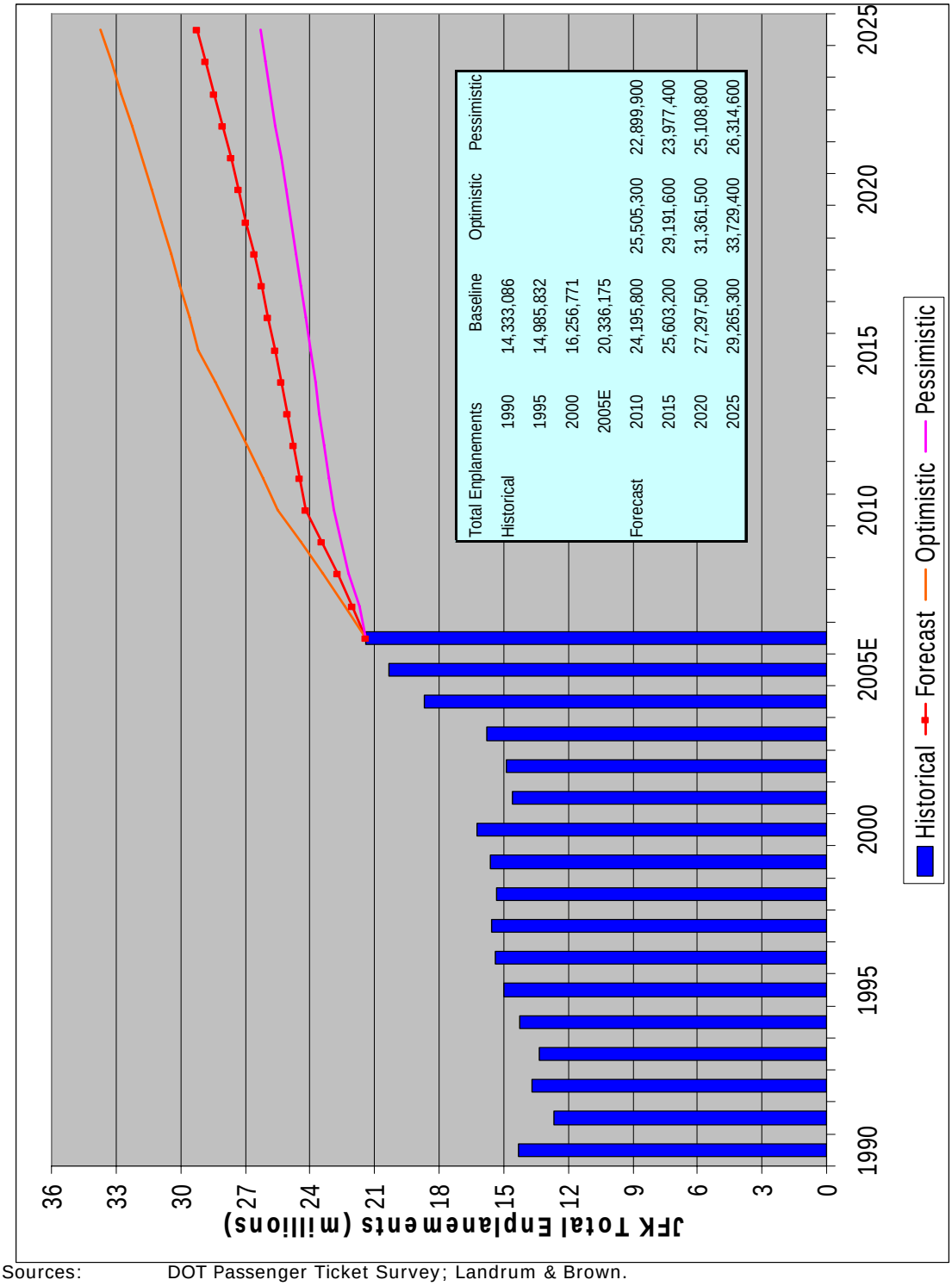
The optimistic and pessimistic scenarios for connecting enplanements assume that domestic-to-domestic connections will represent the same percent of domestic originations as in the baseline forecast. Domestic-to-international and international-to-domestic connections are assumed to represent the same percentage of international originations as in the baseline forecast.

Exhibit XII-3
KENNEDY CONNECTING ENPLANEMENTS –SCENARIOS



Sources: DOT Passenger Ticket Survey; Landrum & Brown.

Exhibit XII-4
KENNEDY ENPLANED PASSENGERS –SCENARIOS



Sources: DOT Passenger Ticket Survey; Landrum & Brown.

Air Cargo Optimistic and Pessimistic Growth Scenarios

Optimistic Cargo Growth Forecast

The airline industry including the air cargo industry has encountered some major set backs since 2000. One was the rise in fuel costs. The cost for a barrel of fuel climbed over 60 percent in 2000 and has been increasing since. Tighter security measures since September 11th has also increased costs for cargo airlines which shifted some air cargo demand to trucks. To analyze growth optimistically, a decline in fuel price can be assumed. In addition, development of new cargo screening equipment will bring the air cargo cost down. This will most likely bring some cargo that started to be transported in trucks back to airlines. At the same time, with reduce cost and delay in screening cargo; it is likely to see growth in belly cargo in the future years in the region. Optimistically, better USA and world economic growth will also enhance the air cargo industry. These assumptions will increase cargo growth rates close to pre 9/11 levels.

Pessimistic Cargo Growth Forecast

Things could get worse for the airlines. If jet fuel prices increase further in the future cost to transport cargo by air will continue to grow and shippers will look to alternate transportation methods to transport their goods. Additionally, tighter security regulations can shift more air cargo on to trucks and other transportation means. There is also a possibility that the USA and world economies will decline during the next 20 years. This will further decline air cargo demand. Lastly, more and more foreign airlines could move their operations to other airports with the use of long range aircrafts. This would hinder demand for air cargo in the region further.

Table XII-1
KENNEDY CARGO TONNAGE –SCENARIOS

Air Cargo Tonnage Forecast
Kennedy International Airport

		Baseline			Optimistic Scenario			Pessimistic Scenario		
	Year	Freighter	Belly	Total	Freighter	Belly	Total	Freighter	Belly	Total
Actual	1990	621,417	836,636	1,458,053	621,417	836,636	1,458,053	621,417	836,636	1,458,053
	1995	885,253	894,924	1,780,177	885,253	894,924	1,780,177	885,253	894,924	1,780,177
	2000	1,125,733	905,976	2,031,709	1,125,733	905,976	2,031,709	1,125,733	905,976	2,031,709
Estimate	2005	1,096,903	733,819	1,830,722	1,096,903	733,819	1,830,722	1,096,903	733,819	1,830,722
Forecast	2006	1,177,134	788,115	1,965,250	1,180,929	789,618	1,970,547	1,175,794	787,585	1,963,378
	2007	1,203,335	799,723	2,003,059	1,216,827	807,175	2,024,002	1,192,676	792,490	1,985,167
	2008	1,227,579	809,576	2,037,155	1,250,942	822,915	2,073,857	1,207,542	795,690	2,003,231
	2009	1,250,531	818,203	2,068,734	1,283,943	837,367	2,121,310	1,221,054	797,714	2,018,768
	2010	1,272,480	825,839	2,098,319	1,316,123	850,762	2,166,885	1,233,500	798,799	2,032,299
	2011	1,293,854	832,822	2,126,676	1,347,916	863,434	2,211,350	1,245,308	799,282	2,044,590
	2012	1,314,882	839,332	2,154,214	1,379,556	875,560	2,255,117	1,256,708	799,343	2,056,051
	2013	1,335,873	845,604	2,181,476	1,411,357	887,374	2,298,731	1,268,006	799,219	2,067,226
	2014	1,356,821	851,635	2,208,456	1,443,319	898,868	2,342,187	1,279,197	798,908	2,078,105
	2015	1,377,527	857,274	2,234,801	1,475,247	909,888	2,385,135	1,290,080	798,259	2,088,340
	2020	1,482,465	883,355	2,365,820	1,639,630	961,521	2,601,151	1,344,891	793,737	2,138,628
	2025	1,590,701	906,448	2,497,149	1,813,444	1,007,544	2,820,988	1,401,243	787,686	2,188,929
Average Annual Growth Rates										
	1990-2005	3.9%	-0.9%	1.5%	3.9%	-0.9%	1.5%	3.9%	-0.9%	1.5%
	2005-2015	2.3%	1.6%	2.0%	3.0%	2.2%	2.7%	1.6%	0.8%	1.3%
	2015-2025	1.4%	0.6%	1.1%	2.1%	1.0%	1.7%	0.8%	-0.1%	0.5%
	2005-2025	1.9%	1.1%	1.6%	2.5%	1.6%	2.2%	1.2%	0.4%	0.9%

H:\New York System Forecast\Forecasts\Cargo\[Cargo Forecast Template.xls]Tables

Sources: DOT Passenger Ticket Survey; Landrum & Brown.

The optimistic scenario for aircraft operations assumes the same average seats per departure (ASPD or gauge) and average load factor as the baseline forecast. The passenger and cargo operations are derived from the optimistic scenario for enplanements and cargo tonnage, respectively.

Table XII-2
KENNEDY AIRCRAFT OPERATIONS – OPTIMISTIC SCENARIO

Aircraft Operations Forecast - Optimistic Scenario
Kennedy International Airport

	Calendar	Domestic		International		Domestic	International	General		
	Year	Air Carrier	Commuter	Air Carrier	Commuter	All-Cargo	All-Cargo	Aviation	Military	Total
Actual	1995	98,114	96,994	96,092	3,330	12,957	13,647	18,534	456	340,124
	2000	107,196	88,230	104,706	4,194	11,511	13,824	14,823	827	345,311
Estimate	2005	149,946	58,494	100,820	5,868	8,769	14,402	13,144	258	351,701
Estimate	2006	162,000	47,000	104,896	6,908	8,920	15,840	13,200	380	359,145
Forecast	2007	173,000	48,000	108,000	6,400	9,080	16,350	13,300	380	374,510
	2008	184,600	48,800	111,000	6,400	9,240	16,100	13,400	380	389,920
	2009	197,200	49,600	113,800	6,400	9,400	16,370	13,500	380	406,650
	2010	210,600	50,400	116,800	6,200	9,560	16,610	13,600	380	424,150
	2011	218,000	51,600	119,400	6,400	9,730	16,840	13,700	380	436,050
	2012	225,600	52,800	122,000	6,400	9,900	17,060	13,800	380	447,940
	2013	233,600	54,000	124,600	6,400	10,070	17,260	13,900	380	460,210
	2014	241,800	55,200	127,400	6,400	10,250	17,460	14,000	380	472,890
	2015	250,200	56,600	130,400	6,400	10,430	17,650	14,100	380	486,160
	2020	257,800	57,000	146,400	7,200	11,370	18,530	14,600	380	513,280
	2025	265,600	57,400	163,800	8,000	12,400	19,310	15,100	380	541,990
Average Annual Growth Rates										
	1995-2005	4.3%	-4.9%	0.5%	5.8%	-3.8%	0.5%	-3.4%	-5.5%	0.3%
	2005-2015	5.3%	-0.3%	2.6%	0.9%	1.7%	2.1%	0.7%	3.9%	3.3%
	2015-2025	0.6%	0.1%	2.3%	2.3%	1.7%	0.9%	0.7%	0.0%	1.1%
	2005-2025	2.9%	-0.1%	2.5%	1.6%	1.7%	1.5%	0.7%	2.0%	2.2%

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Sources: DOT Passenger Ticket Survey; Landrum & Brown.

The pessimistic scenario for aircraft operations assumes the same average seats per departure (ASPD or gauge) and average load factor as the baseline forecast. The passenger and cargo operations are derived from the pessimistic scenario for enplanements and cargo tonnage, respectively.

Table XII-3
KENNEDY AIRCRAFT OPERATIONS – PESSIMISTIC SCENARIO

Aircraft Operations Forecast - Pessimistic Scenario
Kennedy International Airport

	Calendar	Domestic		International		Domestic	International	General		
	Year	Air Carrier	Commuter	Air Carrier	Commuter	All-Cargo	All-Cargo	Aviation	Military	Total
Actual	1995	98,114	96,994	96,092	3,330	12,957	13,647	18,534	456	340,124
	2000	107,196	88,230	104,706	4,194	11,511	13,824	14,823	827	345,311
Estimate	2005	149,946	58,494	100,820	5,868	8,769	14,402	13,144	258	351,701
Estimate	2006	162,000	47,000	104,896	6,908	8,790	15,840	13,200	380	359,015
Forecast	2007	166,800	46,200	105,600	6,200	8,810	16,090	13,300	380	363,380
	2008	171,800	45,400	107,800	6,200	8,830	15,600	13,400	380	369,410
	2009	176,800	44,400	109,000	6,000	8,860	15,620	13,500	380	374,560
	2010	182,200	43,600	110,000	6,000	8,880	15,630	13,600	380	380,290
	2011	184,400	43,600	111,200	5,800	8,900	15,620	13,700	380	383,600
	2012	186,400	43,600	112,200	5,800	8,920	15,610	13,800	380	386,710
	2013	188,600	43,600	113,400	5,800	8,940	15,590	13,900	380	390,210
	2014	190,800	43,600	114,600	5,800	8,970	15,560	14,000	380	393,710
	2015	193,000	43,600	115,800	5,800	8,990	15,530	14,100	380	397,200
	2020	198,000	43,800	123,000	6,000	9,100	15,360	14,600	380	410,240
	2025	203,000	43,800	130,600	6,400	9,210	15,180	15,100	380	423,670
Average Annual Growth Rates										
	1995-2005	4.3%	-4.9%	0.5%	5.8%	-3.8%	0.5%	-3.4%	-5.5%	0.3%
	2005-2015	2.6%	-2.9%	1.4%	-0.1%	0.2%	0.8%	0.7%	3.9%	1.2%
	2015-2025	0.5%	0.0%	1.2%	1.0%	0.2%	-0.2%	0.7%	0.0%	0.6%
	2005-2025	1.5%	-1.4%	1.3%	0.4%	0.2%	0.3%	0.7%	2.0%	0.9%

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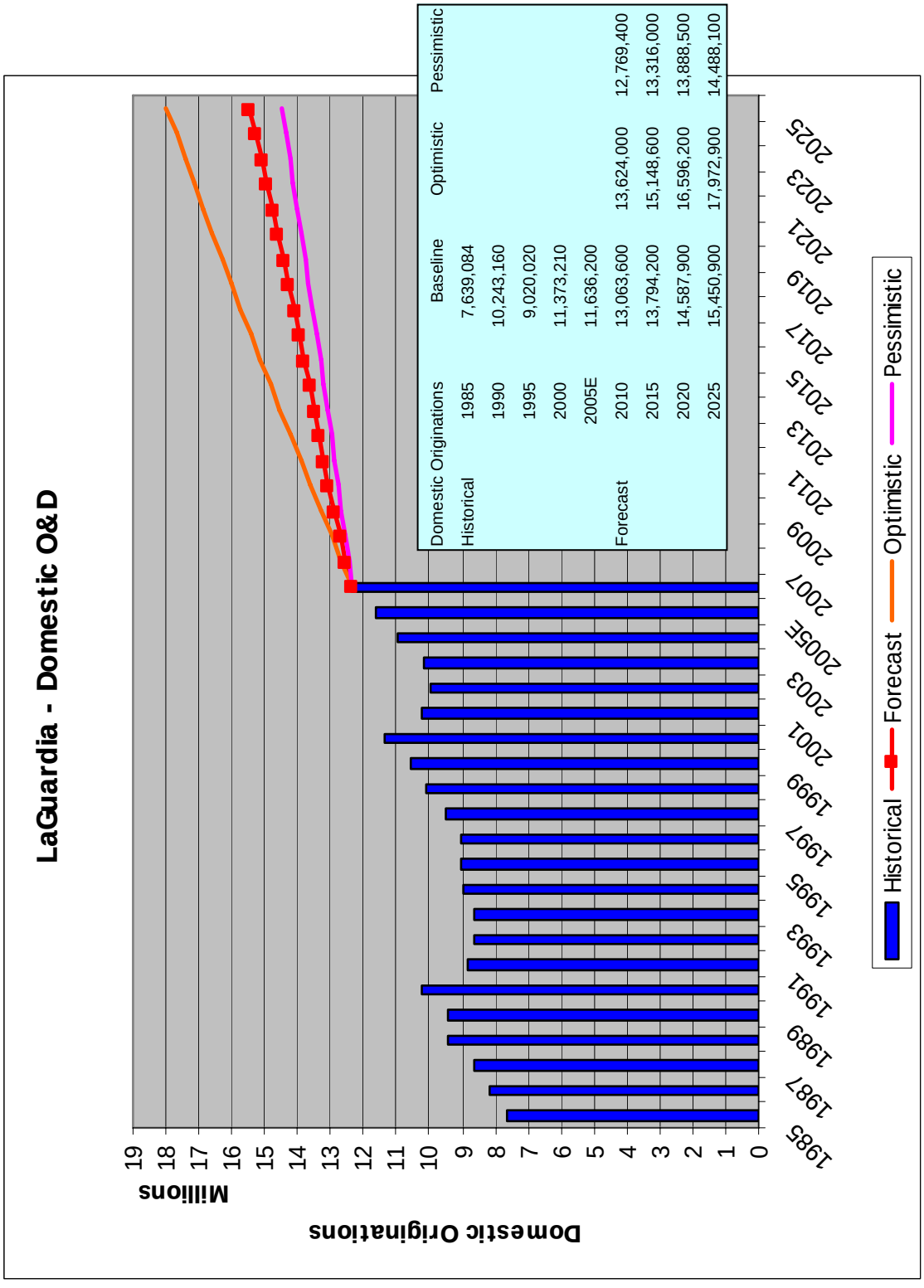
Sources: DOT Passenger Ticket Survey; Landrum & Brown.

XII.2 LGA Airport

The optimistic scenario for domestic originations assumes a continuation of the higher than historical growth experienced in 2004 and 2005.

The pessimistic scenario for domestic originations assumes that the underlying demographic and economic variables for the airport service area increase at 75 percent of the original growth rate.

Exhibit XII-5
LAGUARDIA DOMESTIC ORIGINATIONS –SCENARIOS

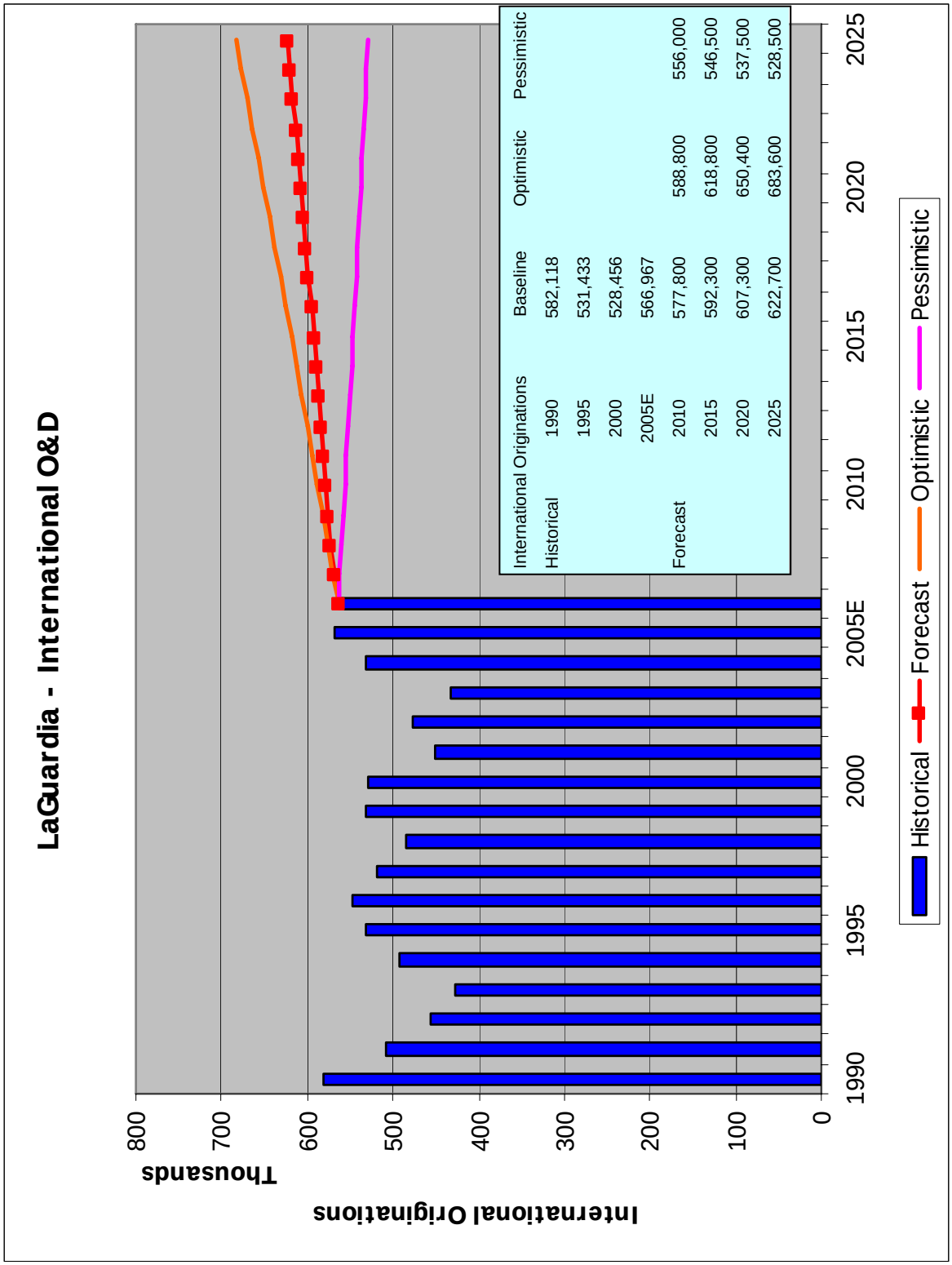


Sources: DOT Passenger Ticket Survey; Landrum & Brown.

The optimistic scenario for international originations assumes an average annual growth rate of 1.0 percent from 2006 to 2025, compared to the 0.5 percent annual rate assumed in the baseline forecast. This may represent a conservative estimate if the perimeter rule is relaxed and more international markets can be served daily from LGA.

The pessimistic scenario for international originations assumes that international service will be de-emphasized somewhat in the future and traffic will decline to the level experienced in 2000.

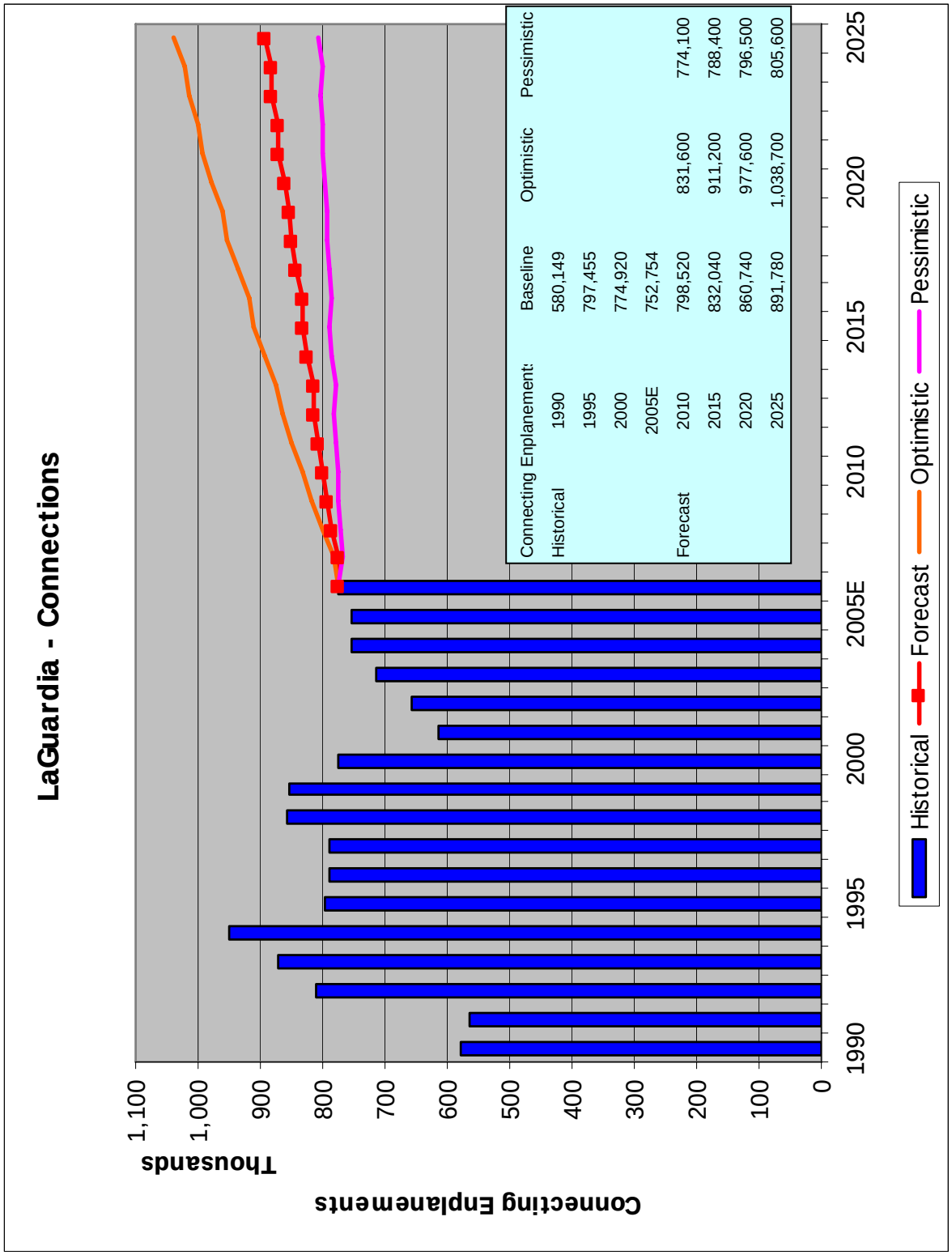
Exhibit XII-6
LAGUARDIA INTERNATIONAL ORIGINATIONS – SCENARIOS



Sources: DOT Passenger Ticket Survey; Landrum & Brown.

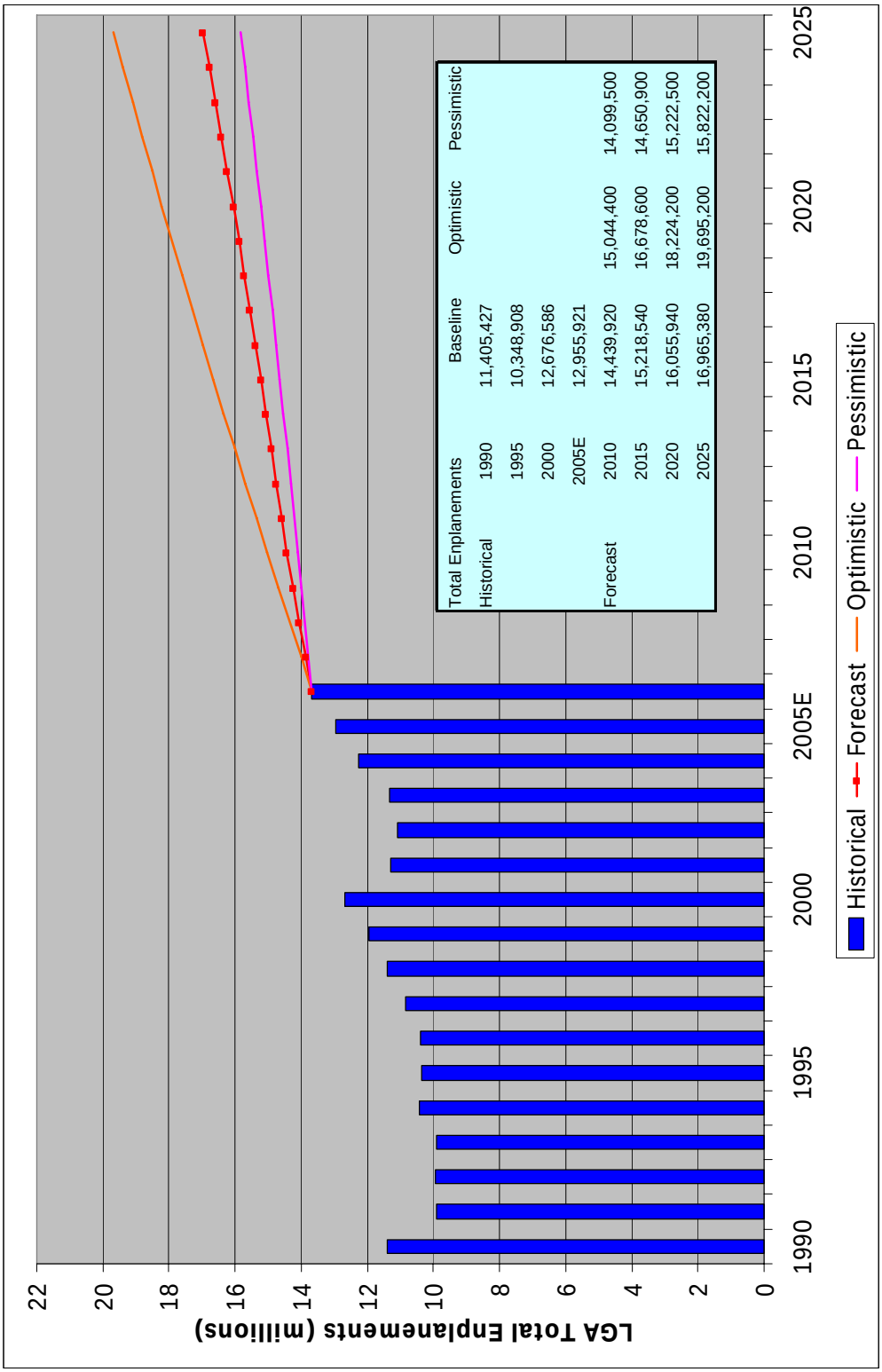
The optimistic and pessimistic scenarios for connecting enplanements assume that domestic-to-domestic connections will represent the same percent of domestic originations as in the baseline forecast. Domestic-to-international and international-to-domestic connections are assumed to represent the same percentage of international originations as in the baseline forecast.

Exhibit XII-7
LAGUARDIA CONNECTING ENPLANEMENTS – SCENARIOS



Sources: DOT Passenger Ticket Survey; Landrum & Brown.

Exhibit XII-8
LAGUARDIA TOTAL ENPLANEMENTS – SCENARIOS



Total Enplanements		Baseline	Optimistic	Pessimistic
Historical	1990	11,405,427		
	1995	10,348,908		
	2000	12,676,586		
	2005E	12,955,921		
Forecast	2010	14,439,920	15,044,400	14,099,500
	2015	15,218,540	16,678,600	14,650,900
	2020	16,055,940	18,224,200	15,222,500
	2025	16,965,380	19,695,200	15,822,200

Sources: DOT Passenger Ticket Survey; Landrum & Brown.

Table XII-4
LAGUARDIA CARGO TONNAGE – SCENARIOS

Air Cargo Tonnage Forecast
LaGuardia Airport

		Baseline			Optimistic Scenario			Pessimistic Scenario		
	Year	Freighter	Belly	Total	Freighter	Belly	Total	Freighter	Belly	Total
Actual	1990	19,174	109,651	128,825	19,174	109,651	128,825	19,174	109,651	128,825
	1995	2,282	99,921	102,203	2,282	99,921	102,203	2,282	99,921	102,203
	2000	-	79,171	79,171	-	79,171	79,171	-	79,171	79,171
Estimate	2005	-	31,525	31,525	-	31,525	31,525	-	31,525	31,525
Forecast	2006	-	30,446	30,446	-	31,894	31,894	-	29,945	29,945
	2007	-	29,404	29,404	-	32,267	32,267	-	28,452	28,452
	2008	-	28,399	28,399	-	32,644	32,644	-	27,041	27,041
	2009	-	27,429	27,429	-	33,026	33,026	-	25,706	25,706
	2010	-	26,493	26,493	-	33,413	33,413	-	24,443	24,443
	2011	-	25,589	25,589	-	33,804	33,804	-	23,247	23,247
	2012	-	24,716	24,716	-	34,199	34,199	-	22,113	22,113
	2013	-	23,874	23,874	-	34,600	34,600	-	21,039	21,039
	2014	-	23,061	23,061	-	35,004	35,004	-	20,019	20,019
	2015	-	22,277	22,277	-	35,414	35,414	-	19,052	19,052
	2020	-	18,741	18,741	-	37,536	37,536	-	14,899	14,899
	2025	-	15,775	15,775	-	39,786	39,786	-	11,675	11,675
Average Annual Growth Rates										
	1990-2005	-100.0%	-8.0%	-9.0%	-100.0%	-8.0%	-9.0%	-100.0%	-8.0%	-9.0%
	2005-2015	n/a	-3.4%	-3.4%	n/a	1.2%	1.2%	n/a	-4.9%	-4.9%
	2015-2025	n/a	-3.4%	-3.4%	n/a	1.2%	1.2%	n/a	-4.8%	-4.8%
	2005-2025	n/a	-3.4%	-3.4%	n/a	1.2%	1.2%	n/a	-4.8%	-4.8%

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Sources: DOT Passenger Ticket Survey; Landrum & Brown.

The optimistic scenario for aircraft operations assumes the same average seats per departure (ASPD or gauge) and average load factor as the baseline forecast. The passenger and cargo operations are derived from the optimistic scenario for enplanements and cargo tonnage, respectively.

Table XII-5
LAGUARDIA AIRCRAFT OPERATIONS – OPTIMISTIC SCENARIO

Aircraft Operations Forecast - Optimistic Scenario
LaGuardia Airport

	Calendar	Domestic		International		Domestic	International	General		
	Year	Air Carrier	Commuter	Transborder	Other	All-Cargo	All-Cargo	Aviation	Military	Total
Actual	1995	225,932	75,586	20,268	1,352	332	0	21,729	291	345,490
	2000	234,614	104,216	21,408	1,166	0	0	22,757	394	384,555
Estimate	2005	195,606	170,012	21,476	2,124	0	0	14,005	302	403,525
Estimate	2006	197,649	170,810	20,515	2,672	0	0	14,100	370	406,116
Forecast	2007	199,400	179,700	20,400	2,700	0	0	14,200	370	416,770
	2008	204,400	173,400	20,400	2,700	0	0	14,300	370	415,570
	2009	209,500	167,400	20,300	2,700	0	0	14,400	370	414,670
	2010	214,500	161,600	20,200	2,800	0	0	14,500	370	413,970
	2011	220,100	157,000	20,300	2,800	0	0	14,600	370	415,170
	2012	225,800	152,600	20,400	2,800	0	0	14,700	370	416,670
	2013	231,500	148,300	20,400	2,800	0	0	14,800	370	418,170
	2014	235,800	149,200	20,500	2,800	0	0	14,900	370	423,570
	2015	240,300	150,200	20,600	2,800	0	0	15,000	370	429,270
	2020	259,600	153,100	21,400	2,900	0	0	15,500	370	452,870
	2025	279,200	162,300	22,300	3,000	0	0	16,000	370	483,170
Average Annual Growth Rates										
	1995-2005	-1.4%	8.4%	0.6%	4.6%	-100.0%	n/a	-4.3%	0.4%	1.6%
	2005-2015	2.1%	-1.2%	-0.4%	2.8%	n/a	n/a	0.7%	2.1%	0.6%
	2015-2025	1.5%	0.8%	0.8%	0.7%	n/a	n/a	0.6%	0.0%	1.2%
	2005-2025	1.8%	-0.2%	0.2%	1.7%	n/a	n/a	0.7%	1.0%	0.9%

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Sources: DOT Passenger Ticket Survey; Landrum & Brown.

The pessimistic scenario for aircraft operations assumes the same average seats per departure (ASPD or gauge) and average load factor as the baseline forecast. The passenger and cargo operations are derived from the pessimistic scenario for enplanements and cargo tonnage, respectively.

Table XII-6
LAGUARDIA AIRCRAFT OPERATIONS – PESSIMISTIC SCENARIO

Aircraft Operations Forecast - Pessimistic Scenario
LaGuardia Airport

	Calendar Year	Domestic Air Carrier	Domestic Commuter	International Transborder	International Other	Domestic All-Cargo	International All-Cargo	General Aviation	Military	Total
Actual	1995	225,932	75,586	20,268	1,352	332	0	21,729	291	345,490
	2000	234,614	104,216	21,408	1,166	0	0	22,757	394	384,555
Estimate	2005	195,606	170,012	21,476	2,124	0	0	14,005	302	403,525
Estimate	2006	197,649	170,810	20,515	2,672	0	0	14,100	370	406,116
Forecast	2007	196,100	176,800	20,100	2,700	0	0	14,200	370	410,270
	2008	197,800	167,900	19,800	2,600	0	0	14,300	370	402,770
	2009	199,400	159,500	19,400	2,600	0	0	14,400	370	395,670
	2010	200,900	151,400	19,100	2,600	0	0	14,500	370	388,870
	2011	203,500	145,300	18,900	2,600	0	0	14,600	370	385,270
	2012	206,100	139,400	18,700	2,600	0	0	14,700	370	381,870
	2013	208,600	133,600	18,500	2,500	0	0	14,800	370	378,370
	2014	209,800	132,800	18,400	2,500	0	0	14,900	370	378,770
	2015	211,000	131,900	18,200	2,500	0	0	15,000	370	378,970
	2020	217,000	127,900	17,700	2,400	0	0	15,500	370	380,870
	2025	224,700	130,400	17,300	2,300	0	0	16,000	370	391,070
Average Annual Growth Rates										
	1995-2005	-1.4%	8.4%	0.6%	4.6%	-100.0%	n/a	-4.3%	0.4%	1.6%
	2005-2015	0.8%	-2.5%	-1.6%	1.6%	n/a	n/a	0.7%	2.1%	-0.6%
	2015-2025	0.6%	-0.1%	-0.5%	-0.8%	n/a	n/a	0.6%	0.0%	0.3%
	2005-2025	0.7%	-1.3%	-1.1%	0.4%	n/a	n/a	0.7%	1.0%	-0.2%

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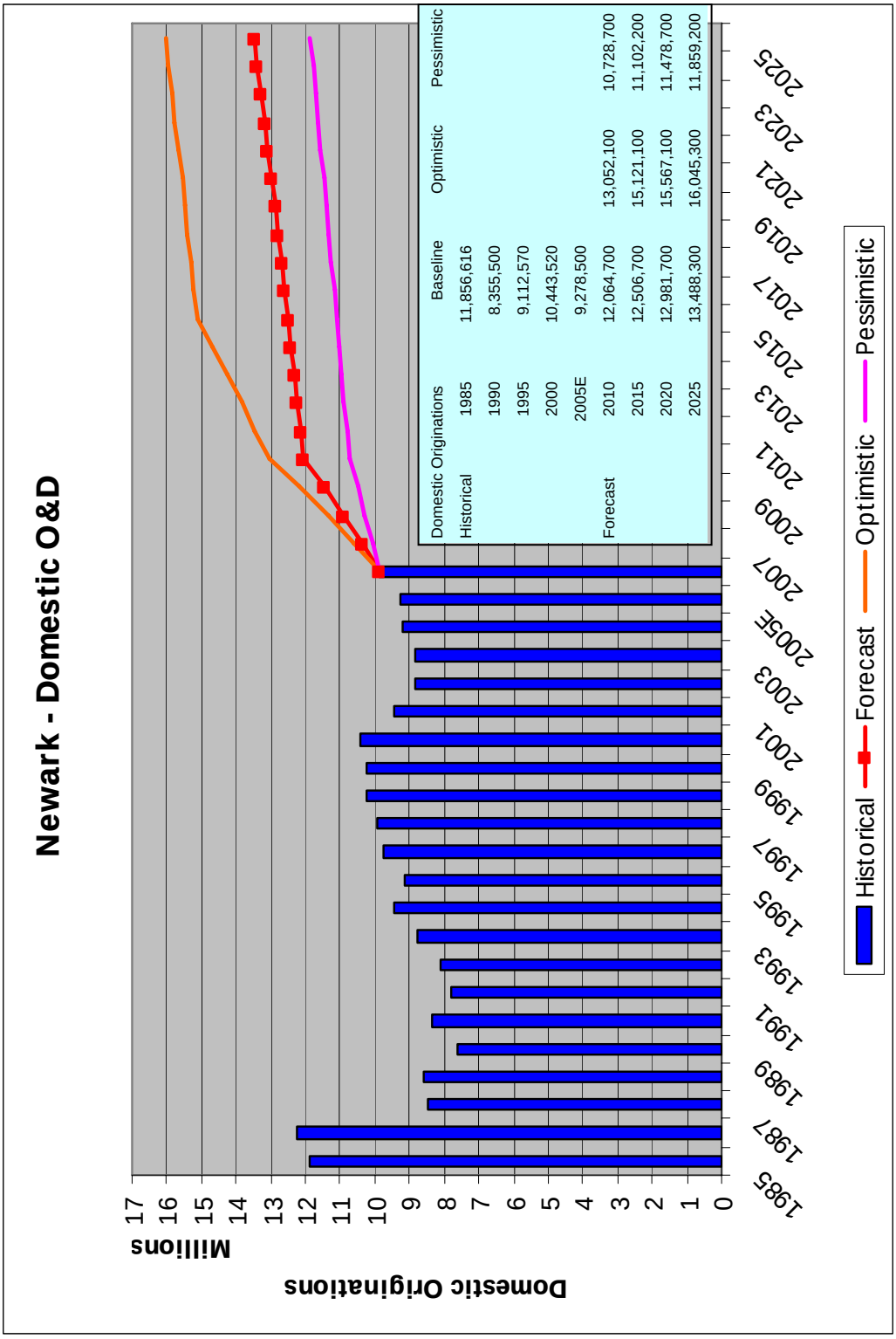
Sources: DOT Passenger Ticket Survey; Landrum & Brown.

XII.3 EWR Airport

The optimistic scenario for domestic originations assumes the penetration of LCCs at EWR Airport will increase significantly, to at least a level approximating the national average. The optimistic scenario also assumes that Continental will respond competitively to the new LCC service.

The pessimistic scenario for domestic originations assumes that the underlying demographic and economic variables for the airport service area increase at 75 percent of the original growth rate.

Exhibit XII-9
NEWARK DOMESTIC ORIGINATIONS – SCENARIOS

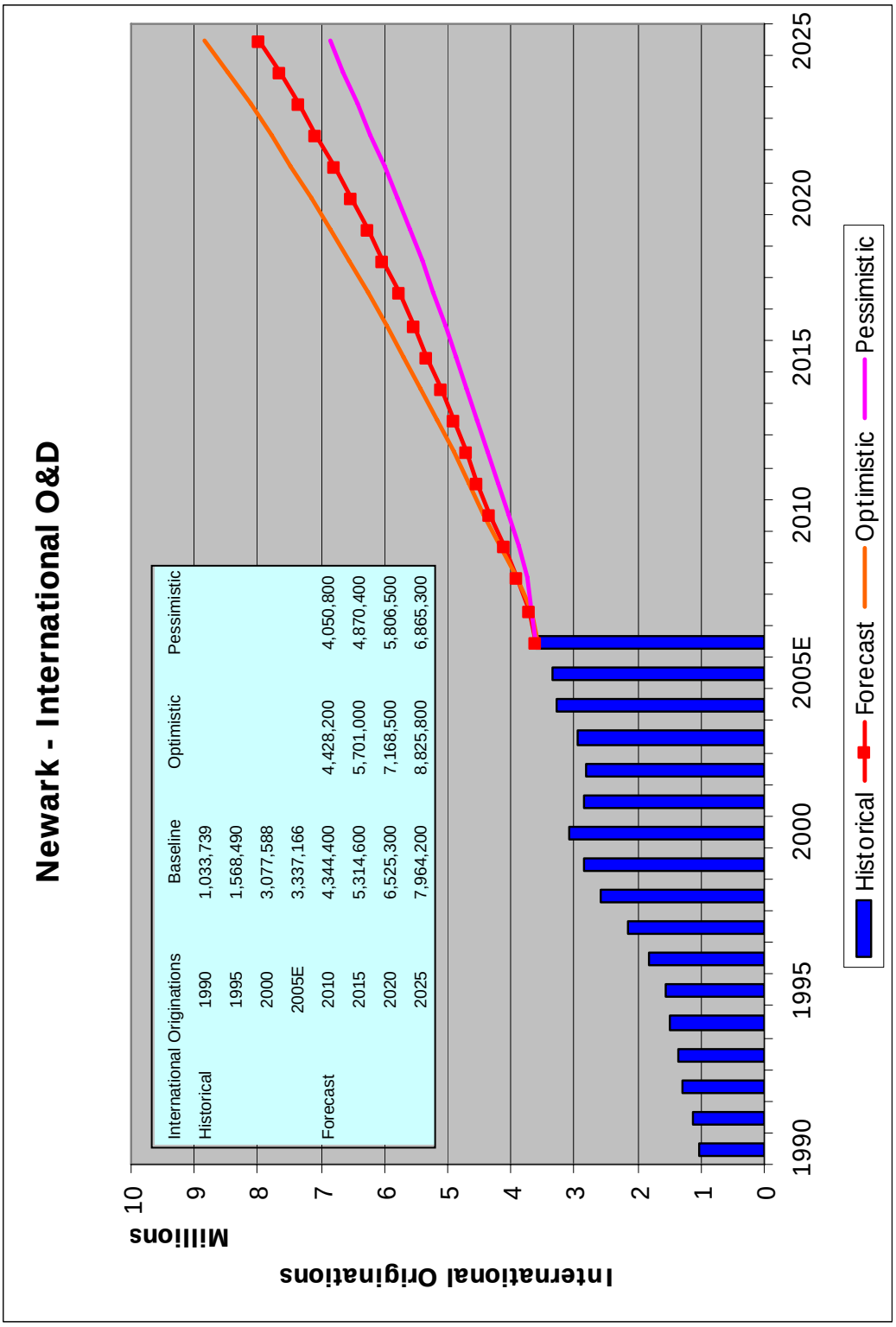


Sources: DOT Passenger Ticket Survey; Landrum & Brown.

The international originations model for the optimistic scenario used the combination of JFK and Airports' historical traffic, as was done for the baseline forecast. The optimistic scenario for international originations assumes that the U.S. legacy carriers' recent emphasis on international service generates 2.4 million additional international originations than the baseline forecast. The additional traffic was allocated 60 percent to JFK Airport and 40 percent to EWR Airport.

The pessimistic scenario for international originations assumes that the underlying demographic and economic variables for the airport service area increase at 75 percent of the original growth rate.

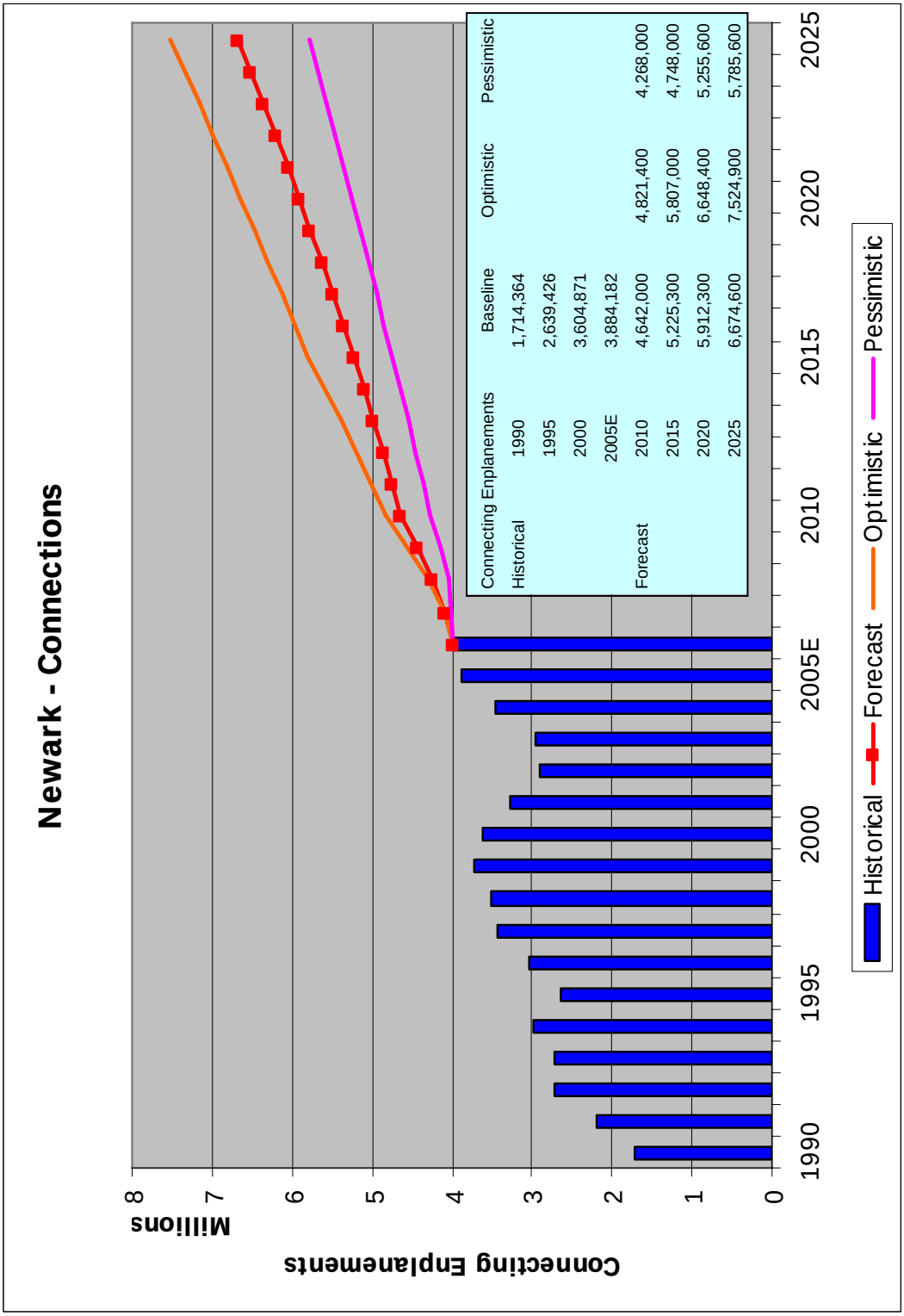
Exhibit XII-10
NEWARK INTERNATIONAL ORIGINATIONS – SCENARIOS



Sources: DOT Passenger Ticket Survey; Landrum & Brown.

The optimistic and pessimistic scenarios for connecting enplanements assume that domestic-to-domestic connections will represent the same percent of domestic originations as in the baseline forecast. Domestic-to-international and international-to-domestic connections are assumed to represent the same percentage of international originations as in the baseline forecast.

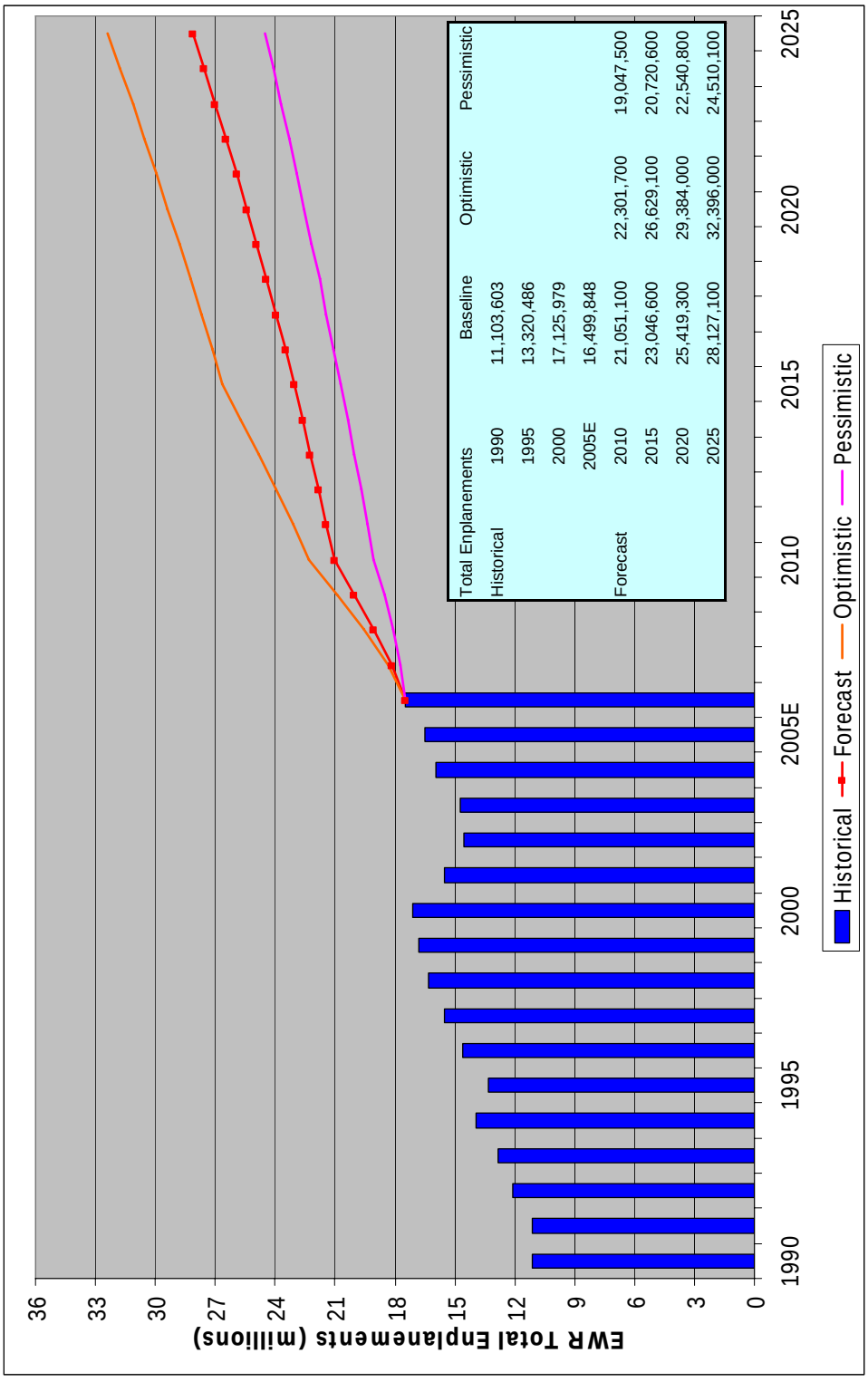
Exhibit XII-11
NEWARK CONNECTING ENPLANEMENTS – SCENARIOS



Connecting Enplanements		Baseline	Optimistic	Pessimistic
Historical	1990	1,714,364		
	1995	2,639,426		
	2000	3,604,871		
	2005E	3,884,182		
Forecast	2010	4,642,000	4,821,400	4,268,000
	2015	5,225,300	5,807,000	4,748,000
	2020	5,912,300	6,648,400	5,255,600
	2025	6,674,600	7,524,900	5,785,600

Sources: DOT Passenger Ticket Survey; Landrum & Brown.

Exhibit XII-12
NEWARK TOTAL ENPLANEMENTS – SCENARIOS



Sources: DOT Passenger Ticket Survey; Landrum & Brown.

Table XII-7
NEWARK CARGO TONNAGE – SCENARIOS

Air Cargo Tonnage Forecast
Newark Liberty International Airport

		Baseline			Optimistic Scenario			Pessimistic Scenario		
	Year	Freighter	Belly	Total	Freighter	Belly	Total	Freighter	Belly	Total
Actual	1990	319,128	237,630	556,758	319,128	237,630	556,758	319,128	237,630	556,758
	1995	750,645	292,592	1,043,237	750,645	292,592	1,043,237	750,645	292,592	1,043,237
	2000	860,724	332,674	1,193,397	860,724	332,674	1,193,397	860,724	332,674	1,193,397
Estimate	2005	735,000	294,567	1,029,567	735,000	294,567	1,029,567	735,000	294,567	1,029,567
Forecast	2006	751,406	341,141	1,092,547	757,659	341,888	1,099,547	742,798	314,166	1,056,964
	2007	762,194	356,487	1,118,681	775,495	361,469	1,136,964	749,063	326,029	1,075,092
	2008	772,680	370,400	1,143,079	793,221	379,644	1,172,865	754,959	336,448	1,091,407
	2009	782,979	383,350	1,166,329	810,962	396,882	1,207,844	760,600	345,897	1,106,498
	2010	793,155	395,535	1,188,690	828,789	413,378	1,242,166	766,047	354,575	1,120,622
	2011	803,275	407,265	1,210,540	846,776	429,438	1,276,214	771,365	362,791	1,134,156
	2012	813,376	418,704	1,232,080	864,971	445,225	1,310,196	776,589	370,713	1,147,302
	2013	823,500	430,079	1,253,580	883,420	460,965	1,344,385	781,757	378,569	1,160,326
	2014	833,654	441,382	1,275,036	902,140	476,645	1,378,785	786,877	386,349	1,173,226
	2015	843,829	452,448	1,296,277	921,130	492,101	1,413,231	791,935	393,893	1,185,828
	2020	895,646	507,984	1,403,630	1,021,023	569,705	1,590,728	816,885	431,826	1,248,711
	2025	949,477	564,254	1,513,730	1,130,326	648,125	1,778,451	841,549	470,571	1,312,120
Average Annual Growth Rates										
	1990-2005	5.7%	1.4%	4.2%	5.7%	1.4%	4.2%	5.7%	1.4%	4.2%
	2005-2015	1.4%	4.4%	2.3%	2.3%	5.3%	3.2%	0.7%	2.9%	1.4%
	2015-2025	1.2%	2.2%	1.6%	2.1%	2.8%	2.3%	0.6%	1.8%	1.0%
	2005-2025	1.3%	3.3%	1.9%	2.2%	4.0%	2.8%	0.7%	2.4%	1.2%

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Sources: DOT Passenger Ticket Survey; Landrum & Brown.

The optimistic scenario for aircraft operations assumes the same average seats per departure (ASPD or gauge) and average load factor as the baseline forecast. The passenger and cargo operations are derived from the optimistic scenario for enplanements and cargo tonnage, respectively.

Table XII-8
NEWARK AIRCRAFT OPERATIONS – OPTIMISTIC SCENARIO

Aircraft Operations Forecast - Optimistic Scenario
Newark Liberty International Airport

	Calendar	Domestic		International		Domestic	International	General		
	Year	Air Carrier	Commuter	Transborder	Other	All-Cargo	All-Cargo	Aviation	Military	Total
Actual	1995	231,726	99,178	11,172	20,670	31,262	561	25,664	313	420,546
	2000	258,762	78,000	17,044	45,534	27,801	1,967	21,076	105	450,289
Estimate	2005	178,957	140,039	21,162	52,318	24,077	1,934	16,079	243	434,810
Estimate	2006	189,199	139,941	21,922	57,148	24,320	2,250	16,100	140	451,021
Forecast	2007	201,200	147,500	21,800	58,200	24,550	2,300	16,100	140	471,790
	2008	216,300	152,100	22,600	61,900	24,790	2,330	16,100	140	496,260
	2009	232,700	156,900	23,600	66,200	25,030	2,340	16,100	140	523,010
	2010	250,300	161,700	24,500	70,600	25,260	2,330	16,100	140	550,930
	2011	258,900	166,400	25,200	73,900	25,500	2,320	16,100	140	568,460
	2012	267,800	171,300	26,000	77,300	25,740	2,310	16,100	140	586,690
	2013	277,000	176,300	26,700	80,800	25,970	2,280	16,100	140	605,290
	2014	286,400	181,400	27,400	84,400	26,200	2,260	16,100	140	624,300
	2015	296,200	186,600	28,100	88,200	26,440	2,230	16,100	140	644,010
	2020	308,600	193,500	31,200	110,300	27,610	2,050	16,100	140	689,500
	2025	323,900	196,900	33,700	135,100	28,770	1,850	16,100	140	736,460
Average Annual Growth Rates										
	1995-2005	-2.6%	3.5%	6.6%	9.7%	-2.6%	13.2%	-4.6%	-2.5%	0.3%
	2005-2015	5.2%	2.9%	2.9%	5.4%	0.9%	1.4%	0.0%	-5.4%	4.0%
	2015-2025	0.9%	0.5%	1.8%	4.4%	0.8%	-1.9%	0.0%	0.0%	1.4%
	2005-2025	3.0%	1.7%	2.4%	4.9%	0.9%	-0.2%	0.0%	-2.7%	2.7%

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Sources: DOT Passenger Ticket Survey; Landrum & Brown.

The pessimistic scenario for aircraft operations assumes the same average seats per departure (ASPD or gauge) and average load factor as the baseline forecast. The passenger and cargo operations are derived from the pessimistic scenario for enplanements and cargo tonnage, respectively.

Table XII-9
NEWARK AIRCRAFT OPERATIONS – PESSIMISTIC SCENARIO

Aircraft Operations Forecast - Pessimistic Scenario
Newark Liberty International Airport

	Calendar	Domestic		International		Domestic	International	General		
	Year	Air Carrier	Commuter	Transborder	Other	All-Cargo	All-Cargo	Aviation	Military	Total
Actual	1995	231,726	99,178	11,172	20,670	31,262	561	25,664	313	420,546
	2000	258,762	78,000	17,044	45,534	27,801	1,967	21,076	105	450,289
Estimate	2005	178,957	140,039	21,162	52,318	24,077	1,934	16,079	243	434,810
Estimate	2006	189,199	139,941	21,922	57,148	23,960	2,020	16,100	140	450,431
Forecast	2007	192,500	141,100	21,700	57,900	23,840	2,030	16,100	140	455,310
	2008	197,200	138,700	21,600	59,100	23,720	2,010	16,100	140	458,570
	2009	202,600	136,600	22,000	61,800	23,600	1,990	16,100	140	464,830
	2010	208,200	134,500	22,400	64,600	23,470	1,960	16,100	140	471,370
	2011	210,700	135,400	22,800	66,600	23,350	1,920	16,100	140	477,010
	2012	213,300	136,400	23,100	68,700	23,220	1,880	16,100	140	482,840
	2013	216,000	137,400	23,400	70,900	23,090	1,840	16,100	140	488,870
	2014	218,600	138,400	23,700	73,100	22,960	1,800	16,100	140	494,800
	2015	221,300	139,500	24,000	75,300	22,820	1,760	16,100	140	500,920
	2020	230,400	144,500	25,300	89,300	22,140	1,540	16,100	140	529,420
	2025	241,200	146,700	26,200	105,100	21,440	1,340	16,100	140	558,220
Average Annual Growth Rates										
	1995-2005	-2.6%	3.5%	6.6%	9.7%	-2.6%	13.2%	-4.6%	-2.5%	0.3%
	2005-2015	2.1%	0.0%	1.3%	3.7%	-0.5%	-0.9%	0.0%	-5.4%	1.4%
	2015-2025	0.9%	0.5%	0.9%	3.4%	-0.6%	-2.7%	0.0%	0.0%	1.1%
	2005-2025	1.5%	0.2%	1.1%	3.5%	-0.6%	-1.8%	0.0%	-2.7%	1.3%

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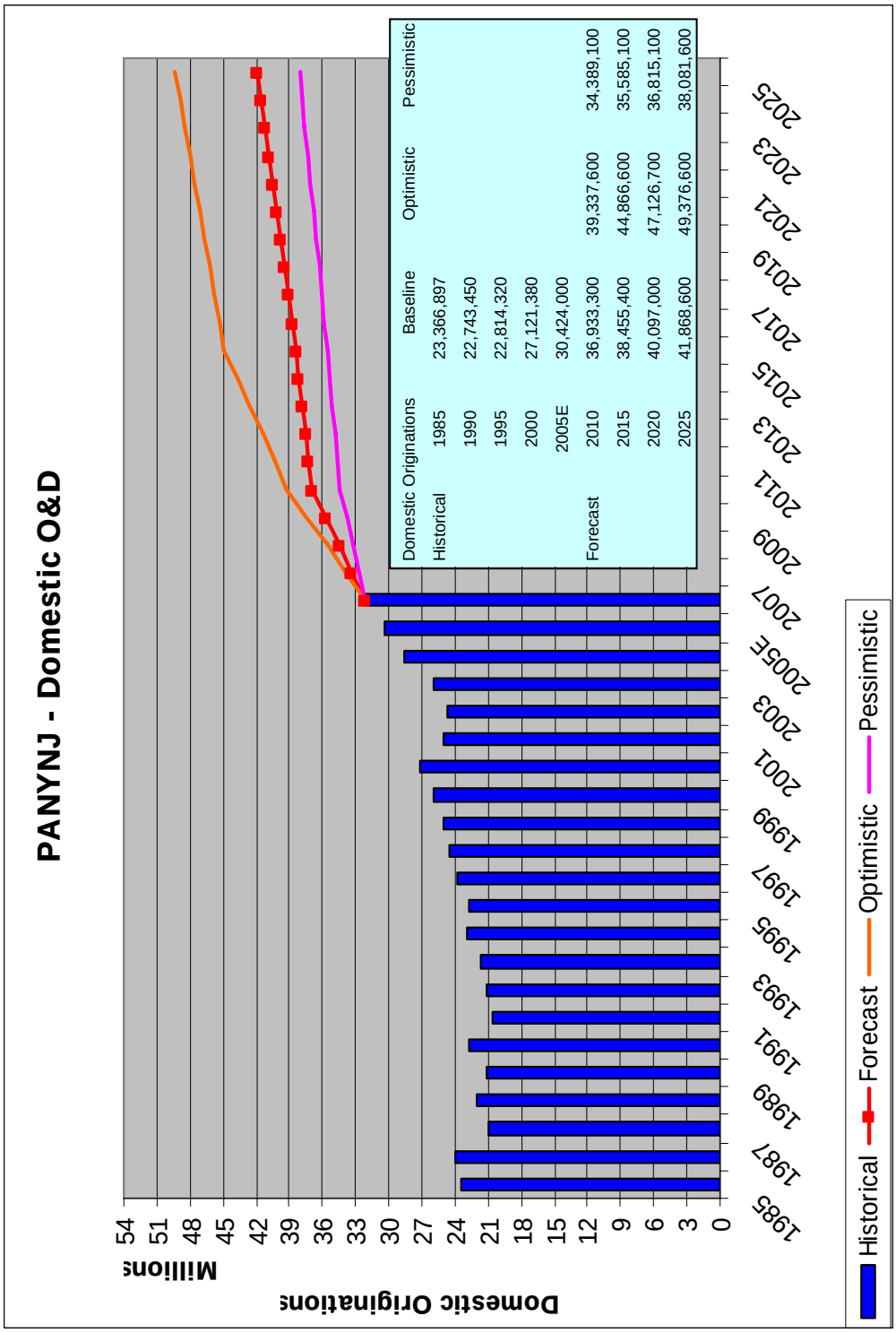
Sources: DOT Passenger Ticket Survey; Landrum & Brown.

XII.4 Port Authority Total

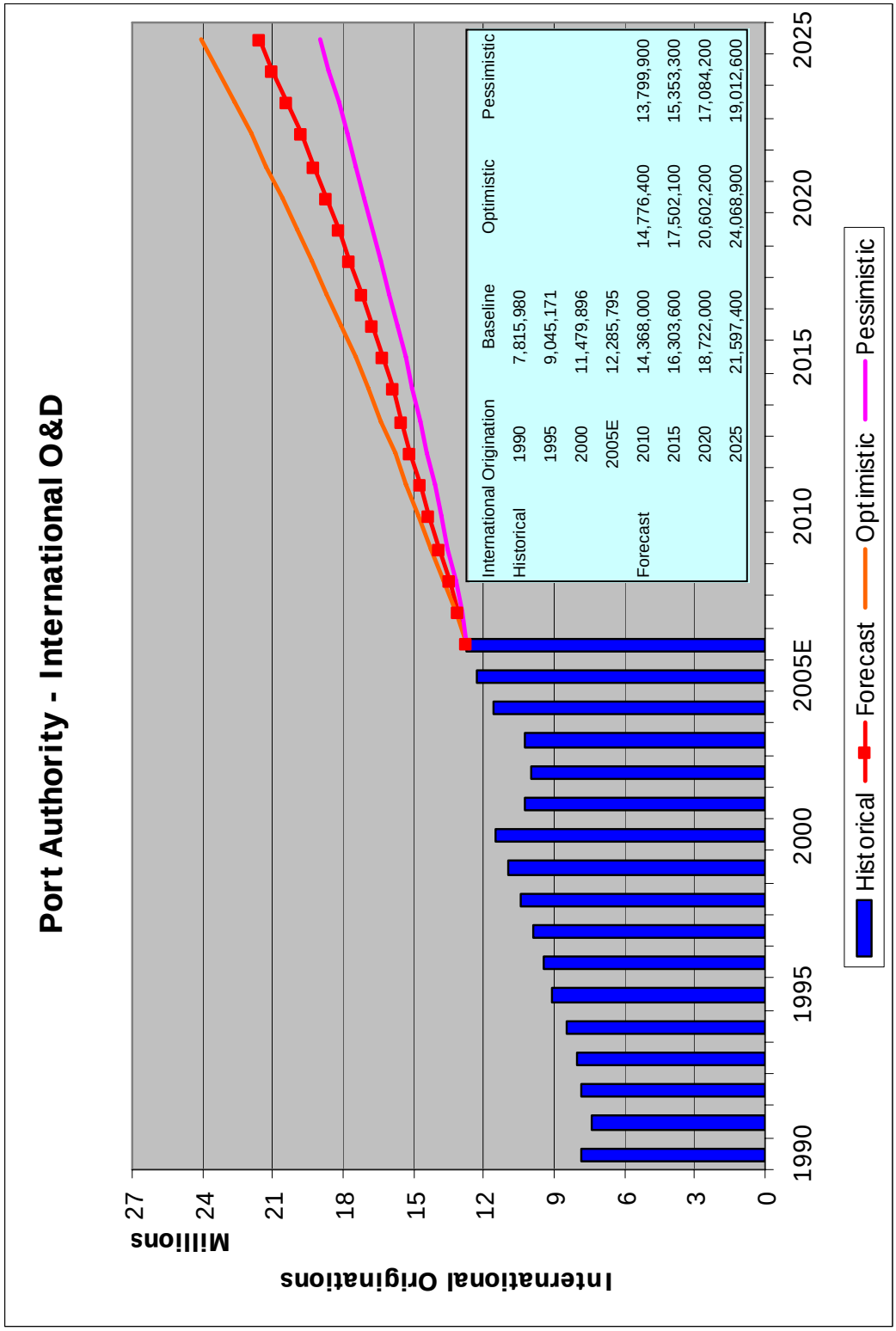
The following tables present the summation of the optimistic and pessimistic scenario aviation activity volumes for JFK, LGA, and EWR Airports.

Exhibit XII-13
PORT AUTHORITY DOMESTIC ORIGINATIONS – SCENARIOS



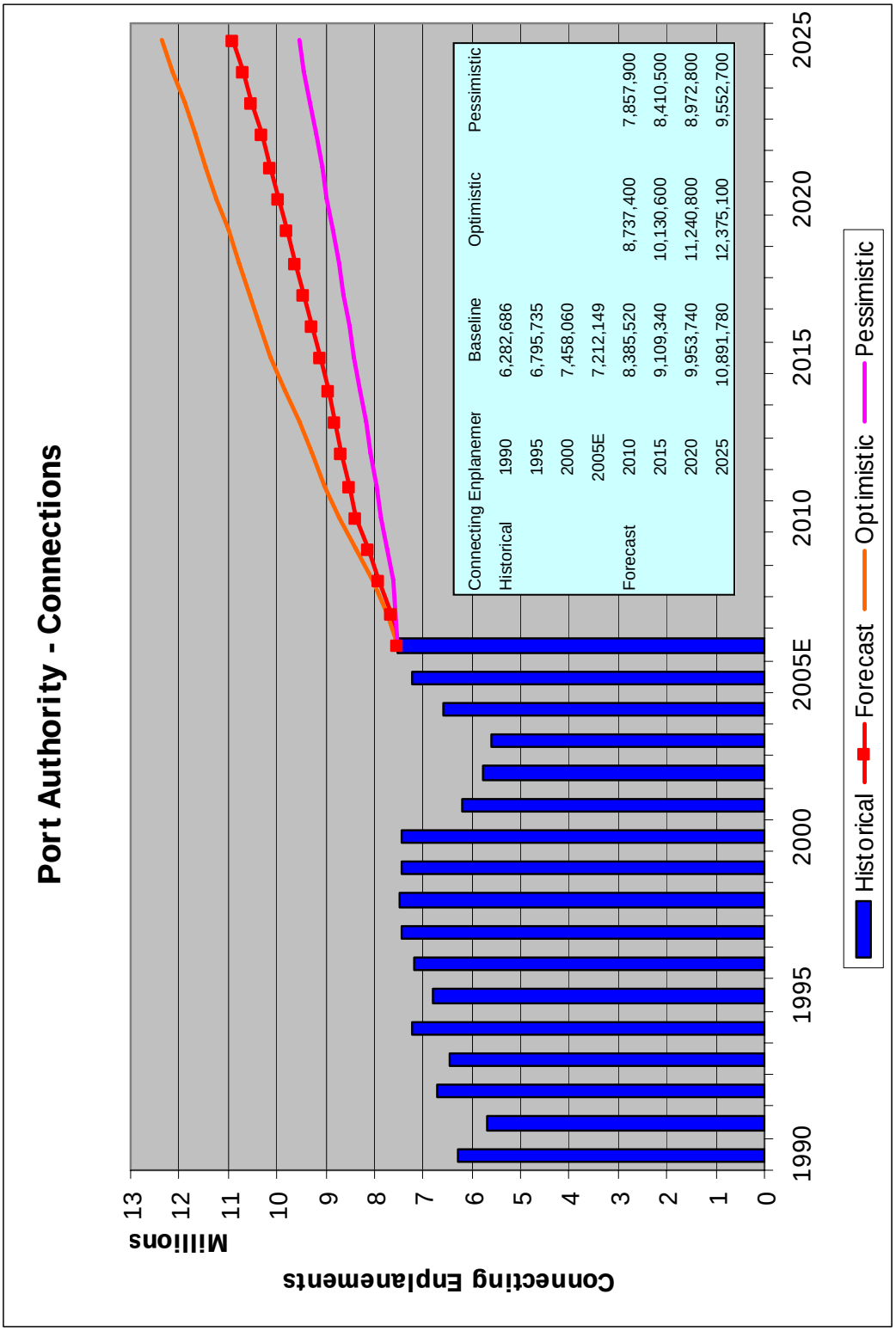
Sources: DOT Passenger Ticket Survey; Landrum & Brown.

Exhibit XII-14
PORT AUTHORITY INTERNATIONAL ORIGINATIONS – SCENARIOS



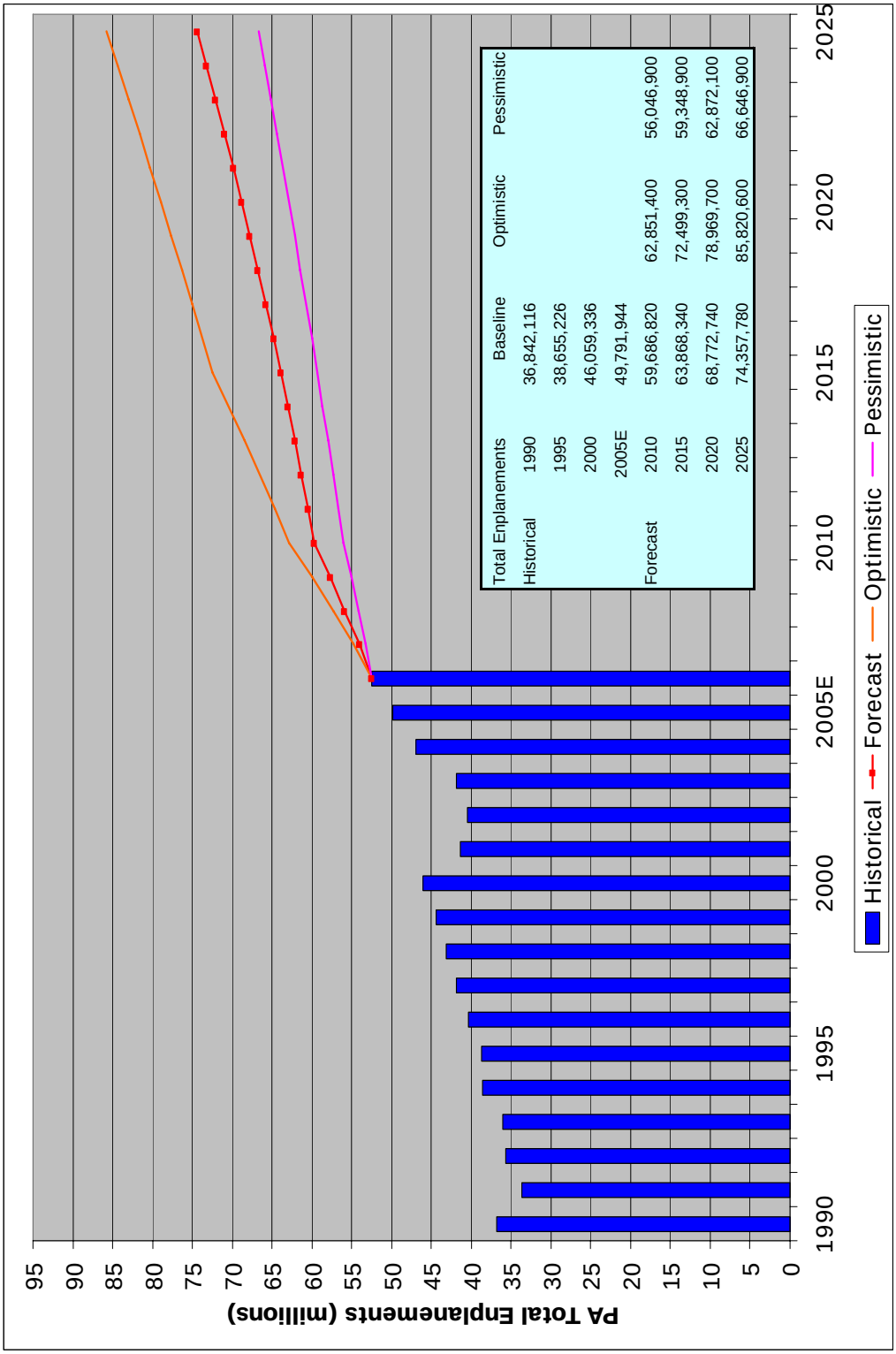
Sources: DOT Passenger Ticket Survey; Landrum & Brown.

Exhibit XII-15
PORT AUTHORITY CONNECTING ENPLANEMENTS – SCENARIOS



Sources: DOT Passenger Ticket Survey; Landrum & Brown.

Exhibit XII-16
PORT AUTHORITY TOTAL ENPLANEMENTS – SCENARIOS



Total Enplanements		Baseline	Optimistic	Pessimistic
Historical	1990	36,842,116		
	1995	38,655,226		
	2000	46,059,336		
	2005E	49,791,944		
Forecast	2010	59,686,820	62,851,400	56,046,900
	2015	63,868,340	72,499,300	59,348,900
	2020	68,772,740	78,969,700	62,872,100
	2025	74,357,780	85,820,600	66,646,900

Sources: DOT Passenger Ticket Survey; Landrum & Brown.

Table XII-10
PORT AUTHORITY CARGO TONNAGE – SCENARIOS

Air Cargo Tonnage Forecast Summary
JFK+LGA+EWR

	Year	Baseline	Optimistic	Pessimistic
Actual	1990	2,143,636	2,143,636	2,143,636
	1995	2,925,617	2,925,617	2,925,617
	2000	3,304,278	3,304,278	3,304,278
Estimate	2005	2,891,815	2,891,815	2,891,815
Forecast	2006	3,088,242	3,101,988	3,050,287
	2007	3,151,144	3,193,232	3,088,710
	2008	3,208,633	3,279,366	3,121,679
	2009	3,262,493	3,362,180	3,150,972
	2010	3,313,502	3,442,464	3,177,364
	2011	3,362,804	3,521,368	3,201,993
	2012	3,411,010	3,599,512	3,225,466
	2013	3,458,930	3,677,716	3,248,591
	2014	3,506,553	3,755,977	3,271,351
	2015	3,553,355	3,833,781	3,293,220
	2020	3,788,192	4,229,415	3,402,238
	2025	4,026,654	4,639,225	3,512,723
Average Annual Growth Rates				
	1990-2005	2.0%	2.0%	2.0%
	2005-2015	2.1%	2.9%	1.3%
	2015-2025	1.3%	1.9%	0.6%
	2005-2025	1.7%	2.4%	1.0%

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Sources: DOT Passenger Ticket Survey; Landrum & Brown.

Table XII-11
PORT AUTHORITY AIRCRAFT OPERATIONS – OPTIMISTIC SCENARIO

Aircraft Operations Forecast - Optimistic Scenario
JFK + LGA + EWR

	Calendar	Domestic		nternationa	Domestic	International	General		
	Year	Air Carrier	Commuter	All	All-Cargo	All-Cargo	Aviation	Military	Total
Actual	1995	555,772	271,758	152,884	44,551	14,208	65,927	1,060	1,106,160
	2000	600,572	270,446	194,052	39,312	15,791	58,656	1,326	1,180,155
Estimate	2005	524,509	368,546	203,768	32,847	16,336	43,228	803	1,190,036
Estimate	2006	548,849	357,751	214,062	33,240	18,090	43,400	890	1,216,282
Forecast	2007	573,600	375,200	217,500	33,630	18,650	43,600	890	1,263,070
	2008	605,300	374,300	225,000	34,030	18,430	43,800	890	1,301,750
	2009	639,400	373,900	233,000	34,430	18,710	44,000	890	1,344,330
	2010	675,400	373,700	241,100	34,820	18,940	44,200	890	1,389,050
	2011	697,000	375,000	248,000	35,230	19,160	44,400	890	1,419,680
	2012	719,200	376,700	254,900	35,640	19,370	44,600	890	1,451,300
	2013	742,100	378,600	261,700	36,040	19,540	44,800	890	1,483,670
	2014	764,000	385,800	268,900	36,450	19,720	45,000	890	1,520,760
	2015	786,700	393,400	276,500	36,870	19,880	45,200	890	1,559,440
	2020	826,000	403,600	319,400	38,980	20,580	46,200	890	1,655,650
	2025	868,700	416,600	365,900	41,170	21,160	47,200	890	1,761,620
Average Annual Growth Rates									
	1995-2005	-0.6%	3.1%	2.9%	-3.0%	1.4%	-4.1%	-2.7%	0.7%
	2005-2015	4.1%	0.7%	3.1%	1.2%	2.0%	0.4%	1.0%	2.7%
	2015-2025	1.0%	0.6%	2.8%	1.1%	0.6%	0.4%	0.0%	1.2%
	2005-2025	2.6%	0.6%	3.0%	1.1%	1.3%	0.4%	0.5%	2.0%

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Sources: DOT Passenger Ticket Survey; Landrum & Brown.

Table XII-12
PORT AUTHORITY AIRCRAFT OPERATIONS – PESSIMISTIC SCENARIO

Aircraft Operations Forecast - Pessimistic Scenario
JFK + LGA + EWR

	Calendar	Domestic		International	Domestic	International	General		
	Year	Air Carrier	Commuter	All	All-Cargo	All-Cargo	Aviation	Military	Total
Actual	1995	555,772	271,758	152,884	44,551	14,208	65,927	1,060	1,106,160
	2000	600,572	270,446	194,052	39,312	15,791	58,656	1,326	1,180,155
Estimate	2005	524,509	368,546	203,768	32,847	16,336	43,228	803	1,190,036
Estimate	2006	548,849	357,751	214,062	32,750	17,860	43,400	890	1,215,562
Forecast	2007	555,400	364,100	214,200	32,650	18,120	43,600	890	1,228,960
	2008	566,800	352,000	217,100	32,550	17,610	43,800	890	1,230,750
	2009	578,800	340,500	220,800	32,460	17,610	44,000	890	1,235,060
	2010	591,300	329,500	224,700	32,350	17,590	44,200	890	1,240,530
	2011	598,600	324,300	227,900	32,250	17,540	44,400	890	1,245,880
	2012	605,800	319,400	231,100	32,140	17,490	44,600	890	1,251,420
	2013	613,200	314,600	234,500	32,030	17,430	44,800	890	1,257,450
	2014	619,200	314,800	238,100	31,930	17,360	45,000	890	1,267,280
	2015	625,300	315,000	241,600	31,810	17,290	45,200	890	1,277,090
	2020	645,400	316,200	263,700	31,240	16,900	46,200	890	1,320,530
	2025	668,900	320,900	287,900	30,650	16,520	47,200	890	1,372,960
Average Annual Growth Rates									
	1995-2005	-0.6%	3.1%	2.9%	-3.0%	1.4%	-4.1%	-2.7%	0.7%
	2005-2015	1.8%	-1.6%	1.7%	-0.3%	0.6%	0.4%	1.0%	0.7%
	2015-2025	0.7%	0.2%	1.8%	-0.4%	-0.5%	0.4%	0.0%	0.7%
	2005-2025	1.2%	-0.7%	1.7%	-0.3%	0.1%	0.4%	0.5%	0.7%

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Sources: DOT Passenger Ticket Survey; Landrum & Brown.

XIII. 2015 Airline Design Day Flight Schedules

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

The annual enplanement and aircraft operations forecasts for JFK, LGA, and EWR were converted into peak month, average day (PMAD) using historical aviation statistics. These PMAD statistics formed the basis for developing the 2015 flight schedules.

XIII.1 Enplaned Passengers

The annual enplaned passenger forecasts were converted into PMAD equivalents using historical traffic statistics compiled by the PANYNJ. Historical enplaned revenue passenger statistics for the period 1990 to 2004 were used to derive the average percent of traffic served in the peak month relative to the annual volumes.

At JFK Airport, August represented the peak month for domestic enplaned passengers in 8 of the 15 years reviewed. August also represented the peak month for international enplaned passengers in 13 of the 15 years reviewed. August was the peak month for total enplaned passengers in all 15 years.

At LGA Airport, August represented the peak month for domestic enplaned passengers in 12 of the 15 years reviewed. August also represented the peak month for international enplaned passengers in 11 of the 15 years reviewed. August was the peak month for total enplaned passengers in 13 of the 15 years.

At EWR Airport, August represented the peak month for domestic enplaned passengers in 13 of the 15 years reviewed. August also represented the peak month for international enplaned passengers in all 15 years reviewed. August was the peak month for total enplaned passengers in 14 of the 15 years.

For domestic enplaned passengers, the relationship of August traffic to annual totals was established for each year from 1995 to 2004 for each airport. A rolling ten-year average of the August to annual percentage was used to project the peak month enplaned passengers for each year of the forecast period. This peak month value was divided by 31 to develop the peak month average day volume. This same methodology was used for the international enplaned passengers at each airport.

At JFK Airport, PMAD enplaned passengers are projected to grow from 69,875 in 2005 to 87,365 in 2015, an average annual increase of 2.3 percent. At LaGuardia, PMAD enplaned passengers are projected to grow from 39,065 in 2005 to 46,384 in 2015, an average annual increase of 1.7 percent. At Newark, PMAD enplaned passengers are projected to grow from 53,370 in 2005 to 74,747 in 2015, an average annual increase of 3.4 percent.

Table XIII.1 presents the PMAD enplanement activity forecasts for 2015 for each of the airports.

Table XIII.1
DERIVATIVE FORECASTS—2015 PASSENGER ENPLANEMENTS

	Calendar Year	Kennedy Enplanements	Kennedy PMAD	LaGuardia Enplanements	LaGuardia PMAD	Newark Enplanements	Newark PMAD
Actual	1990	14,333,086	52,612	11,405,427	35,146	11,103,603	35,755
	1995	14,985,832	53,294	10,348,908	30,124	13,320,486	41,943
	2000	16,256,771	54,199	12,676,586	37,271	17,125,979	53,296
Estimated	2005	20,336,175	69,875	12,955,921	39,065	16,499,848	53,370
	2006	21,381,200	73,224	13,686,900	41,395	17,491,100	56,658
Forecast	2007	22,031,300	75,232	13,867,760	42,025	18,174,000	58,730
	2008	22,740,600	77,507	14,057,880	42,816	19,067,300	61,557
	2009	23,450,300	80,030	14,250,840	43,653	20,035,000	64,811
	2010	24,195,800	82,569	14,439,920	44,445	21,051,100	68,273
	2011	24,469,500	83,692	14,593,720	45,119	21,431,800	69,802
	2012	24,747,100	83,978	14,749,140	45,008	21,821,700	70,558
	2013	25,028,500	84,940	14,899,540	45,321	22,220,800	71,907
	2014	25,313,900	86,126	15,058,140	45,833	22,628,700	73,150
	2015	25,603,200	87,365	15,218,540	46,384	23,046,600	74,747
Average Annual Growth Rates							
	1990-2005	2.4%	1.9%	0.9%	0.7%	2.7%	2.7%
	2005-2015	2.3%	2.3%	1.6%	1.7%	3.4%	3.4%

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Sources: PANYNJ and Landrum & Brown, analysis.

XIII.2 Aircraft Operations

For aircraft operations, this same ten-year rolling average of the August to annual percentage was used to project the peak month operations by category for each year of the forecast period.

At Kennedy, PMAD operations are projected to grow from 1,037 in 2005 to 1,267 in 2015, an average annual increase of 2.0 percent. At LaGuardia, PMAD operations are projected to decline from 1,124 in 2005 to 1,092 in 2015, an average annual decrease of 0.3 percent. At Newark, PMAD operations are projected to grow from 1,289 in 2005 to 1,631 in 2015, an average annual increase of 2.4 percent.

Peak month operations factors were developed primarily using the FAA Air Traffic Activity Data System (ATADS) and schedules published for commercial passenger activity in the OAG. August was selected as the month from which to develop peak month operations factors for 2015. Peak month factors were developed for the following categories of aircraft operations.

- Commercial Passenger operations
  - Domestic air carrier
  - Domestic commuter
  - International air carrier
  - International commuter
- All-Cargo operations
  - Domestic
  - International
- Non-commercial air taxi and general aviation operations
- Military Operations

The aircraft operations data were then converted into peak month average week day and peak hour derivatives for the same categories of operation. For purposes of developing peak hour estimates for the non-commercial passenger activity at each airport, daily radar data provided by the PANYNJ for August 2005 was used.

Derivative forecasts by operations category for Kennedy are presented in **Table XIII.2**.

Table XIII.2
KENNEDY DERIVATIVE FORECASTS—AIRCRAFT OPERATIONS

	Calendar Year	Domestic Air Carrier	Domestic Commuter	International Air Carrier	International Commuter	Domestic All-Cargo	International All-Cargo	General Aviation	Military	Total
Actual	1995	287	284	306	11	38	40	31	1	998
	2000	306	252	306	12	35	43	30	1	985
Estimate	2005	439	171	304	18	25	40	39	1	1,037
Forecast	2010	586	140	348	18	25	45	35	1	1,198
	2015	622	141	375	19	26	47	36	1	1,267
Average Annual Growth Rates										
	1995-2005	4.3%	-4.9%	-0.1%	5.0%	-4.1%	0.0%	2.3%	0.0%	0.4%
	2005-2015	3.5%	-1.9%	2.1%	0.5%	0.4%	1.6%	-0.8%	0.0%	2.0%

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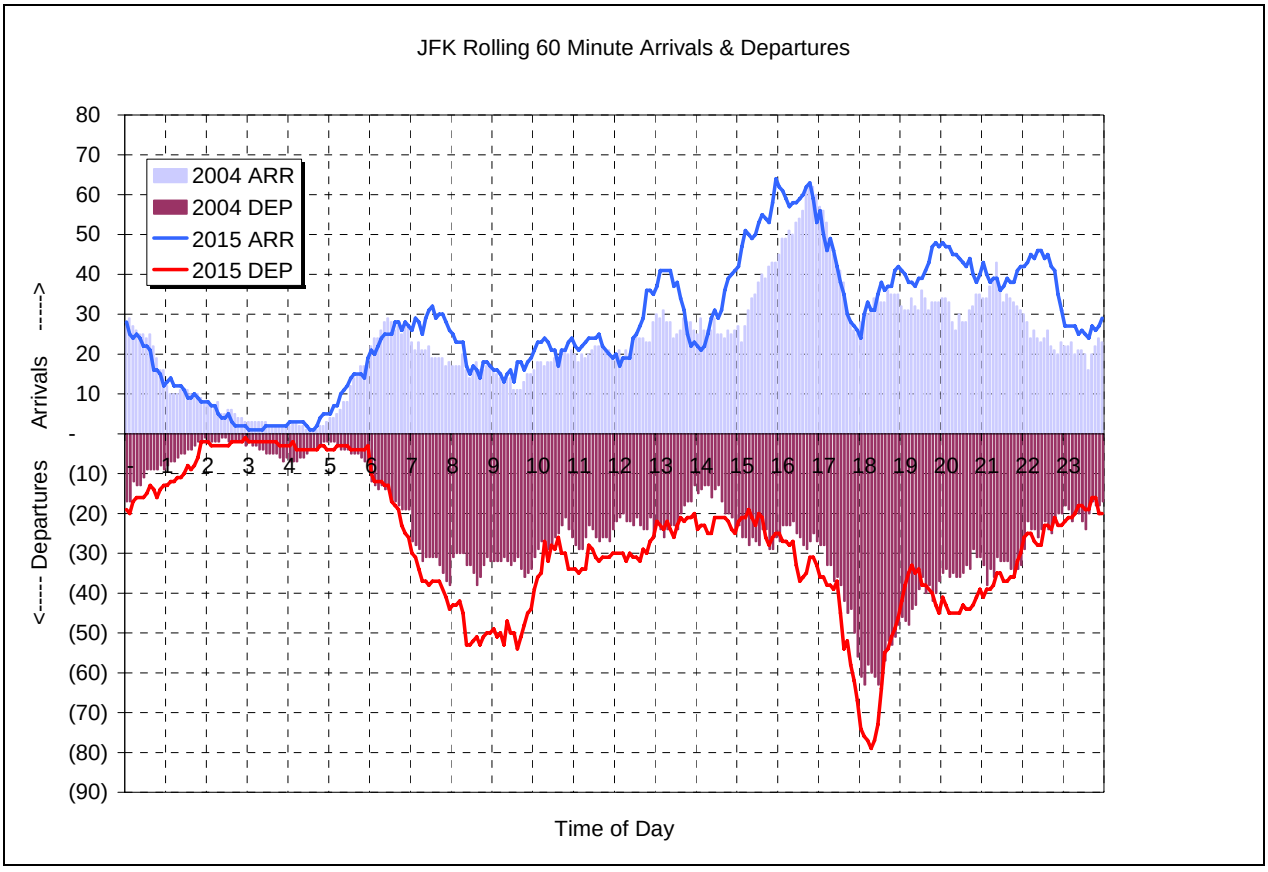
Sources: FAA, ATADS; PANYNJ; *Official Airline Guide;* Landrum & Brown, Inc.

The 2005 baseline and 2015 design day operations are presented in **Exhibit XIII.1** as a "heart beat" chart showing aircraft operations by 5 minute bucket on a rolling 60 minute basis.

Exhibit XIII.1
KENNEDY DESIGN DAY AIRCRAFT OPERATIONS



Derivative forecasts by operations category for LaGuardia are presented in **Table XIII.3**.

Table XIII.3
LAGUARDIA DERIVATIVE FORECASTS—AIRCRAFT OPERATIONS

	Calendar Year	Domestic Air Carrier	Domestic Commuter	International Air Carrier	International Commuter	Domestic All-Cargo	International All-Cargo	General Aviation	Military	Total
Actual	1995	627	210	62	4	0	0	63	0	966
	2000	631	281	60	3	0	0	62	1	1,038
Estimate	2005	547	475	60	6	0	0	35	1	1,124
Forecast	2010	570	430	56	8	0	0	39	1	1,104
	2015	608	381	55	8	0	0	39	1	1,092
Average Annual Growth Rates										
	1995-2005	-1.4%	8.5%	-0.3%	4.1%	n/a	n/a	-5.7%	n/a	1.5%
	2005-2015	1.1%	-2.2%	-0.9%	2.9%	n/a	n/a	1.1%	0.0%	-0.3%

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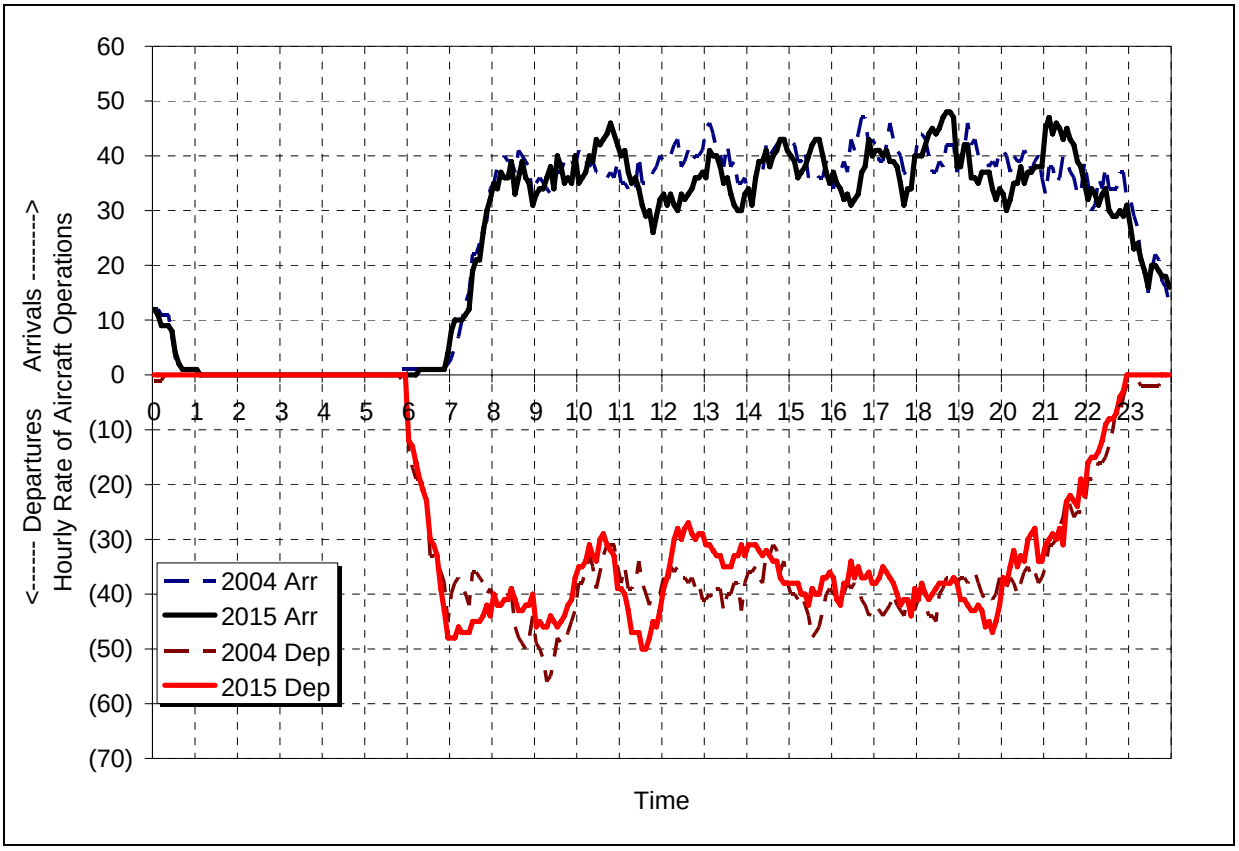
Sources: FAA, ATADS; PANYNJ; *Official Airline Guide;* Landrum & Brown, Inc.

The 2005 baseline and 2015 design day operations are presented in **Exhibit XIII.2** as a "heart beat" chart showing aircraft operations by 5 minute bucket on a rolling 60 minute basis.

Exhibit XIII.2
LAGUARDIA DESIGN DAY AIRCRAFT OPERATIONS



Derivative forecasts by operations category for Newark are presented in **Table XIII.4**.

Table XIII.4
NEWARK DERIVATIVE FORECASTS—AIRCRAFT OPERATIONS

	Calendar Year	Domestic Air Carrier	Domestic Commuter	International Air Carrier	International Commuter	Domestic All-Cargo	International All-Cargo	General Aviation	Military	Total
Actual	1995	659	282	82	22	89	1	72	0	1,207
	2000	739	223	167	15	83	5	66	0	1,298
Estimate	2005	512	401	176	56	67	5	71	1	1,289
Forecast	2010	669	432	227	57	67	6	64	0	1,522
	2015	712	449	271	62	66	6	65	0	1,631
Average Annual Growth Rates										
	1995-2005	-2.5%	3.6%	7.9%	9.8%	-2.8%	17.5%	-0.1%	n/a	0.7%
	2005-2015	3.4%	1.1%	4.4%	1.0%	-0.2%	1.8%	-0.9%	-100.0%	2.4%

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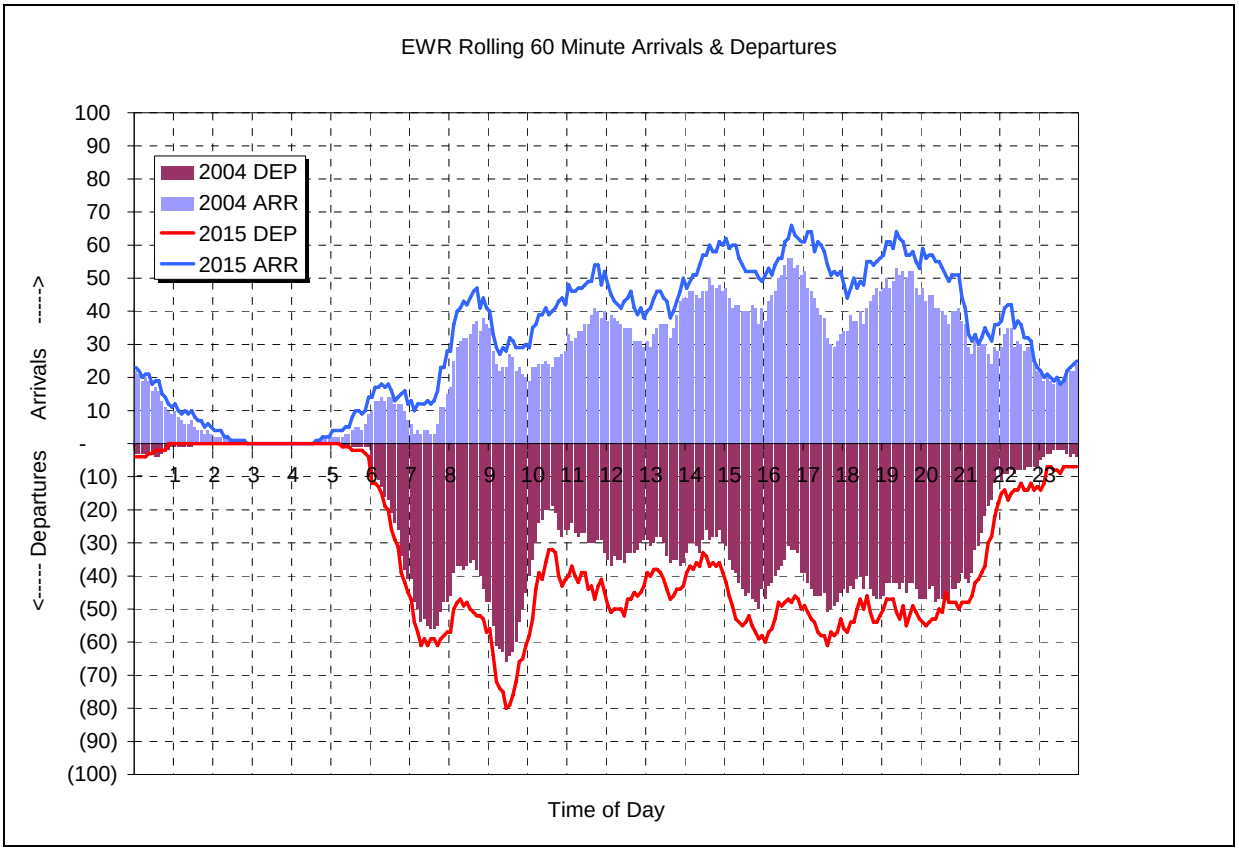
Sources: FAA, ATADS; PANYNJ; *Official Airline Guide;* Landrum & Brown, Inc.

The 2005 baseline and 2015 design day operations are presented in **Exhibit XIII.3** as a "heart beat" chart showing aircraft operations by 5 minute bucket on a rolling 60 minute basis.

Exhibit XIII.3
NEWARK DESIGN DAY AIRCRAFT OPERATIONS



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