

**Economic Impact Study of
Long Island Mac Arthur Airport**

*Estimating the Direct and
Induced Economic Impacts*

Submitted to:

**Pete McGowan, Supervisor
Town of Islip**

Submitted by:

Hofstra University Scott Skodnek Business Development Center

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Introduction

The United States has the world's most extensive airport system. As globalization continues, American industry increasingly relies on airports and the aviation infrastructure. National, regional and local economic growth all depend upon the U.S. airport industry.¹

Airports in the U.S. create \$507 billion each year on average in total economic activity. There are 1.9 million jobs in airports in the U.S. and 4.8 million are created in local communities. These jobs translate into \$190 billion worth of earnings. Moreover, airports generate \$33.5 billion in local, state, and federal taxes and thus provide significant transportation benefits and economic impacts.²

The Economic Impact

Economic impacts measure the importance of airports to the local or regional economy in terms of the employment they provide and the goods and services they utilize. The economic impact of an airport is assessed by looking at the extent of the airport's impact on the local and regional economy—from the actual movement of passengers and freight to the stimulation of economic growth that the airport's presence can cause in a local situation. Direct impacts are consequences of economic activities carried out at the airport by airlines, airport management, fixed base operators, and other tenants with a direct involvement in aviation. Employing labor, purchasing locally produced goods and services, and contracting for airport construction and capital improvements are examples of airport activities that generate direct impacts. The distinguishing feature of a direct impact is that it is an immediate consequence of airport economic activity. Indirect impacts derive from off-site economic activities that are attributable to the airport. These activities include services provided by travel agencies, hotels, restaurants, and retail establishments. These entities employ labor, purchase locally produced goods and services, and invest in capital expansion and improvements. Indirect impacts originate outside the airport. Induced economic impacts are the result of successive rounds of spending in the local/regional community. An example of an induced impact is airport employees who spend their wages in the local economy on food, clothing, housing, etc. These expenditures induce more jobs and income in the general economy of the surrounding area. Therefore, the total economic impact of an airport on the local economy is measured as,

- Total Impact = Direct Impact + Indirect Impact + Induced Impact,
- where Induced Impact = Multiplier x (Direct Impact + Indirect Impact).

In this study of Long Island Mac Arthur Airport, we will measure the economic impact of Long Island Mac Arthur Airport on the local economy as consisting of only

¹ The Economic Impact of U.S. Airports, Airports Council International-North America. Washington, D.C.: 2003.

² Ibid.

two of the above components: the direct and induced impacts. The second part of the study (to follow) will include an estimation of the indirect economic impacts.

In 2004, Long Island Mac Arthur Airport is predicted to contribute \$202.27M to the Long Island economy. More specifically, the economic impact of the airport on the local economy in 2004 is:

- **Direct Economic Impact:** \$115,584,369
- **Induced Economic Impact:** \$ 86,688,277
- **Economic Impact:** \$202,272,646 and
- **Total Employment:** 1,741.

This 2004 economic impact amounts to approximately 5.3 percent of total earnings in the Town of Islip economy, and to about .66 percent of total earnings in the Suffolk County economy.³ In 2003, the economic impact was about the same.⁴

In order to analyze the regional impact of Long Island Mac Arthur Airport, the following pecuniary information was provided by the Town of Islip:

- operating expenses in the airport from the Town of Islip adopted budgets, 1993-2004;
- operating expenses in the airport from FAA Form 5100-127, 1996-2003;
- operating revenue in the airport from the Town of Islip adopted budgets, 1993-2004;
- operating revenue in the airport from the FAA Form 5100-127, 1996-2003; and
- employment information from 34 airport tenants.

The following information was obtained through our research:

- payroll information from the 34 airport tenants;
- Town of Islip total earnings from U.S. Census Bureau, County Business Patterns data; and
- Suffolk County total earnings and employment from Bureau of Economic Analysis, Regional Economic Accounts;
- Air Carrier Statistics (Form 41 Traffic) from the Bureau of Transportation Statistics; and
- Terminal Area Forecasts from the FAA online data system.

The financial data from the FAA Form 5100-127 was used rather than from the Town of Islip budgets because they represented expenses that were actually realized at the end of each year. The following categories were included in the calculation of the

³ <http://censtats.census.gov/cbpnaic/cbpnaic.shtml>.

⁴ In 2003, the value was \$202.25M and the number of employees was 1,675.

direct impact, since they are payments made to labor, business, or are purchases of items/equipment from predominantly local suppliers (*see Table I*)⁵:

- Personal Compensation and Benefits;
- Communications and Utilities;
- Supplies and Materials;
- Repairs and Maintenance; and
- Contractual Services.

In addition to the above expenses, we included the difference between total operating revenue and the above expense categories (or *excess*) as a direct economic impact because it is retained for future use on airport capital projects (*see Table II*).⁶

Expenditures on capital projects also affect earnings in the local economy, and should be included in any measure of direct economic impact. This information was also extracted from the FAA Form 5100-127 (*see Table III*). In addition to the capital expenditures made by the Town of Islip since 1996, we also included the \$55M expenditure by Southwest Airlines for the new Peter J. McGowan Concourse (*see Table III*).

Airports have many tenants engaged in a wide array of aeronautical and general business enterprises generating revenue for the airport. We received a list of 34 tenants located on or near Long Island Mac Arthur Airport, e.g., the retail shops located in the terminal, aircraft maintenance firms, chartered air services, airlines, parking services, etc. (*see Table IV*). The total number of employees and total payroll for these tenants in 2004 was 1,698 employees and \$77,172,645, respectively.⁷ Unfortunately, the 34 airport tenants could not provide us with data on locally-purchased goods. In order to impute past values for the total payroll of the airport tenants, we employed an econometric technique to “backcast” payroll from 1996 to 2003. These imputed values may be seen in *Table V*.

The direct economic impact was calculated by adding the operating expenses, the excess used for airport capital projects, the Town of Islip airport capital expenditures, the expenditure for the Peter J. McGowan Concourse, and the total payroll of airport tenants for each year from 1996 to 2004 (*see Table VI*).⁸

As mentioned previously, the induced impact measures the increases in employment and incomes over and above the effects of the direct economic impact, created by successive rounds of spending. This “multiplier effect,” depends upon the degree of economic self-sufficiency of the region, not on the level of airport activity. The more self-dependent the region, the greater will be the extent to which expenditures by

⁵ Approximately 90 percent of the contractual expenses and equipment are purchased locally.

⁶ Office of the Comptroller, Town of Islip.

⁷ Of course, these are annualized values since 2004 has not ended yet. Individual payroll is not included in Table IV due to privacy concerns.

⁸ The 2004 value of the direct economic impact is forecasted.

airports and airport employees keep turning over within the region, creating additional incomes with each new round of spending. Because the size of the population of the region is a reasonable proxy for degree of self-sufficiency, it is possible to relate multiplier factors to population size.⁹ A multiplier of .75 is recommended by the FAA for those communities with populations between 500,000 and 3,000,000 (see *Table VI*).¹⁰

The economic impact was computed by adding the direct economic impact and the induced economic impact for each year, 1996-2004 (*Table VI*). A graph of the economic impact may be seen in *Figure 1*. Note that the economic impact has grown at an average annual rate of 6.95 percent over the period 1996-2003. We have also projected or forecasted this economic impact out to the year 2010. **While all long term forecasts should be viewed with caution, it is interesting to note that in just seven years, the economic impact of Long Island Mac Arthur Airport is predicted to increase from \$202.3M in 2003 to \$241M in 2010—a 19 percent increase.**

Passenger Demand and Airport Employment

Total U.S. scheduled passenger enplanements, estimated to be 643 million for 2003, is expected to increase to over one billion by 2020.¹¹ This represents a growth of over 463 million passenger enplanements.¹² Domestic passenger growth is expected to increase from approximately 628 million enplanements in 2003 to over 915 million enplanements in 2020, an increase of 43%. For the same period, international passenger traffic is expected to surge 73% from 55 million to 95 million.¹³

In *Figure 2*, the number of airline passenger enplanements from ISP is compared with those from LGA, JFK, and EWR (Newark) airports. In addition to an historical plot from 1976 to 2003, forecasts are provided for each from 2004 to 2020. The average annual growth in enplanements over the period 1976-2003 was 8.8 percent for ISP and only 2.3 percent for LGA, JFK, and EWR airports. Since September 11, 2001, the number of passenger enplanements has declined by about 5.1 percent on average in ISP while passenger enplanements has declined by four (4) percent in LGA, JFK, and EWR airports. The future is bright—examining the graph and the forecasts from 2005 to 2020, it is indicated that the future average annual growth in passenger enplanements for ISP will be 3.8 percent, while in LGA, JFK, and EWR airports, the increase will be 2.9 percent. Moreover, since 2000, Long Island Mac Arthur Airport has represented at least two (2) percent of total passenger enplanements in the metropolitan area.¹⁴

Employment numbers are presented for the airport and are compared with those from Suffolk County in *Table VII*. While employment at the airport averages about .22

⁹ Estimating the Regional Economic Significance of Airports, DOT/FAA/PP-92-6, Washington, D.C.: 1992.

¹⁰ The population in Suffolk County currently exceeds 1.4 million.

¹¹ "Enplanements" are the number of passengers who get on a plane.

¹² <http://www.apo.data.faa.gov/faatafall.HTM>.

¹³ The Economic Impact of U.S. Airports, Airports Council International-North America, Washington, D.C.: 2003.

¹⁴ As compared to the number of passenger enplanements in LGA, JFK, and EWR combined.

percent of total employment in Suffolk County over the period 1996-2004, the average annual growth in employment at Long Island Mac Arthur Airport over this same period is 2.89 percent which exceeds employment growth in Suffolk County (1.61 percent).

We would expect that an increase in passenger demand would lead to higher employment at the airport. In fact, there is a correlation of .37 between number of passenger enplanements and total employment in Long Island Mac Arthur Airport (see *Figure 3*). This correlation implies a positive relationship between ISP employment and the number of passenger enplanements—that is, more enplanements are associated with higher employment. For every ten percent increase in the number of passenger enplanements, airport employment will increase by 6.8 percent.¹⁵

Summary

No matter what airport statistic is examined, there is no doubt that Long Island Mac Arthur Airport has been growing at a fairly rapid rate as compared to other major airports in the New York/New Jersey metropolitan area, and this growth is forecasted to continue into the future. Here is a summary of the facts:

- the 2004 economic impact of \$202.27M of Long Island Mac Arthur Airport amounts to approximately 5.3 percent of total earnings in the Town of Islip economy, and to about .66 percent of total earnings in the Suffolk County economy;
- the economic impact has grown at an average annual rate of 6.95 percent over the period 1996-2003;
- the economic impact of Long Island Mac Arthur Airport is predicted to increase by 19 percent—from \$202.3M in 2003 to \$241M in 2010;
- the average annual growth in passenger enplanements over the period 1976-2003 was 8.8 percent for ISP and 2.3 percent for LGA, JFK, and EWR airports;
- it is indicated by the forecasts from 2005 to 2020 that the future average annual growth in passenger enplanements for ISP will be 3.8 percent, while in LGA, JFK, and EWR airports, the increase will be 2.9 percent;
- for every ten percent increase in the number of passenger enplanements, employment at Long Island Mac Arthur Airport will increase by 6.8 percent; and
- total airport operations in Long Island Mac Arthur Airport has increased on average by about two (2) percent over the period 1996 to 2003. Over this same period, total airport operations in JFK, LGA, and EWR have declined by 1.1 percent.

Finally, it is important to note that since we have presented estimates of only the direct and induced impacts in this study, the economic impact of Long Island Mac Arthur Airport is understated in the above results. In a subsequent study, we will examine the

¹⁵ This figure was taken from the regression equation that was estimated.

indirect impacts of the airport resulting from spending by the users of aviation services, including both commercial airline travelers and visitors and those that arrive in the region by general aviation aircraft. It includes the amount that travelers and visitors spend on lodging, food and drink, entertainment and recreation, retail and transportation services in the local economy. Moreover, travel agencies contribute to the indirect impacts of the airport. In order to estimate the indirect impact of Long Island Mac Arthur Airport, we would have to conduct a survey of businesses around the airport in the Islip area. The survey will provide a breakdown of value added that would be estimated from the survey respondents. The results would then be combined with the results from this current study to produce the complete or total economic impact of Long Island Mac Arthur Airport.

References

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<http://censtats.census.gov/cbpnaic/cbpnaic.shtml>, U.S. Census Bureau, County Business Patterns.

<http://www.apo.data.faa.gov/index.html>, FAA/APO Data System.

<http://www.bea.doc.gov/bea/regional/state/local.htm>, Bureau of Economic Analysis, Regional Economic Accounts.

<http://www.ffiec.gov/webcensus/ffieccensus.htm>, Federal Financial Institutions Examination Council, Census Reports.

<http://www.transtats.bts.gov/>, Bureau of Transportation Statistics, Form 41 Traffic.

The Economic Impact of U.S. Airports, Airports Council International-North America, Washington, D.C.: 2003.

Town of Islip Adopted Budgets, Town of Islip Office of the Comptroller, 1993-2004.

Figure 1
Economic Impact
of ISP Airport
1996-2010

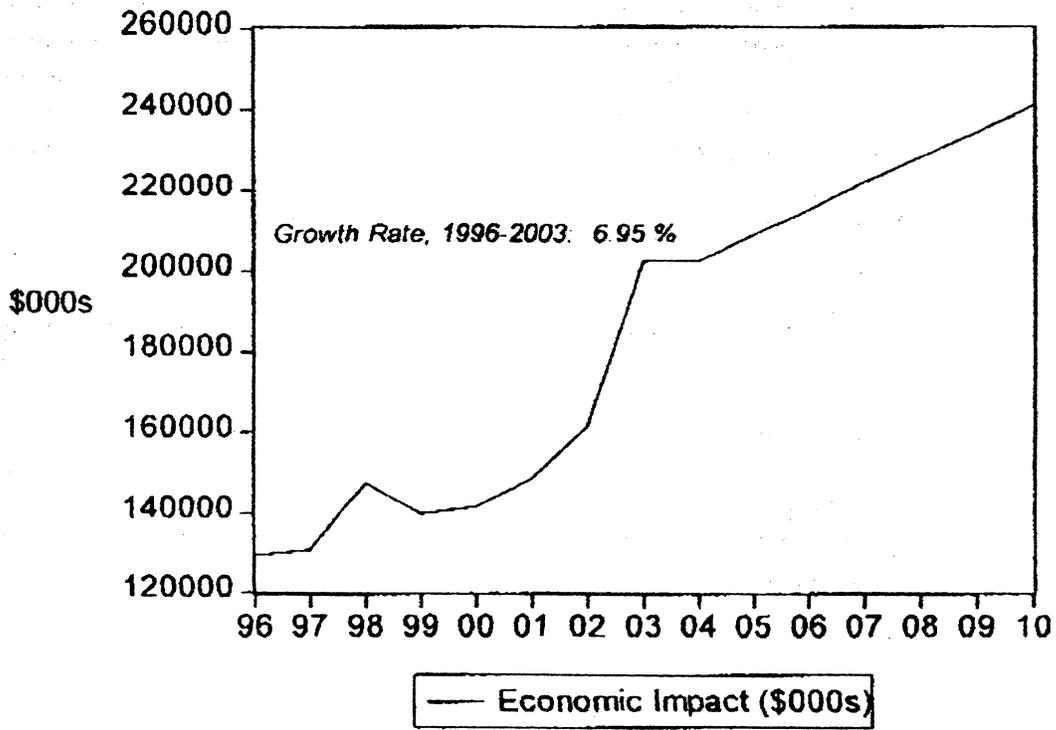


Figure 2
Number of Passenger Enplanements
JFK, LGA, EWR, and ISP Airports
1976-2020

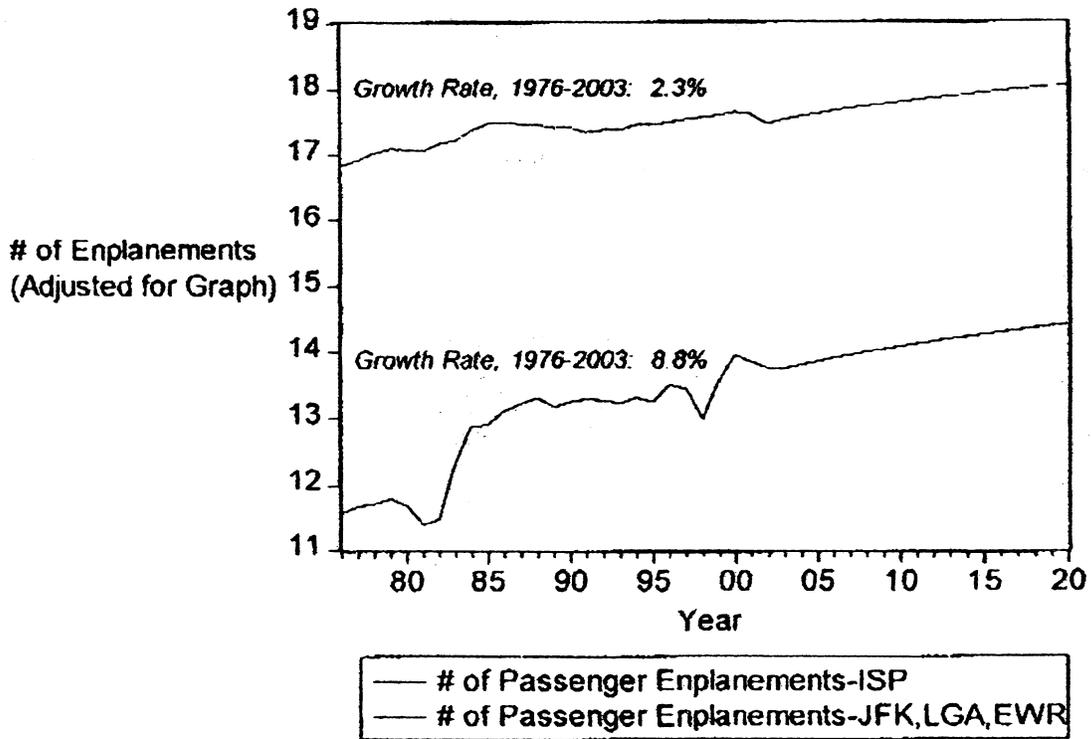


Figure 3
ISP Airport Employment and # of Passenger Enplanements
1996-2010

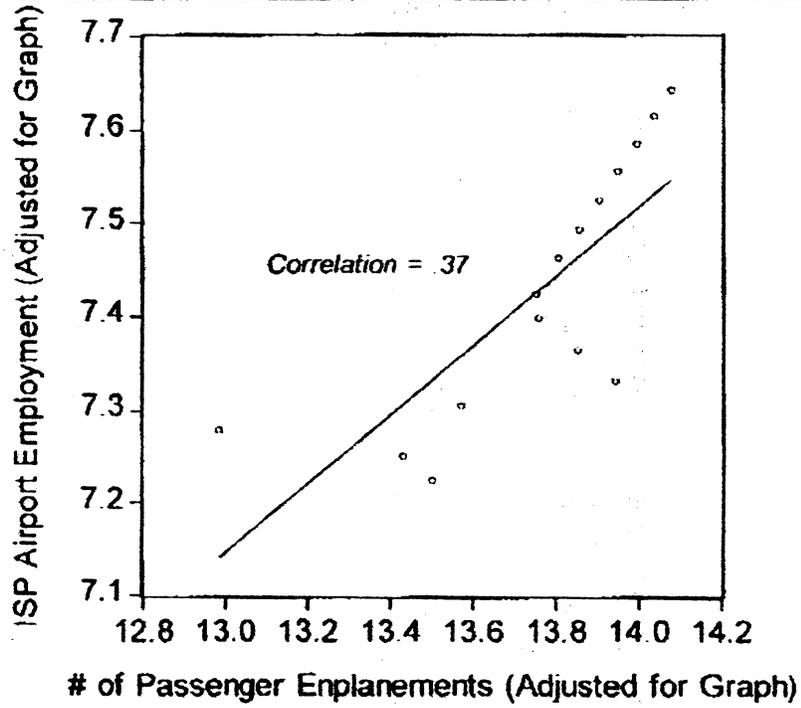


Table I
Selected Operating Expenses

| Year | Personal Compensation and Benefits | Communications and Utilities | Supplies and Materials | Repairs and Maintenance | Contractual Services |
|-------------|---|---|-----------------------------------|------------------------------------|---------------------------------|
| 1996 | \$3,950,502 | \$590,872 | \$169,587 | \$169,587 | \$63,031 |
| 1997 | \$3,768,983 | \$571,783 | \$157,595 | \$157,595 | \$130,657 |
| 1998 | \$3,661,939 | \$496,282 | \$158,534 | \$158,534 | \$100,688 |
| 1999 | \$3,890,006 | \$567,244 | \$532,895 | \$532,895 | \$135,941 |
| 2000 | \$4,212,407 | \$661,571 | \$1,282,114 | \$1,282,114 | \$206,140 |
| 2001 | \$4,693,117 | \$651,053 | \$239,450 | \$383,188 | \$2,709,783 |
| 2002 | \$5,107,174 | \$687,182 | \$198,809 | \$199,398 | \$2,943,363 |
| 2003 | \$5,902,898 | \$769,647 | \$250,646 | \$539,307 | \$666,691 |

Table II
Total Expenses, Operating Revenue,
and Excess

| Year | Operating Expenses | Operating Revenue | Excess |
|-------------|---------------------------|--------------------------|---------------|
| 1996 | \$4,926,619 | \$6,013,271 | \$1,086,652 |
| 1997 | \$4,770,853 | \$6,113,924 | \$1,343,071 |
| 1998 | \$4,580,123 | \$5,592,703 | \$1,032,580 |
| 1999 | \$5,605,691 | \$8,488,640 | \$2,882,949 |
| 2000 | \$7,516,134 | \$10,423,323 | \$2,907,189 |
| 2001 | \$8,652,646 | \$9,597,608 | \$944,962 |
| 2002 | \$9,116,045 | \$10,389,105 | \$1,273,060 |
| 2003 | \$8,104,124 | \$10,535,544 | \$2,431,420 |

Table III
Capital Expenditures

| Year | Town of Islip Airport Capital Expenditures | Peter J. McGowan Concourse |
|-------------|---|-----------------------------------|
| 1996 | \$4,564,241 | |
| 1997 | \$3,428,578 | |
| 1998 | \$11,788,532 * | |
| 1999 | \$3,644,680 * | |
| 2000 | \$1,237,963 | |
| 2001 | \$3,723,672 | |
| 2002 | \$8,307,177 | |
| 2003 | \$633,117 | \$29,333,336 |
| 2004 | | \$25,668,664 |

*Note: 1998 and 1999 include the \$13,000,000 in capital expenditures for the renovation and modernization of the terminal.

Table IV

Long Island Mac Arthur Airport Tenants

| Company | Number of Employees |
|----------------------------------|----------------------------|
| A&P Aircraft Maintenance | 7 |
| Aero Trades, Inc. | 9 |
| Air Experts | 2 |
| Air Route Center | 450 |
| American Eagle Airlines | 14 |
| Anton Foods | 49 |
| Avis Rentals | 25 |
| Comair (Delta Connection) | 19 |
| ExcelAire Service, Inc. | 77 |
| Executive Fliteways, Inc. | 90 |
| FAA Control Tower | 23 |
| FAA Facility Maintenance | 14 |
| Garrett Aviation | 127 |
| GTC Aviation, Inc. | 33 |
| Hertz Rent-A-Car | 25 |
| HMS Maintenance | 2 |
| Insulated Wire | 13 |
| International Ram | 38 |
| Jet Aviation | 31 |
| Long Island Jet Center | 111 |
| Mid Island Aviation | 35 |
| National Aviation Services | 24 |
| North American Air Service | 20 |
| Omni Main Tech | 6 |
| Seaboard Tank Systems | 100 |
| Southwest Airlines | 95 |
| Standard Parking | 28 |
| Summit Security | 15 |
| Swissport Fueling | 14 |
| TGI Fridays | 50 |
| The Paradies Shops | 34 |
| TSA | 90 |
| U.S. Airways Express | 20 |
| U.S. Customs | 8 |
| Total Number of Employees | 1698 |

Table V

Total Payroll of Long Island Mac Arthur Airport Tenants

| Year | Total Payroll of Airport Tenants |
|-------------|---|
| 1996 | \$63,433,342 |
| 1997 | \$65,260,222 |
| 1998 | \$66,828,467 |
| 1999 | \$67,815,499 |
| 2000 | \$69,212,498 |
| 2001 | \$71,544,959 |
| 2002 | \$73,548,218 |
| 2003 | \$75,070,666 |
| 2004 | \$77,172,645 |

Note: Numbers in bold are the "backcasted" values.

Table VI

Economic Impact of Long Island Mac Arthur Airport

1996 – 2004

| Year | Direct Economic Impact | Induced Economic Impact | Economic Impact |
|-------------|-------------------------------|--------------------------------|------------------------|
| 1996 | \$74,010,854 | \$55,508,140 | \$129,518,994 |
| 1997 | \$74,802,724 | \$56,102,043 | \$130,904,767 |
| 1998 | \$84,207,702 | \$63,155,777 | \$147,363,479 |
| 1999 | \$79,948,819 | \$59,961,614 | \$139,910,433 |
| 2000 | \$80,873,784 | \$60,655,338 | \$141,529,122 |
| 2001 | \$84,866,239 | \$63,649,680 | \$148,515,919 |
| 2002 | \$92,244,500 | \$69,183,375 | \$161,427,875 |
| 2003 | \$115,572,663 | \$86,679,498 | \$202,252,161 |
| 2004 | \$115,584,369 | \$86,688,277 | \$202,272,646 |

Note: Numbers in bold are forecasted values.

Table VII
Employment

| Year | Total Airport Employment | Suffolk County Employment | Percent |
|-------------|---------------------------------|----------------------------------|----------------|
| 1996 | 1,372 | 655,153 | 0.21% |
| 1997 | 1,409 | 667,891 | 0.21% |
| 1998 | 1,447 | 686,375 | 0.21% |
| 1999 | 1,487 | 701,400 | 0.21% |
| 2000 | 1,527 | 708,220 | 0.22% |
| 2001 | 1,578 | 708,379 | 0.22% |
| 2002 | 1,632 | 712,496 | 0.23% |
| 2003 | 1,675 | 732,212 | 0.23% |
| 2004 | 1,741 | 737,552 | 0.24% |

Note: Numbers in bold are forecasted values.