

# **JETBLUE CORPORATE TRAINING CENTER ECONOMIC ANALYSIS**

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**EAST CENTRAL FLORIDA REGIONAL PLANNING COUNCIL**  
Regional Economic Analysis Program

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Featuring REMI Policy Insight ®

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*East Central Florida*  
**REGIONAL  
PLANNING  
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## JETBLUE CORPORATE TRAINING CENTER

### Economic Impact Analysis

#### 1. Executive Summary

The East Central Florida Regional Planning Council has conducted an analysis of the impact on Orange County's economy of establishing a national corporate training center for JetBlue Airways on the east side of Orlando International Airport property in Orange County, Florida.

**JetBlue Airways:** JetBlue Airways incorporated in 1998 with the mission of bringing humanity back to air travel and making flying more enjoyable. JetBlue took to the air on February 11, 2000 with the inauguration of service between New York City's John F. Kennedy International Airport and Fort Lauderdale, Florida. The airline now serves 27 cities around the country with a fleet of 60 new, environmentally friendly, Airbus A320 aircraft. The airline has served over 22 million passengers since opening, and currently JetBlue has orders with Airbus for a fleet of as many as 202 A320 aircraft. Additionally, JetBlue has placed an order with Embraer for a fleet of up to 200 EMBRAER 190 aircraft, the first of which will be delivered in 2005.

**The Training Facility:** The project is divided into two phases. The first phase involves construction of the plant, and the second is the long-term operational phase of the plant. Construction will take place between 2004 and 2005, and the center will be ready for operation in mid-2005.

The training facility will result in an average increase of over 375 jobs in Orange County (including the 154 JetBlue employees and 221 indirect jobs). Gross County Product was projected to increase by an average of almost \$27 million per year over the first seven years, and real personal income was projected to increase by an average of over \$11 million annually over the same time period.

The impacts of this facility are described in more detail below.

#### 2. Information Modeled

JetBlue plans to invest approximately \$157 million in this project over the next 5 years. Construction will take place between 2004 and 2005, and the project would be operational in 2005. Of the \$157 million in investment, approximately \$104 million would be in equipment and other personal property, and \$53 million would be in buildings. The equipment would include eight flight simulators costing about \$14 million each.

Orange County staff provided the information shown in Table 1, which was used as inputs into the REMI model.

TABLE 1 JETBLUE DATA INPUTS FOR THE REMI MODEL							
Variable/Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Employment	0	37	40	43	30	0	154
Construction*	45	8	0	0	0	0	53
Equipment Purchases*	0	75.36	14.22	0	0	14.22	103.8
* In millions of dollars.							

### 3. Results of Economic Analysis

#### Employment

The jobs provided by JetBlue affect employment across industries in Orange County. The distribution of employment across industries is dependent on inter-industry transactions to provide intermediate inputs, distribution of spending across sectors in order to supply final demand, and indirect effects resulting from population growth and additional investment in the County. Table 2a below shows the increase in employment that would result from location of this training facility in Orange County, as well as the indirect and induced employment impacts on the County. (Definitions of indirect and induced impacts are included in the glossary in Section 5 of this document.) Table 2b shows employment increase as a percent change over the baseline scenario (the baseline scenario is the scenario that assumes JetBlue would not locate here) for Orange County.

TABLE 2A EMPLOYMENT CHANGES BY SECTOR IN ORANGE COUNTY RESULTING FROM ESTABLISHMENT OF JETBLUE TRAINING FACILITY							
Employment	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Manufacturing	29	101	19	3	4	20	4
Construction	396	93	7	7	10	13	8
Transportation and Public Utilities	15	14	4	3	4	6	4
Finance, Insurance, Real Estate	21	18	5	5	7	9	6
Retail Trade	87	64	22	23	30	36	28
Wholesale Trade	21	31	6	3	4	8	3
Services	171	183	125	171	222	240	219
Agriculture, Forestry, Fishery Services	8	4	1	1	2	2	2
Government	6	9	10	10	11	13	13
Total	754	517	199	226	294	347	287
Average Employment	375						

**TABLE 2B**  
**EMPLOYMENT CHANGES BY SECTOR IN ORANGE COUNTY (PERCENTAGES)**  
**RESULTING FROM ESTABLISHMENT OF JETBLUE TRAINING FACILITY**

Employment	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Manufacturing	0.014%	0.041%	0.007%	0.002%	0.002%	0.008%	0.002%
Construction	0.015%	0.020%	0.004%	0.003%	0.004%	0.007%	0.003%
Transportation and Public Utilities	0.008%	0.010%	0.003%	0.002%	0.003%	0.004%	0.003%
Finance, Insurance, Real Estate	0.007%	0.009%	0.003%	0.002%	0.003%	0.004%	0.003%
Retail Trade	0.008%	0.010%	0.003%	0.002%	0.003%	0.004%	0.003%
Wholesale Trade	0.009%	0.020%	0.004%	0.002%	0.003%	0.005%	0.002%
Services	0.008%	0.011%	0.003%	0.002%	0.003%	0.004%	0.003%
Agriculture, Forestry, Fishery Services	0.006%	0.007%	0.002%	0.002%	0.002%	0.003%	0.002%
Government	0.001%	0.003%	0.003%	0.003%	0.003%	0.003%	0.003%

### Gross County Product and Personal Income

Tables 3a and 3b below show the increases in real personal income and Gross County Product resulting from JetBlue. At full employment, JetBlue would be expected to generate over \$79 million in additional personal income for Orange County households over 7 years, which translates into an average of approximately \$13 dollars annually for every person in the County (based on the County's 2000 population of 896,344). **Real Disposable Personal Income** is the amount of income available for an individual after taxes and after adjusting for inflation.

The project would increase the County's **Gross County Product** (GCP) by approximately \$188 million over seven years. GCP is the total market value of all final goods and services produced in the county in a given year. GCP often is considered the county counterpart of the national Gross Domestic Product. In arriving at GDP, the Commerce Department is careful not to double-count transactions. If it counted the sale of steel to General Motors from U.S. Steel and also the value of the cars that GM produced, it would count the steel twice – once in an unfinished form, and once in a finished form. In practice it avoids double counting by including only the value added at each stage of production. Value added is sales minus the cost of raw materials and unfinished goods.

Gross County Product can be broken down by demand source: consumption, investment and government.

- Consumption is the induced impact: additional spending expected as a result of additional employment and wages. Consumption can be broken down to the following categories: Vehicles and Parts, Computers and Furniture, Other Durables, Food and Beverages, Clothing and Shoes, Gasoline and Oil, Fuel Oil and Coal, Other Non-Durables, Housing, Household Operations, Transportation, Medical Care, and Other Services.
- Investment spending is indirect. Investment comprises the sum of expenditures on capital equipment, inventories, and structures. Examples include machinery, unsold products, and housing.
- Government spending is divided into Federal Military, Federal Civilian, and State and Local. State and local government spending is directly related to an increase in population. A project like this likely would result in an increase in population because of increased economic opportunity.

**TABLE 3A**  
**CHANGES IN INCOME AND GCP**  
**JETBLUE**  
**ORANGE COUNTY**

<b>Year</b>	<b>Gross County Product</b>	<b>Real Disposable Personal Income</b>
Year 1	\$43.49	\$17.09
Year 2	\$50.16	\$14.79
Year 3	\$16.34	\$6.94
Year 4	\$14.41	\$7.92
Year 5	\$18.83	\$10.06
Year 6	\$26.81	\$12.00
Year 7	\$18.77	\$10.53
<b>Total</b>	<b>\$188.81</b>	<b>\$79.33</b>
Average	\$26.97	\$11.33

In millions of 2003 dollars.

**TABLE 3B**  
**CHANGES IN INCOME AND GCP (PERCENTAGES)**  
**JETBLUE**  
**ORANGE COUNTY**

<b>Year</b>	<b>Gross County Product</b>	<b>Real Disposable Personal Income</b>
Year 1	.008%	.008%
Year 2	.018%	.009%
Year 3	.005%	.003%
Year 4	.003%	.003%
Year 5	.003%	.004%
Year 6	.006%	.005%
Year 7	.003%	.004%

### **Local Government Revenues and Expenditures**

The REMI model consists of two sequential components: an economic engine that produces simulations of economic and demographic effects, and a fiscal module that runs subsequent to the economic simulation for bookkeeping purposes. The fiscal module provides information about the *indirect* impacts of the economic activity in question. The *direct* impacts, which have been estimated in Table 4 below, average approximately \$2.8 million in property tax annually. The indirect impacts for JetBlue are shown in Table 5, while table 6 shows projected County investment.

**TABLE 4**  
**LOCAL GOVERNMENT REVENUE RESULTING FROM JETBLUE**  
**ORANGE COUNTY (DIRECT IMPACTS)**

Local Revenues	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
County General Fund	\$324,950	\$356,911	\$317,727	\$339,750	\$295,594	\$252,080	\$209,968
County Capital Fund	\$17,175	\$18,865	\$16,794	\$17,958	\$15,624	\$13,324	\$11,098
County Parks Fund	\$12,641	\$13,884	\$12,360	\$13,217	\$11,499	\$9,806	\$8,168
City of Orlando	\$391,020	\$429,479	\$382,329	\$408,829	\$355,695	\$303,334	\$252,659
Orange County Schools	\$541,228	\$594,461	\$529,198	\$565,878	\$492,334	\$419,858	\$349,717
Library Systems	\$30,029	\$32,983	\$29,362	\$31,397	\$27,316	\$23,295	\$19,404
SFWMD	\$47,885	\$52,595	\$46,820	\$50,066	\$43,559	\$37,147	\$30,941
<b>Total</b>	<b>\$1,364,928</b>	<b>\$1,499,178</b>	<b>\$1,334,590</b>	<b>\$1,427,095</b>	<b>\$1,241,621</b>	<b>\$1,058,844</b>	<b>\$881,955</b>

In 2003 dollars.

**TABLE 5**  
**LOCAL GOVERNMENT REVENUE RESULTING FROM JETBLUE**  
**ORANGE COUNTY (INDIRECT IMPACTS)**

Local Revenues	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Federal Intergovernmental	\$19.71	\$30.92	\$32.18	\$34.21	\$37.75	\$42.41	\$44.96
State Intergovernmental	\$128.14	\$202.18	\$211.63	\$225.96	\$250.78	\$283.07	\$301.56
Property Tax	\$112.05	\$204.78	\$224.51	\$242.78	\$269.57	\$306.13	\$326.58
Sales Tax	\$247.26	\$658.89	\$146.46	\$61.18	\$81.46	\$190.48	\$80.02
Motor Vehicle License	\$1.71	\$1.48	\$0.69	\$0.79	\$1.00	\$1.20	\$1.05
Other Tax	\$26.80	\$23.18	\$10.80	\$12.33	\$15.71	\$18.79	\$16.43
Education Charges	\$76.78	\$67.66	\$33.96	\$36.78	\$44.44	\$51.37	\$44.07
Other Charges & Rev	\$718.90	\$621.60	\$289.51	\$330.53	\$421.39	\$503.74	\$440.71
Utility & Liquor Store Rev	\$247.87	\$214.33	\$99.82	\$113.91	\$145.28	\$173.62	\$151.92
<b>Total</b>	<b>\$1,579.22</b>	<b>\$2,025.02</b>	<b>\$1,049.56</b>	<b>\$1,058.47</b>	<b>\$1,267.38</b>	<b>\$1,570.81</b>	<b>\$1,407.30</b>

In thousands of 2003 dollars.

**TABLE 6**  
**LOCAL GOVERNMENT INVESTMENT RESULTING FROM JETBLUE**  
**ORANGE COUNTY**

<b>Local Investment</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>	<b>Year 7</b>
Intergovernmental	\$1.60	\$2.53	\$2.65	\$2.83	\$3.14	\$3.54	\$3.77
Higher Education	\$14.74	\$23.24	\$24.32	\$25.98	\$28.83	\$32.53	\$34.65
Elementary/Secondary Ed-Libraries	\$142.89	\$225.44	\$236.03	\$252.02	\$279.65	\$315.68	\$336.24
Health	\$32.96	\$51.99	\$54.42	\$58.12	\$64.49	\$72.79	\$77.53
Transportation	\$29.83	\$47.06	\$49.25	\$52.60	\$58.36	\$65.88	\$70.17
Police, Fire, Correction	\$53.14	\$83.82	\$87.73	\$93.69	\$103.95	\$117.34	\$125.03
Natural Resources, Parks, Housing	\$31.48	\$49.67	\$51.98	\$55.51	\$61.60	\$69.53	\$74.06
Sewerage, Solid Waste	\$25.29	\$39.90	\$41.75	\$44.59	\$49.48	\$55.85	\$59.49
Administration & Unallocable	\$42.70	\$67.36	\$70.51	\$75.30	\$83.55	\$94.31	\$100.45
Interest on Debt	\$26.06	\$41.12	\$43.03	\$45.96	\$51.00	\$57.56	\$61.31
Utilities, Transit	\$50.71	\$79.98	\$83.71	\$89.40	\$99.19	\$111.94	\$119.21
<b>Total</b>	<b>\$451.40</b>	<b>\$712.11</b>	<b>\$745.38</b>	<b>\$796.00</b>	<b>\$883.24</b>	<b>\$996.95</b>	<b>\$1061.91</b>

In thousands of 2003 dollars.

## 4. The REMI Economic Model

The Regional Planning Council used the Regional Economic Models Inc. (REMI) Policy Insight® model to generate this analysis. The model contains baseline projections for Orange County that incorporate a wide variety of variables. When changes are entered into the model such as the changes resulting from JetBlue’s activities, the model produces an *alternative* forecast, which can then be compared to the *baseline* forecast. The results in this report are from the alternative forecast – they represent **changes from the baseline**, or no-change, scenario. Figure 1 shows how the model works. A more comprehensive overview is provided below.

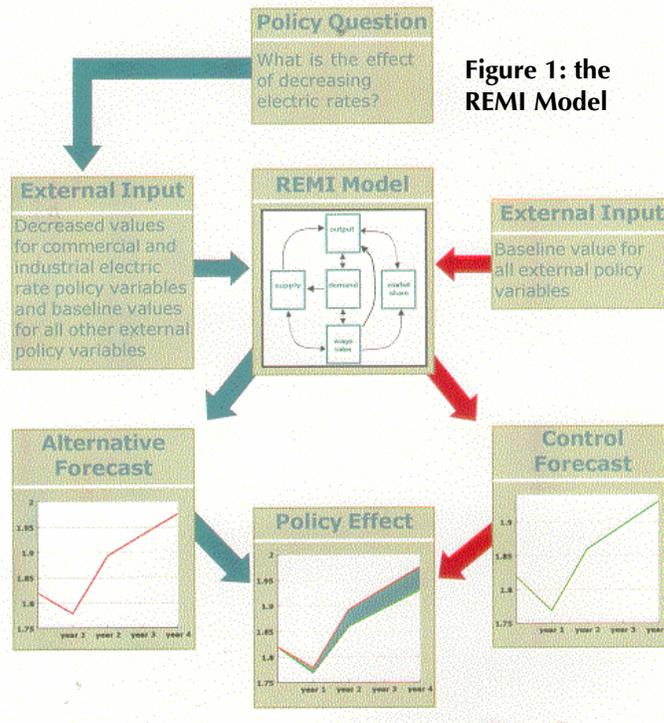


Figure 1: the REMI Model

### An Overview of REMI Policy Insight®

What Is REMI Policy Insight®?

Founded in 1980, Regional Economic Models, Inc. (REMI) constructs models that reveal the economic and demographic effects that policy initiatives or external events may cause on a local economy. REMI model users include national, regional, state and city governments, as well as universities, nonprofit organizations, public utilities and private consulting firms.

REMI Policy Insight combines years of economic experience with an easy-to-use software interface. A major feature of REMI is that it is a dynamic model that forecasts how changes in the economy and adjustments to those changes will occur on a year-by-year basis. The model is sensitive to a very wide range of policy and project alternatives and to interactions between the regional and national economies. By pointing and clicking, you can answer the toughest “What if...?” questions about federal, state, local or regional economies. REMI is dedicated to continuing economic research combined with quality customer service and support.

## **Model Introduction**

The East Central Florida Regional Planning Council's version of REMI Policy Insight includes a REMI model that has been built especially for the East Central Florida region. The model-building system uses hundreds of programs developed over the past two decades to build customized models for each area using data from the Bureau of Economic Analysis, the Bureau of Labor Statistics, the Department of Energy, the Census Bureau and other public sources.

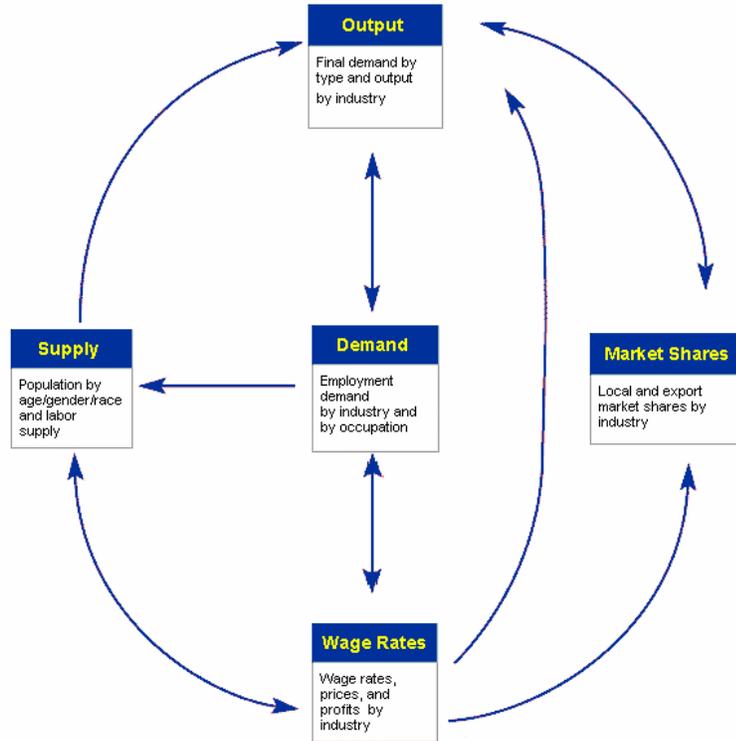
The REMI model is a structural model, meaning that it clearly includes cause-and-effect relationships. The model shares two key underlying assumptions with mainstream economic theory: households maximize utility and producers maximize profits. Since these assumptions make sense to most people, the model can be understood by intelligent lay people as well as trained economists.

In the model, businesses produce goods to sell to other firms, consumers, investors, governments and purchasers outside the region. The output is produced using labor, capital, fuel and intermediate inputs. The demand for labor, capital and fuel per unit of output depends on their relative costs, since an increase in the price of any one of these inputs leads to substitution away from that input to other inputs. The supply of labor in the model depends on the number of people in the population and the proportion of those people who participate in the labor force. Economic migration affects the population size. More people will move into an area if the real after-tax wage rates or the likelihood of being employed increases in a region.

Supply and demand for labor in the model determine the wage rates. These wage rates, along with other prices and productivity, determine the cost of doing business for every industry in the model. An increase in the cost of doing business causes either an increase in price or a cut in profits, depending on the market for the product. In either case, an increase in cost would decrease the share of the local and U.S. market supplied by local firms. This market share combined with the demand described above determines the amount of local output. Of course, the model has many other feedbacks. For example, changes in wages and employment impact income and consumption, while economic expansion changes investment and population growth impacts government spending.

## Model Overview

Below is a pictorial representation of the model. The Output block shows a factory that sells to all the sectors of final demand as well as to other industries. The Labor and Capital Demand block shows how labor and capital requirements depend both on output and their relative costs.



Population and Labor Supply are shown as contributing to demand and to wage determination in the product and labor market. The feedback from this market shows that economic migrants respond to labor market conditions. Demand and supply interact in the Wage, Price and Profit block. Once prices and profits are established, they determine market shares, which along with components of demand, determine output. The REMI model brings together all of the above elements to determine the value of each of the variables in the model for each year in the baseline forecasts. The model includes all the inter-industry relationships that are in an input-output model in the Output block, but goes well beyond the input-output model by including the relationships in all of the other blocks shown in the figure.

In order to broaden the model in this way, it was necessary to estimate key relationships. This was accomplished by using extensive data sets covering all areas in the country. These large data sets and two decades of research effort have enabled REMI to simultaneously maintain a theoretically sound model structure and build a model based on all the relevant data available. The model has strong dynamic properties, which means that it forecasts not only what will happen but when it will happen. This results in long-term predictions that have general equilibrium properties. This means that the long-term properties of general equilibrium models are preserved without sacrificing the accuracy of event timing predictions and without simply taking elasticity estimates from secondary sources.

## 5. Glossary

**Gross County Product:** Gross County Product as a value added concept is analogous to the national concept of Gross Domestic Product. It is equal to output excluding the intermediate inputs. It represents compensation and profits.

**Indirect impacts:** Indirect impacts include all of the economic impacts not included in the actual development plan. Indirect effects = induced effects + intermediate effects.

**Induced impacts:** Induced impacts result from the re-spending of wages – i.e., new employees have money to spend.

**Intermediate impacts:** Intermediate impacts result from the purchase of intermediate goods, i.e., inputs to the production of final goods.

**Output:** the amount of production in dollars, including all intermediate goods purchased as well as value-added (compensation and profit). Can also be thought of as sales. Output = Self-Supply + Exports + Intraregional Trade + Exogenous Production.

**Real Disposable Personal Income:** disposable income divided by the PCE-Price Index, based in 1992 dollars; amount of real dollars available for consumption and savings.