

Estimate of Potential Economic Impact Associated with “Aerotropolis” Legislation and an International Freight Hub at Lambert-St. Louis International Airport

Introduction

The Big Idea was never about two or three inbound cargo flights each week from China. International air cargo is, however, where *The Big Idea* begins, and the catalyst for St. Louis’ reemergence as a global center for commerce and transportation.

St. Louis-based air cargo is the missing piece of a multi-modal infrastructure system that today boasts enviable assets in highway, rail, and river transportation. Only air cargo can deliver the speed-to-market essential for today’s supply chains; which knit together from around the world components arriving by varying modes of transport—all arriving at a preordained time and place to be assembled into something more valuable than the sum of their parts. Introducing and sustaining international air cargo service in St. Louis will actually serve to stimulate and grow all other modes of transport as well, taking full advantage of the region’s multi-modal network.

The true vision of *The Big Idea* is about “re-internationalizing” St. Louis as a vigorous cargo gateway; strengthening Lambert-St. Louis International Airport through new landing fee revenues; and building a more robust logistics cluster that invests hundreds of millions of dollars in facilities and equipment, and employs thousands of area residents over the next 20 years. But, it doesn’t work without air cargo as a catalyst.

On the following pages is a response to the hypothetical question, “*What level of activity and impact could be ‘purchased’ if the state was to entirely expend the \$300 million in state tax credits set aside for ‘qualifying gateway facilities’ in SB390 by the time the program sunsets?*” Though the ultimate benefit must be weighed against the total potential cost of \$480 million over 15 years, this \$300 million component of the legislative package represents a realistic benchmark against which to estimate overall economic impact.

China has determined to grow their market share in air freight from 15-20% to 50% for Chinese-made goods that fly between their country and the U.S. They have the resources and political will to make this happen. They will also establish an air cargo “bridge” to link China to Brazil and the rest of South America by air. It’s not a question of *whether* China will do these things; only whether they will do them in St. Louis.

Economic Development Potential of Air Cargo

Three airports in particular, none too distant from St. Louis, show the power of introducing international air cargo to a passenger airport. All have the added advantage of being home to one of the two largest expeditors, UPS or FedEx, but remain great comparisons for illustrative purposes.

- **Louisville** – *“The expansion of Louisville International Airport has created more than twice as many local jobs as experts projected when the city embarked on the project in the late 1980s, according to the latest version of a long-term economic impact study. The airport now generates more than 55,000 jobs, according to the University of Louisville study, which is updated every three years. It also generates nearly \$2 billion in payroll and \$277 million in state and local taxes - more than four times the original projection in those categories, according to the study. Almost all the impact can be attributed to the UPS Worldport global air hub ...”*ⁱⁱ
- **Memphis** – *“A new study released this week confirmed the airport’s muscle, estimating that Memphis International pumps \$28.6 billion into the region’s economy and provides, directly or indirectly, 34.2 percent - or one in three - local jobs. The economic impact study was commissioned by the Memphis-Shelby County Airport Authority and conducted by the Sparks Bureau of Business and Economic Research at the University of Memphis. Cargo accounted for \$27.1 billion of the total economic impact and 208,319 of the 220,000 jobs related to the airport, according to the study.”*ⁱⁱⁱ
- **Indianapolis** – Although Indianapolis International Airport is only the 45th largest U.S. airport in terms of passenger traffic, it is the nation’s 8th largest cargo facility and 21st in the world due to a major presence by FedEx. Because of this added revenue from air cargo, and in spite of just completing a new \$1.1 billion midfield passenger terminal, the following is true. *“In most U.S. cities, the rates airlines pay are forecasted to increase. In Indianapolis, however, those costs will actually decrease steadily over the next five years, which will make Indianapolis International more attractive for additional or expanded air service.”*^{iv}

Several additional examples^v of U.S. inland ports offer a glimpse of what an international freight hub can become over a 10 – 20-year period. What is very clear from the examples to follow, though each is unique, is that the investment and job-creating power of effectively combining air transport with a robust rail and highway infrastructure is incredible. Add to that the advantage of St. Louis’ location at the confluence of the nation’s two largest rivers, and China’s entry into the marketplace -- and the potential multiplies exponentially.

- **Rickenbacker / Columbus Inland Ports - Columbus, Ohio.** Rickenbacker is a 5,000-acre all-cargo airport, which anchors the southern end of a 15,000 acre industrial zone. It contains over 22 million sf of class “A” distribution and logistics space that employs over 15,000 workers. The Rickenbacker Port Authority has developed 10 million sf over the last 10 years in the FTZ industrial park. An additional 12 million sf have been developed in 12 other industrial parks in the Rickenbacker area over the last five years.

- **Port of Huntsville - Huntsville, Alabama.** The Port of Huntsville is an inland port complex located in Northern Alabama comprised of three facilities: Huntsville International Airport, the International Intermodal Center, and Jetplex Industrial Park. A 2008 economic impact study for the Port of Huntsville summarized its findings as follows, “*These employment and payroll figures are larger than those reported in similar impact studies for the airports in Birmingham, Nashville and the passenger-only part of the Memphis Airport.*” Note that Huntsville’s metro population is approximately 450,000 – compared to Birmingham at 1.2 million, Nashville at 1.6 million, and Memphis at 1.3 million.
- **San Bernardino International Airport (SBD) – San Bernardino, California.** Located 60 miles east of the Los Angeles International Airport, SBD is surrounded by major interstate freeways and is within two miles of the BNSF intermodal facility. Alliance California is a 2,000-acre “trade and logistics” center adjacent to SBD and operated by the Hillwood Group, who is also the developer of the Alliance Global Logistics Hub in Ft. Worth, Texas. There are multiple buildings in existence or under development at Alliance California totaling roughly 64 million square feet. Hillwood estimates that over 29,000 jobs have been created at Alliance California since 2000.
- **Alliance Global Logistics Hub - Ft. Worth, Texas.** A 17,000-acre, master-planned development built around Ft. Worth Alliance Airport, the world’s first 100 % industrial airport, with two Class I rail lines, and multiple interstate highways. Launched in 1989, this development is estimated to have more than 170 companies and 28,000 employees.
- **Port of San Antonio – San Antonio, Texas.** The Port of San Antonio was created out of the closing of Kelly Air Force Base in the 1995 round of Base Realignment and Closures. An economic impact study^{vi} performed in 2010 summarized its annual impact as follows. “*The business operations at Port San Antonio generated an (annual) economic impact of about \$4.14 billion. This activity supported employment of about 24,216 full-time equivalent positions and paid incomes to these workers of \$1.68 billion. The value added is estimated at over \$2.65 billion, and the total fiscal impact was \$467 million to the federal, state and local governments.*”

Estimated Impact of SB390 Economic Pro Forma

The assumptions on page 5 were provided by the RCGA to Princeton-based Biggins Lacy Shapiro (BLS) who is working in tandem with the international logistics advisory firm Institute St. Onge to conceptualize how the introduction of international air cargo in St. Louis catalyzes the entire multi-modal transportation cluster and evolves into a legitimate international cargo gateway. Based on those specific assumptions, BLS /St. Onge's modeling suggests the following economic impacts.

Cumulative Construction Impact: 2011 - 2018 (SB390 requires facilities built within 8 years):

Impact Type	Employment	Employee Compensation	Output
Direct Effect	14,423	\$556,082,000	\$1,575,000,000
Indirect Effect	2,660	\$127,077,000	\$412,266,000
Induced Effect	6,242	\$221,012,000	\$740,723,000
Total Construction Effect	23,325	\$904,170,000	\$2,727,989,000

Notes:

- Total construction employment represents the total number of full time equivalents (FTE) positions created during the project's eight-year construction period. This is not the number of people employed. Individual employees may have more than one job during the multi-year construction process.
- Numbers may not add due to rounding
- Output and employee compensation presented in 2011 dollars.

Cumulative Operations (Full Time Jobs) Impact: 2011 - 2025 (SB390 incentives paid out over 15 years)

Impact Type	Employment	Employee Compensation	Output
Direct Effect	6,643	\$3,386,896,000	\$11,712,856,000
Indirect Effect	2,846	\$996,876,000	\$3,304,508,000
Induced Effect	4,355	\$1,235,225,000	\$4,138,192,000
Total Operations Effect	13,844	\$5,618,997,000	\$19,155,556,000

Notes:

- Operations jobs represented as full time equivalents (FTE) positions per year.
- Numbers may not add due to rounding
- Output and employee compensation presented in 2011 dollars.

Total combined output over 15 years: **\$21.88 billion**. These estimated impacts are for the 8-county Missouri portion of the St. Louis metropolitan area and the rest of the state of Missouri.

Using the same methodology, the combined output over 20 years (2011 – 2030) is **\$33.86 billion**.

Key Assumptions for SB390 Economic Pro Forma

- \$300 million of Aerotropolis incentives, fully subscribed, will generate \$1.575 billion of new construction
 - \$150 million x 4 (25% credit) = \$600 million of new investment
 - \$150 million x 6.5 (15% credit) = \$975 million of new investment
- \$1.575 billion of new construction will be configured as follows
 - 15% by value (\$235 million) will be dedicated air cargo space built at \$85 psf.
 - Generates 2,800,000 sf of air cargo space
 - 85% by value (\$1.34 billion) will be warehouse space built at \$54 psf
 - Generates 24,800,000 sf of warehouse space
 - Total of 27.6 million sf of new construction
- Average cost of equipping facilities estimated at \$15 psf
- Facilities built out over 8-year period at following growth rate:
 - 2011 – 5%
 - 2012 – 15%
 - 2013 – 20%
 - 2014 – 25%
 - 2015 – 20%
 - 2016 – 5%
 - 2017 – 5%
 - 2018 – 5%
- - Employment projections based on densities consistent with St. Louis warehouse and transportation market, which are more conservative than densities for manufacturing employment
 - Whse: 7,328 sf per employee^{vii}

- Transp: 9,587 sf per employee^{viii}
- NOTE: You have both in each facility – not exclusively one or the other
- Total new employment projections based on 8-year build-out of new facilities and employee densities listed above
 - Whse: 3,766 employees (27.6 M sf ÷ 7,328 sf per employee)
 - Transp: 2,879 employees (27.6 M sf ÷ 9,587 sf per employee)
 - 6,645 new direct employees over 8 years
- Further employment assumptions for IMPLAN model
 - Employment ramps up at same rate as facilities over 8 years
 - Payroll then grows at an inflationary factor calculated by IMPLAN for 7 years (years 9 – 15)
 - 35 % of the jobs are classified as “other miscellaneous manufacturing” and use the existing IMPLAN data for calculating wages and benefits
 - 35 % of the jobs are classified as “warehouse and transportation” and use the existing IMPLAN data for calculating wages and benefits
 - 30 % of the jobs are classified as “air cargo” and use the existing IMPLAN data for calculating wages and benefits

Economic Impact Definitions

The economic impact of a business, organization, or event is a measure of the amount of, and the way that, dollars associated with that entity circulate through the region. The estimates presented in this summary were developed with a computer model called IMPLAN, which stores a profile of the St. Louis MSA economy in a database. The model uses production functions for each industry in the region to calculate how spending in one industry circulates through other industries in the St. Louis MSA. This economic impact can be expressed either as an annual flow of dollars (output) or an equivalent number of employees.

There are three levels of impact that are considered when developing these figures: the direct impact, the indirect business spending impact, and the induced household spending impact. All three can be expressed in terms of an annual flow of dollars (output) or annual jobs. The total impact is the sum of these three factors.

- ***Direct Impact***

This is the most basic part of an organization’s economic impact. It measures the dollars and jobs that the organization directly generates. When expressed in dollars, the direct impact is an approximation of a company’s output. Alternatively, the direct impact is the average annual value of output associated with the given number of jobs in that industry.

- ***Indirect Business Impact***

This is a secondary measure of a business's economic impact. It represents the dollars and jobs generated by the operating expenses of the organization. Examples might be purchase of raw materials from a local supplier or the professional services of an accounting or law firm. This spending generates revenue and employment at firms that supply those goods or services. Every dollar that an organization spends locally to conduct its business supports another business in some way.

- ***Induced Household Spending Impact***

This is a tertiary measure of a business' economic impact. It is a measure of the business revenue generated by the personal spending of the organization's employees. Think of an employee at an organization spending money at the local grocery store. The employee's paychecks support revenue and jobs the same way that the organization's spending on equipment supports revenue and jobs.

IMPLAN DEFINITONS

- **Output** represents the value of industry production. For manufacturers this would be sales plus or minus change in inventory. For service sectors production = sales. For retail and wholesale trade, output = gross margin and not gross sales.

i Net benefit will be calculated on entire \$480 million cap of SB390, including \$60 million set aside for freight forwarders and \$120 million for additional cost recovery related to facilities; in addition to \$300 million directly linked to “qualifying gateway facilities”

ii “Report: Airports have big economic impact on Louisville.” CaliforniaAviation.org. 10.22.09

iii “New Study Shows Airport’s Impact.” [Memphis Daily News](http://MemphisDailyNews.com). 05.01.09

iv “Indy Airport Deal Changes the Landscape.” [Inside Indiana Business](http://InsideIndianaBusiness.com). 10.15.10

v Excerpts from preliminary report for the RCGA by Institute St. Onge, March 25, 2011

vi “Economic and Fiscal Impact of Port San Antonio in 2010” SABER Research Institute. June 4, 210.

vii Based on 246.4 million sf of warehouse space in St. Louis market, and 33,620 total warehouse employment

viii Based on 246.4 million sf of warehouse space in St. Louis market, and 25,700 total transportation employment

April 19, 2011

St. Louis Regional Chamber & Growth Association
1 Metropolitan Square
Suite 1300
St. Louis, M O 63102
(314) 444-1171