

Estimating Economic Activity Supported by Visitor Spending

This worksheet presents a sequence of steps that can be used to provide an estimate of the business activity directly supported by visitor spending in an airport region. It is a detailed, technical worksheet that can be used in one of two ways, depending on your goals and available resources. If you are able to provide the data and perform the calculations, it can be used as a guide for your own airport analysis. Most guidebook users, however, will not be able to perform the analysis without an advanced understanding of economics or professional assistance. If you are not able to provide the data, the worksheet is useful as an explanation of the estimating process itself.

This analysis provides an educated estimate of the economic activity directly supported by visitors arriving at an airport—expressed in terms of jobs, wages, and business revenue. As introduced in *Visitor Spending*, in the most basic terms, this process follows a sequence of four steps:

- Step 1: Calculate the number of visitors that annually arrive to your region via the airport.
- Step 2: Estimate the average spending per passenger, by spending category, and by visitor type.
- Step 3: Adjust retail spending to account for the portion that remains within the local economy.
- Step 4: Translate total sales supported by visitor spending into estimates of jobs and wages.

1. Calculate the number of visitors that annually arrive to your region via the airport.

Commercial Service Visitors	$= (\# \text{ enplanements}) \times (\% \text{ visitors})$ <p>The percent of visitors can be estimated using federal aviation origin and destination data.¹</p>
General Aviation Visitors	$= (\text{Total transient operations}) \times (0.5 \text{ to calculate incoming flights}) \times (\text{Average passengers per flight, including pilot})$ <p>Transient operations are operations by aircraft not based at the subject airport. Operations at a General Aviation (GA) airport are generally classified as either local or itinerant, with local referring to aircraft operations within an airport's local flight pattern or a nearby practice area, and itinerant referring to the remaining flights.² While itinerant operations are sometimes used to estimate the number of GA visitors, true transient (i.e. true visitor) operations are actually a subset of itinerant operations.</p> <p>If an airport manager does not have the number of transient operations readily available, estimates can be obtained from AirNav.com, which posts % transient figures under each airport's operational statistics. 33% is also sometimes used as a high-level national assumption of the proportion of itinerant arrivals that are true transient arrivals (For example, see the recent Illinois Statewide Aviation Economic Impact Study³).</p> <p>Information on fleet composition and GA visitor survey responses can be used to estimate the average number of people arriving per flight, if the information is not available directly.</p>

¹ Bureau of Transportation Statistics. Airline Origin and Destination Survey (DB1B).

http://www.transtats.bts.gov/DatabasInfo.asp?DB_ID=125&DB_Name=Airline%20Origin%20and%20Destination%20Survey%20%28DB1B%29

² 14 CFR 170.3 - Definitions. <https://www.law.cornell.edu/cfr/text/14/170.3>

³ Illinois Department of Transportation, Division of Aeronautics. Illinois Statewide Aviation

Economic Impact Study. Technical Report. http://illinoisairportsmeanbusiness.com/IL-Econ_TechnicalReport.pdf (Page 1-15).

2. Estimate the average spending per passenger, by spending category, and by visitor type.

<p>Spending per passenger, per trip</p>	<p>Because different classes of visitors have different spending patterns, the objective of this exercise is to find average spending information by type of visitor, as well as the average percent breakdown by spending category (see tables below). There are a number of potential data sources for this type of information including specialized passenger surveys and already published information, as described below.</p> <table border="1" data-bbox="529 323 1253 693"> <thead> <tr> <th><i>Type of Visitor</i></th> <th><i>Total \$ Per Trip</i></th> </tr> </thead> <tbody> <tr> <td><i>International - Business</i></td> <td></td> </tr> <tr> <td><i>International – Leisure</i></td> <td></td> </tr> <tr> <td><i>Domestic – Business</i></td> <td></td> </tr> <tr> <td><i>Domestic - Leisure</i></td> <td></td> </tr> </tbody> </table> <table border="1" data-bbox="529 504 1253 693"> <thead> <tr> <th><i>Spending Category</i></th> <th><i>% of Total Spending</i></th> </tr> </thead> <tbody> <tr> <td><i>Hotel/Lodging</i></td> <td></td> </tr> <tr> <td><i>Food & Beverage</i></td> <td></td> </tr> <tr> <td><i>Off-Airport Ground Transportation</i></td> <td></td> </tr> <tr> <td><i>Entertainment & Recreation</i></td> <td></td> </tr> <tr> <td><i>Retail</i></td> <td></td> </tr> </tbody> </table> <p>Note: visitor spending amounts should not include on-airport concession spending, as this would be double counting with the analysis of on-airport business activity and revenue.</p>	<i>Type of Visitor</i>	<i>Total \$ Per Trip</i>	<i>International - Business</i>		<i>International – Leisure</i>		<i>Domestic – Business</i>		<i>Domestic - Leisure</i>		<i>Spending Category</i>	<i>% of Total Spending</i>	<i>Hotel/Lodging</i>		<i>Food & Beverage</i>		<i>Off-Airport Ground Transportation</i>		<i>Entertainment & Recreation</i>		<i>Retail</i>	
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<p>Conduct surveys</p>	<p>Specialized passenger surveys will yield the most customized data on visitor spending patterns for your airport. Survey approaches differ for commercial service versus general aviation visitors. For GA operations, it can be most helpful to enlist the FBO to help distribute surveys. Intercept surveys (approaching potential respondents as they pass a particular location at the airport) are used to gather information on commercial service passengers.⁴ Surveying is a resource-intensive process. Therefore, it may in some cases be preferable to rely on other published sources of information that are less customized, but more readily available.</p>																						
<p>Published economic studies</p>	<p>Most published airport economic impact studies include estimates of visitors spending per passenger, by spending category. Try pulling estimates from a published study in your state or from an airport similar in size and economic characteristics to your own. Airports Council International – North America maintains a website with links to many airport economic impact studies that can be useful starting point.⁵</p>																						
<p>Published survey results</p>	<p>State offices of tourism and visitor/convention bureaus often collect and publish information on visitor spending per day, by category, for a given state or region. For example, the Idaho Commerce Department publishes information on the “Idaho Traveler” including information on spending per trip.⁶ Depending on the way the data are collected, adjustments may need to be made to exclude the cost of a person’s air ticket (this spending does not accrue locally). Additionally, assumptions about the length of stay may need to be adjusted downwards for visitors arriving aboard a GA plane.</p>																						

⁴ For more information, see ACRP Report 26 Guidebook for Conducting Airport User Surveys. http://onlinepubs.trb.org/onlinepubs/acrp/acrp_rpt_026.pdf

⁵ Airports Council International – North America. Airport Economic Impact Studies. <http://www.aci-na.org/content/airport-economic-impact-studies>

⁶ Idaho Commerce. Tourism Industry Development Research. <http://commerce.idaho.gov/tourism-resources/tourism-industry-development/research>

3. Adjust retail sales to account for the local portion, only

Retail margins

Retail margins refer to the price markup of a product sold at a retail establishment, above the cost of the good sold. Only the markup can be assumed to drive local economic impacts. Retail margins can be estimated using input-output models such as IMPLAN or RIMS II (a product of the Bureau of Economic Analysis). 20-30% is considered a reasonable estimate of the retail margin that remains local, if more detailed economic information specific to your region is unavailable.

4. Estimate the number of jobs and amount of wages supported by visitor spending, by industry

Steps 1 through 3 develop the information need to calculate the total dollar value of visitor spending in your region supported by your airport, by type of spending. Step 4 estimates the jobs and wages supported by that dollar amount of spending, based on industry-specific economic data.

Any given economic activity can be characterized in terms of jobs, wages, and business revenue. While the latter two metrics are reported in dollar terms, all three are measures of the same economic activity. When assessing on-airport impacts (*Inside My Fence*) and off-airport activity at airport-reliant businesses (*My Airport's Business Constituency*), it was necessary to convert jobs numbers into estimates of wages and business revenue—in order to most completely characterize those economic impacts.

In the case of visitor spending, the reverse calculation is required: Sales estimated in Steps 1 through 3 represent local business revenue attributable to the airport. To estimate the jobs and associated wage income directly supported by those sales requires that the analyst collect additional information about the relationship between the three variables, by industry sector, for your airport region geography. As before, the following data sources can be used:

- The U.S. Census Bureau's Economic Census collects information on number of employees, payroll, and business sales, by industry sector. The data are collected every 5 years.⁷
- The U.S. Census Bureau's County Business Patterns offers data on number of employees and payroll, by industry sector.⁸
- Agencies in your state involved with workforce development. For example, the Massachusetts Executive Office of Labor and Workforce development publishes employment and wage data.⁹
- Jobs and income data provided by private vendors, such as Moody's Analytics or IMPLAN.

(Note: The reader should refer to the *Inside My Fence* section for a discussion on data consistency and definitional issues).

For example, the U.S. Census Bureau's 2012 Economic Census reports the following information on traveler accommodations (NAICS 7211) in the District of Columbia:¹⁰

2012 Industry Statistics

Sales (\$ Millions)	\$2,029
Annual Payroll (\$ Millions)	\$578
Total employment	14,398
Sales per employee (\$)	\$140,922
Sales per \$ of payroll (\$)	\$3.51

⁷ U.S. Census Bureau. Economic Census. <http://www.census.gov/econ/census/>

⁸ U.S. Census Bureau. County Business Patterns. <http://www.census.gov/econ/cbp/>

⁹ Executive Office of Labor and Workforce Development (EOLWD). Employment and Job Statistics. <http://www.mass.gov/lwd/economic-data/employment-jobs/>

¹⁰ U.S. Census Bureau. Industry Snapshot. Traveler Accommodations (NAICS 7211). District of Columbia. 2012.

http://thedataweb.rm.census.gov/TheDataWeb_HotReport2/econsnapshot/2012/snapshot.html?STATE=10&COUNTY=ALL&x=31&y=12&IND=%3DCO MP%28C2%2FC3*1000%29&NAICS=7211

Therefore, if the total visitor spending for accommodations per year were estimated to be \$100 million in the District, and no other information is available, the following calculations could be performed to estimate direct jobs and payroll supported in the travel accommodations industry by those sales:

<i>Amount and Calculation</i>	
<i>Visitor spending on hotels, annually (sales)</i>	\$100 million
<i>Employees directly supported by hotel spending, annually</i>	$(\$100 \text{ million sales}) / (\$140,922 \text{ sales per employee})$ = 710 employees
<i>Payroll directly supported by hotel spending, annually</i>	$(\$100 \text{ million sales}) / (\$3.51 \text{ sales per } \$ \text{ of payroll})$ = \$28.5 million in payroll

Information on the NAICS classification system typically used to report information on jobs, wages, and business activity can be found on the U.S. Census Bureau's website.¹¹

¹¹ U.S. Census Bureau. North American Industry Classification System. <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2012>