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The Financial Effect of 9-11 on Airports' Profit Margins

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THE FINANCIAL EFFECT OF 9-11 ON AIRPORTS' PROFIT MARGINS

by

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Bachelor of Business Administration,

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An Independent Study

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in partial fulfillment of the requirements

for the degree of

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This independent study, submitted by Lars H. Aasvestad in partial fulfillment of the requirements for the Degree of Master of Science from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.

(Advisor)

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ABSTRACT

When two aircraft were deliberately flown into the World Trade Center in New York City on September 11, 2001, the aviation industry changed forever. The Federal Aviation Administration and the new Department of Homeland Security changed the regulations regarding the aviation industry, and some of the bystanders throughout this process were the airports. Revenues decreased while expenses increased, creating a very difficult financial situation for the airports.

The country was divided into four regions and one airport from each of the three airport hub categories was selected for each region through a stratified random sampling process. Financial data for the time period 2000-2003 for the airports selected was collected and analyzed to find the financial impact that September 11, 2001 had on the airports.

Throughout the research it became clear that all airports were financially affected by September 11, 2001; and that the geographical location played a role in the financial impact. Airports in the west regions were less affected than airports in the northeast or midwest regions.

CHAPTER I

INTRODUCTION

After July of 2000 the economy slowed down dramatically and one of the first industries affected by such an economic shift is the aviation industry. The traveling public reduces their time spent vacationing and traveling during recessions, and this impacts the aviation industry immediately. Then, on September 11, 2001, the terrorist attacks on the World Trade Center and the Pentagon were the beginning of the end of flying the way we used to know it. New regulations were rather quickly enforced, and the price tag for the new regulations is still undetermined. However, it is obvious that it has impacted and will continue to impact airlines as well as airports. Airport operators are also dependent on the financial stability of the airlines operating at the airport since an airline's bankruptcy can result in a detrimental loss of revenue for the airport operator.

There are several sources of revenue for airports, whereas one of the most volatile sources of revenue for the airports is the revenue generated through their concessions and the passengers and visitors using these concessions. When

visitors were denied access through security checkpoints, these stores immediately lost parts of their revenue base, a loss that may result in a considerable impact on an airport's revenue.

The suspension of flights following September 11 and the decrease in travel among both businesses and the general public have obviously decreased the amount of money being collected by the airports through the passengers. This will affect budget planning as well as profit margins for the airports, but for how long is still unforeseen.

Purpose of the Study

This study is being undertaken to analyze the impact the terrorist attacks of September 11, 2001, and the economic recession have had on a very volatile service industry, the airports. With the new regulations being put into effect one by one, the impact on the airports must be noticeable. Exactly how it will affect them in the future is yet to be determined, and this paper will aid in the understanding of how the airports are affected and how they may manage the changes for their own financial benefit; or whether or not they are being put in the passenger seat by the new regulations, leaving them a slim to none opportunity to remain profitable.

Statement of the Problem

Most airports base their income on passenger fees, lease agreements, and percentages of sales from the concessions and stores at the airport. The few days all flights were cancelled were only the beginning of the financial difficulties airports started to encounter. The airports were no longer able to allow guests through their security checkpoints. This must have significantly decreased the income generated as a part of lease agreements since the customer base for many stores and concessions has been more than cut in half.

The effect all this has on airports of different sizes is also an issue needing attention. Larger airports do often have a majority of their stores between the security checkpoint and the gates, while smaller airports don't have many stores, if any, located between the security checkpoint and the gates. However, any decrease in the profit margin for small airports can be detrimental for their operations since they operate within a small budget; larger airports operate with a much larger budget and may be better equipped to handle such challenges in the long run.

With airports being very susceptible to fluctuations in the number of passengers coming through the airport, steps may have to be taken to lessen the dependability on this source of income. Since passenger enplanements will always be determined

by external forces such as the state of the economy, threats of terrorist attacks, and wars, it would be beneficial to find alternate sources of revenue to secure much needed revenues for the airports.

Significance of the Study

This study will show how airports of all sizes are affected by the terrorist attacks of September 11, 2001, and how the different geographical regions have been affected during the time period 2000-2003.

Research Questions

The research questions this study will attempt to answer are:

1. What is the financial impact on airports of September 11, 2001?
2. How do small, medium, and large hub airports compare as to how they are affected financially by the aftermath of the terrorist attacks of September 11, 2001?
3. How are the different geographical regions affected by September 11, 2001?

Conceptual/Theoretical Framework

Different forms of ownership and management can change how any organization or company is run as well as the profitability of the company. For airports, the independence

from the local government can change the way decisions are made to better benefit the airport and not making decisions based on political needs or desires.

During good times the general public travels more than they will do when there is an economical downturn. Enplanement data will show this relationship and how it has been over the time period studied. A connection can be drawn to the economical theory of supply and demand. Is there any connection between available seats from the airlines to the demand from the business travelers as well as the general public? Since a decrease in the demand for air travel may cause airlines to reduce the number of flights they offer, this will reduce the airports' revenues that are based on landing fees as well as concessions in the terminal.

Definitions

Large Hub: an airport with at least 1 percent of the total passenger enplanements

Medium Hub: an airport with between 0.25 and 1 percent of the total passenger enplanements

Small Hub: an airport with between 0.05 and 0.25 percent of the total passenger enplanements

Nonhub: an airport with less than 0.05 percent of all commercial passengers, but more than 10,000 annually

Other commercial airport: airports enplaning 2,500 to 10,000 passengers annually

Financial Impact: The change in profit margins directly related to a set factor.

FAA: Federal Aviation Administration

TSA: Transportation Security Administration

PFC: Passenger Facility Charges

AIP: Airport Improvement Program

Assumptions

1. All airports have been affected financially by the security measures put into effect after September 11, 2001.
2. The impact of September 11 has resulted in fewer passengers.

Limitations

The study will have some limitations. One limitation is the number of airports that can be thoroughly studied in a timely manner. Another limitation is the relatively short period of time that has elapsed since September 11, 2001; therefore, the full ramifications of the tragedy will not yet be known. A third limitation is the availability of the financial statements to be studied and the different accounting methods that may have been used by different airports.

CHAPTER II

This chapter will review the literature available on airports' financial situation and the financial impact the terrorist attacks of September 11, 2001 had. The literature is airport and aviation specific with an emphasis on the sources of revenues that airports have and how these may have changed in the recent months following 9-11.

LITERATURE REVIEW

The literature consisted of financial statements from diverse airports around the country, whereas the airports categorized as hubs were the ones primarily studied. Airports enplaning less than 0.05 percent of all commercial passengers annually were not a part of this study. A major part of the literature review was to explore airports' sources of income and how they have changed since September 11, 2001. Also reviewed were the different forms of airport ownership and how this may have affected the use of resources and funding available, as well as the profits from operating the airports.

The main source of revenue that has been impacted after September 11 has been through passengers. Enplanement data was

reviewed to understand how much of an effect the reduced amount of travel may have had on the airports' profit margins.

Airports' Sources of Income

There are several major sources for airport funding. These are airport user charges, airport revenue bonds, passenger facility charges, the airport improvement program, and state and local programs. Table 1 shows the major sources of airport capital funding.

Table 1. Major Sources of Airport Capital Funding (billions \$)

Funding Sources	1990	1991	1992	1993	1994	1995	1996
Airport Revenue Bonds	4.6	3.6	4.8	1.6	3.0	3.2	4.0
AIP Grants	1.4	1.8	1.9	1.8	1.7	1.5	1.5
PFCs	n/a	n/a	0.1	0.5	0.8	1.0	1.1
State/Local Grants	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Total	\$ 6.5	\$ 5.5	\$ 7.3	\$ 4.4	\$ 6.0	\$ 6.2	\$ 7.1
n/a = not applicable							
Source: The American Association of Airport Executives, "America's Future in Airport Infrastructure" (FAA/OTS Task Force Study, 1999)							

Aeronautical user charges are landing fees; apron, gate-use or parking fees; fuel-flowage fees; and terminal charges for use of passenger hold rooms, ticket counters, baggage claims, administrative support, hangar space, and cargo buildings. Non-aeronautical user charges include rentals and fees to terminal concessionaires, automobile parking, rental car fees, rents and utilities for facilities, non-aviation development fees, and communication fees (Quilty, 1999).

Airports lease terminal space to airlines based on three types of agreements, compensatory, residual, and hybrid

(FAA/OST Task Force Study, 1999). Under a compensatory agreement, airline tenants are charged fees and rental charges in an amount to recover the actual cost of operating the facilities they use. Under this approach the airport operator assumes the financial risk of operating the airport, but at the same time retains all surplus profits for its own use. A compensatory approach allows the airport operator to strive for profit through good management techniques. When using a compensatory approach, the primary goal of the agreements is to ensure a reliable stream of revenue (Quilty, 1999).

With residual agreements, airlines agree to pay any costs of operating the airport that are not allocated to other users or covered by non-airline revenues. The financial risk is therefore transferred to the airlines, which in return receive a negotiated return on an airport's surplus profits (Quilty, 1999).

Hybrid agreements contain elements from both compensatory and residual agreements, and have become more popular since the airline deregulation. However, the use of hybrid agreements limits an airport's control of its sources and uses of funds, but it can be used to reduce the financial risks faced by an airport (FAA/OTS Task Force Study, 1999). See table for the distribution of the agreement types for large, medium, and small hub airports.

Table 2. Airport Use and Lease Agreements
 Distribution by Type and Airport size (percent)

Use and Lease	Large	Medium	Small
Residual	41%	38%	57%
Compensatory	41%	19%	14%
Hybrid/Other	18%	43%	29%
Total	100%	100%	100%
Respondents Number	22	21	14
Source: Airports Council International-North America (ACI-NA), "1998 Airport Gate Availability/PFC Survey"			

Airport concessions are intended to provide revenues for the airport while food, beverage, retail, and other service amenities are provided to passengers (Quilty, 1999). Most lease agreements for concessions require annual minimum payments, percentage of gross revenue payments, or a combination of the two. Rates and charges can be determined by gross revenue per square foot, gross revenue per enplaned passenger, net revenue per square foot, or net revenue per enplaned passenger.

One factor affecting concession revenue is the location of the concession relative to the security checkpoint. With the concessions located outside the security checkpoint, they are limited to only having access to guests and passengers yet to enter through the security checkpoints. Transferring passengers not desiring to exit the secure area will not have any access to these concessions. If the concessions are within

the secure area, they benefit from the increased exposure to ticketed or transferring passengers in the secured concourses and lobbies (Quilty, 1999). However, with the recent changes only allowing ticketed passengers through security, these concessions are hurt by visitors not having access to the secure areas.

Car rental concessions usually have rates based on a percentage of gross revenue. The definition of gross revenue can be detrimental to the amount of revenue that will be available to the airport since rental car companies have add-on charges associated with insurance and fuel purchases. They also have remote sites where cars are assigned, and these will not be included in the terminal lease (Quilty, 1999). Recently, some airports are moving toward a collaborative effort with car rental companies in which percentage breaks are given after a certain volume has been attained.

In 1990 The Aviation Safety and Capacity Expansion Act allowed airports to charge enplaning passengers a \$1, \$2, or \$3 facility charge in accordance with FAA regulations. In April 2000 the PFC program was amended and airports are now able to charge \$1, \$2, \$3, \$4, or \$4.50 per enplaning passenger. There are federal regulations governing the use of PFC monies; the allowable uses are as follows:

- Pay all or part of the allowable cost of an approved project
- Pay bond associated debt service and financing costs
- Combine PFC funds with Federal grant funds to accomplish an approved project
- Apply PFC funds to meet non-federal share of the cost of projects funded under the Federal airport grant program

Passenger Facility Charges can only be used to finance eligible airport projects that preserve or enhance safety, capacity, or security of the national air transportation system; reduce noise or its impact; or enhance airline competition (FAA/OST Task Force Study, 1999). Medium and large hub airports that impose PFC charges face a reduction in the AIP apportionment funds they would normally receive. PFCs provide an important and growing source of funds to be used to improve and expand airport infrastructure. PFCs can also be used to fund a broader range of terminal projects than can be funded under AIP.

PFCs are permanently authorized and are not subject to congressional re-appropriation. Also, PFCs are earned from passenger enplanements and the revenue generated is fairly predictable and rising from year to year. However, with the

reduced number of travelers after September 11, the amounts collected through PFC have been diminishing. Security projects that have been approved for use of PFC funding are explosive blast mitigation, airside fencing, acquisition of security and fire equipment, security checkpoint equipment, portions of a police facility, and a perimeter intrusion-detection system (FAA/OTS Task Force Study, 1999).

Compared to PFC, the regulations governing AIP funds are much more rigid. It is still a major source of funds for an airport, but their uses are designated. In 2002, the FAA awarded \$561 million in AIP grant funds to airports for security projects related to the events of September 11, 2001 (FAA/OTS Task Force Study, 1999). This amount was approximately 17 percent of the total amount available in AIP funding for the fiscal year, the largest amount ever awarded for security projects in one single year since the program began in 1982. In comparison, the amount in 2001 was a mere \$57 million. With the passing of the Aviation and Transportation Security Act, existing legislation was amended to allow for AIP funding to be used for any security-related activity required by law or the Secretary of Transportation after September 11, 2001.

Airport Ownership

There are five types of public airport ownership and operation in the United States. An airport may be owned and operated by a city, county, state, the federal government, or more than one jurisdiction. Some commercial airports are owned by one or more government entity, but operated by a separate public entity, such as an airport authority (Wells, 1996). The legal responsibilities for the daily operations are vested in five kinds of governmental or public entities: a municipal or county government, a multipurpose port authority, an airport authority, a state government, or the federal government.

Municipally and county operated airports are generally run as a department of the city or county, with policy decisions made in the broader context of city or countywide investment needs and budgetary constraints. Multipurpose port authorities have a much broader range of responsibilities, from airports and harbors to toll-roads and bridges. These port authorities have the status of public corporations with a financial independence resting on their ability to issue their own debt. Single-purpose airport authorities are similar to multipurpose ones, but are more limited on their revenue base to run a financially self-sustaining enterprise. State-

operated airports are managed by the state's department of transportation.

There has been a gradual transition from city and county controlled airports to the independent single or multipurpose authorities. Some of the financial reasoning behind this change is that an airport authority can provide efficiency of operation and economies of scale when several political jurisdictions combine their airport responsibilities under one board. Also, authorities can provide on-scene decision makers, rates and charges unclouded by off-airport costs, and less political impact on the business of running the airport (Wells, 1996).

Enplanement Data

Early reports on enplanement data from the FAA show a dramatic decrease of seven percent for the year of 2001, which only will have a few months of the effect of September 11 in its data. However, the freeze on all traffic for a few days following the terrorist attacks caused large drops in the number of enplanements. Enplanement data for the years 2000 to 2003 will be analyzed and compared and a trend analysis will be performed.

Financial Data

After the terrorist attacks of September 11, 2001, there was a temporary suspension of commercial and general air

travel in the United States. This grounding of aircraft led to a significant decline in the aircraft and passenger activity for the year of 2001, and its effects were still noticeable in 2002. In December of 2001, the Metropolitan Washington Airports Authority received a \$40 million payment from the federal government to compensate it for the closure and reduced flight activity at National. This federal compensation was used by the Airport Authority to replace lost revenue, replenish unencumbered reserves that were expended, compensate concessionaires for losses, and to provide a supplement to the landing fees of the airlines operating at National in 2002 (Office of Finance, 2002).

At John Wayne Airport in Orange County, California, air carriers resumed services on September 13, 2001. The services were at reduced levels and the reduction in passenger activity at the airport has had a great financial impact. Based on their September and October data, John Wayne Airport management projected a 15 percent decrease in activity for the fiscal year 2001/02 (Macias, Gini & Company, 2001). Parking and rental car revenues were projected to be lower than the previous fiscal year and the airport also anticipated more than a doubling of their budgeted \$4,000 for security costs. This increase in security costs will substantially increase

operating expenses, even though a part of this cost will be borne by the airlines.

Table 3 shows the increase or decrease in revenues for the Metropolitan Washington Airport Authority from 2000 to 2001.

Table 3. Change in Revenues from 2000 to 2001 - Metropolitan Washington Airport Authority (millions \$)

Classifications	Revenue - 2001	Revenue - 2000	Change in Percent
Concessions	93.4	114.5	(19.3)
Rents	122.4	119.7	2.3
Landing Fees	55.8	58.8	(5.1)
Utility Sales	12.3	13.1	(6.0)
Passenger Fees	24.4	24.9	(1.9)
Other	7.2	10.0	(27.6)
Total	314.6	340.9	(7.7)
Note: numbers don't add up due to rounding			
Source: Metropolitan Washington Airport Authority, "Financial Statements 2001"			

In comparison, the expenses have increased from \$ 275.1 million in 2000 to \$ 287.4 million in 2001, a 4.2 percent increase. This increase in expenses combined with the decrease in revenues can cause a hardship on an airport's profit margin as well as the capability to achieve its goals.

Summary

September 11 2001, as well as the economical downturn, dramatically decreased airports' revenues. The most predictable source of income over the years has been the income derived from Passenger Facility Charges and revenues

through terminal concessionaires. Subsequently, with the dramatic decrease in the enplanement due to economic hardship as well as the terrorist attacks of September 11, airports' revenues decreased as the expenses increased. Without any interference from other external sources, this will automatically result in a decrease in the profit margins. There are several other major sources of airport funding, but these are mostly based on federal or state funding and have stringent requirements attached to them. What seemed to be the most predictable source, has also turned out to be one of the most volatile revenue source.

Revenues from concessionaires are based on a few different approaches, but the bottom line is the number of passengers coming through the lines leaving their valuable dollars behind at the airport. New federal regulations limit the access through security to ticketed passengers only, which then has decreased the customer base for all concessions located between the security checkpoints and the gates. On the other side, concessions located outside the security checkpoints will not get to the transferring passengers unwilling to go through the rigorous process of passing through security again. These revenues now being unavailable, results in a large gap between what has been budgeted and as to what has been the actual revenue through the concessions.

There are several types of airport ownership that may affect how the decisions concerning the operations of an airport are made. The trend is toward airport authorities of one type or another. With these types of authorities, airports stand more freely in making sound business decisions that will benefit the airport. In other occasions, decisions may have been made for political reasons or to aid other departments of a local government.

CHAPTER III

PROCEDURES

This section will describe the procedures that will be used in collecting and analyzing the data for this study. The study is quantitative and data is collected from airports' financial statements. Airports have been divided into three categories for this study, and the results will be analyzed using statistical methods to find any significant differences between the airport categories. The United States has been divided into four regions to achieve a fair geographical representation throughout the study.

Population

The population for this study is all commercial airports in the United States with more than 0.05 percent of all commercial passengers on an annual basis. Since it is not feasible to study all airports in a timely or efficient manner, a sample of airports will be used.

Sample

Stratified random sampling will be used to ensure that all regions and airport sizes will be fairly represented throughout the study. The country will be divided into four

regions using the U.S. Census Bureau Regions northeast, midwest, south, and west, as shown in the appendix. The financial statements of one airport of each category from each region will be used for the research.

Study Design

The study will use financial data from available financial statements of the airports randomly selected. The information required to be disclosed in financial statements will be sufficient to analyze the financial situation of the airport. Categorized data for revenues and expenses will be available and a comparison between the different airports can be performed.

Data Collection Methods/Procedures

Data will be collected from publicly available financial statements. Data collected will span over four years to include the years before and after the terrorist attacks. The financial statements will be obtained through the FAA's web site. Financial statements provide a thorough explanation of an organization's financial situation as well as its revenues and expenses. Expense and revenue categories are likely to differ somewhat, but a generalization will be done to ensure that the same data are included in the same general categories to provide a valid result.

Instrument Reliability and Validity

Financial statements are generally very reliable sources of information. All data will be analyzed in the same manner using the same principles. Financial statements for one airport consist of hard numbers than can easily be compared with other airports' numbers. The financial information is also issued according to FAA guidelines and requirements, making a generalization and comparison easier and more reliable and valid.

Proposed Data Analysis

All data will be quantitative and will be compiled in an orderly manner to be analyzed. The changes over the years will be converted into percentages to better be able to compare the data. The change in profits will be expressed as a percentage change. An analysis if this data will be performed to find any differences between the different categories of airports as well as the regions.

Protection of Human Subjects

There will be no research involving human subjects. An IRB approval will not be necessary to commence with this study.

CHAPTER IV

PRESENTATION OF THE DATA

The data used for this research was obtained from the Federal Aviation Administration and all airports are required by law to submit all financial data to the FAA. FAA Form 5100-126 is used to report payments that the airport makes to government entities and FAA Form 5100-127 is used to report airport revenues, expenses, and other financial information. This ensured that all data used in this study is readily comparable and reliable. Throughout the data preparation and analysis the following categories were examined: landing fees, terminal/international arrival area rental or other charge, terminal - food/beverage/retail stores/other, rental cars, parking, passenger facility charges, operating expenses, law enforcement, and net profit. The airports were selected through a random stratified sample. Table 4 shows the outcome of the selection process.

Table 4. Airports Selected for Analysis

	West	Midwest	Northeast	South
Large hub	Mc Carran International, Las Vegas, NV (LAS)	Cincinnati/Northern Kentucky International, Cincinnati, OH (CVG)	Logan International, Boston, MA (BOS)	George Bush Intercontinental, Houston, TX (IAH)
Medium hub	Metropolitan Oakland International, Oakland, CA (OAK)	Indianapolis International, Indianapolis, IN (IND)	Albany International, Albany, NY (ALB)	Will Rogers World, Oklahoma, OK (OKC)
Small hub	Palm Springs International, Palm Springs, CA (PSP)	Des Moines International, Des Moines, IA (DSM)	Portland International Jetport, Portland, ME (PWM)	Huntsville International, Huntsville, AL (HSV)

The financial data obtained was entered into a spreadsheet and the change from the previous year was expressed as a percentage. The data will be cross referenced to compare large hub airports, medium hub airports, and small hub airports, as well as one region to the other.

Research Questions

All the information was obtained and analyzed in order to answer the three research questions that this study put forth:

1. What is the financial impact on airports of September 11, 2001?
2. How do small, medium, and large hub airports compare as to how they are affected financially by the aftermath of the terrorist attacks of September 11, 2001?
3. How are the different geographical regions affected by September 11, 2001?

The following analysis of the financial data will fully answer these three questions.

Data Related to Research Questions

All financial data necessary for this study was obtained through FAA forms 5100-126 and 5100-127. All changes in revenues and expenses are presented as a percentage using the year 2000 as a base year. This year was used since it was the last full year that was not affected by September 11, 2001.

Of the data used in this study, landing fees are directly related to the number of flights arriving and departing the airport. Terminal rental charge is more rigid than landing fees, but can at the same time be used as an indicator of airlines' economical situation. Revenues from terminal food, beverage, and retail services are used to indicate the amount of travelers using these services, and are directly related to the passengers passing through the facility. Rental car revenue and parking fees are excellent signs of travelers using the airport as their origin or destination of travel and they do not get affected by transit passenger. Passenger facility charges are also directly related to number of passengers on the flights and a good indicator of enplanement numbers for the airport. Operating expenses were analyzed to find any drastic changes as to those expenses, and the cost of law enforcement was the other expense category analyzed. The

final category analyzed in the study was net profits to see how the airports performed overall in the years following September 11, 2001.

Table 5 shows the financial situation for the years 2000 through 2003 for Mc Carran International Airport in Las Vegas, NV.

Table 5. Financial Data Mc Carran International Airport

Mc Carran International, NV							
	2000	2001	Δ%	2002	Δ%	2003	Δ%
Landing Fees	\$29,130,000	\$30,017,752	3%	\$28,348,000	-3%	\$27,619,402	-5%
Terminal Rental Charge	\$51,916,000	\$56,819,745	9%	\$54,099,000	4%	\$59,517,827	15%
Terminal food/beverage/retail/other	\$58,499,000	\$59,512,596	2%	\$68,537,000	17%	\$70,458,466	20%
Rental Cars	\$19,749,000	\$25,691,198	30%	\$19,032,000	-4%	\$19,927,845	1%
Parking	\$15,450,000	\$17,276,609	12%	\$17,117,000	11%	\$17,468,947	13%
Passenger Facility Charges	\$45,159,000	\$46,188,815	2%	\$44,933,000	-1%	\$44,945,165	-1%
Operating Expenses	\$91,092,000	\$101,512,310	11%	\$111,205,000	22%	\$118,762,900	30%
Law Enforcement	\$5,115,000	\$5,633,200	10%	\$7,759,731	52%	\$9,536,989	86%
Net Profit	\$199,644,000	\$78,341,428	-61%	\$70,194,000	-65%	-\$30,069,333	
Source: FAA Form 5100-126 & 5100-127							

This table clearly shows how Mc Carran International Airport financial situation has changed since 2001. In 2002, the landing fee revenue generated at the airport dropped by 3 percent compared to the revenue from 2000. Other numbers of significance are the dramatic increases of operating expenses and especially law enforcement, which increased and astounding 52 percent over a two year period. Revenues generated from rental cars also decreased by a slight amount from 2000 to 2002. The calendar year of 2003 noticed the same effects as the year 2002, with one exception, the revenues from rental

cars were back to 2000 levels. Also, the operating expenses and law enforcement expenses continued their recent trend.

The medium hub for the west region was Oakland International Airport in California, and its financial data is presented in Table 6.

Table 6. Financial Data Oakland International Airport

Oakland International, CA							
	2000	2001	Δ%	2002	Δ%	2003	Δ%
Landing Fees	\$10,209,506	\$11,805,025	16%	\$12,212,651	20%	\$14,050,610	38%
Terminal Rental Charge	\$9,527,707	\$12,308,017	29%	\$14,075,432	48%	\$15,032,716	58%
Terminal food/beverage/retail/other	\$2,689,254	\$3,559,333	32%	\$4,411,179	64%	\$5,524,586	105%
Rental Cars	\$7,505,381	\$8,756,682	17%	\$8,834,627	18%	\$9,710,730	29%
Parking	\$26,701,873	\$34,306,623	28%	\$33,526,232	26%	\$36,783,525	38%
Passenger Facility Charges	\$14,180,617	\$18,840,357	33%	\$17,612,879	24%	\$21,230,645	50%
Operating Expenses	\$57,880,770	\$68,265,314	18%	\$82,145,882	42%	\$89,233,240	54%
Law Enforcement	\$1,204,800	\$3,026,224	151%	\$2,525,010	110%	\$10,977,814	811%
Net Profit	\$24,598,208	\$44,052,412	79%	\$57,731,435	135%	-\$14,297,731	
Source: FAA Form 5100-126 & 5100-127							

For Oakland International Airport, the only numbers that show any impact are in the expense category. From 2000 to 2001, operating expenses increased by 18 percent, for 2002 they increased 42 percent, and for 2003 they had increased by 54 percent. As for law enforcement expenses, they increased by 151 percent in 2001, 110 percent for 2002, and an astronomical 811 percent for 2003. No revenue categories show any reduction throughout the years following 2001, but rather a steady increase.

Palm Springs International Airport in California was selected as the airport from the small hub category, and the financial data analyzed can be found in table 7.

Table 7. Financial Data Palm Springs International Airport

Palm Springs International, CA							
	2000	2001	Δ%	2002	Δ%	2003	Δ%
Landing Fees	\$1,627,373	\$1,494,016	-8%	\$1,262,538	-22%	\$1,452,403	-11%
Terminal Rental Charge	\$1,315,485	\$2,054,875	56%	\$2,377,463	81%	\$2,478,390	88%
Terminal food/beverage/retail/other	\$517,857			\$493,964	-5%	\$508,206	-2%
Rental Cars				\$3,684,258		\$3,718,660	
Parking	\$954,480	\$1,054,580	10%	\$997,824	5%	\$992,492	4%
Passenger Facility Charges	\$1,651,957	\$1,631,503	-1%	\$1,704,307	3%	\$2,131,451	29%
Operating Expenses	\$7,619,357	\$8,571,685	12%	\$8,584,936	13%	\$9,464,848	24%
Law Enforcement		\$381,204		\$498,657		\$839,247	
Net Profit	-\$2,615,595	\$2,432,349	193%	\$4,980,508	290%	-\$7,935,496	

Source: FAA Form 5100-126 & 5100-127

There were no reported expenses for 2000 regarding law enforcement so there are no percentage increases showing in table 7. However, by using 2001 as a base year instead, the change will be an increase of 31 percent in 2002 and an increase of 220 percent for 2003. Operating expenses showed only a modest increase of 12 percent for 2001 and 13 percent for 2002. As for 2003, the increase doubled compared to the previous year, a 24 percent increase compared to 2000. In 2002 there was a significant reduction in landing fees collected by the airport authority and it was down by 22 percent. This trend started showing even in 2001 with a reduction of 8 percent, and continued into 2003 resulting in a reduction of 11 percent. There were also slight changes in the revenues generated at the terminal as they were down 5 percent in 2002 and 2 percent in 2003.

In the midwest region, Cincinnati/Northern Kentucky International Airport in Cincinnati, Ohio, was selected as the

airport to represent the large hub category. Table 8 shows the financial data for this airport.

Table 8. Financial Data Cincinnati/Northern Kentucky International Airport

Cincinnati/Northern Kentucky International, OH							
	2000	2001	Δ%	2002	Δ%	2003	Δ%
Landing Fees	\$15,827,008	\$20,505,498	30%	\$22,334,379	41%	\$27,900,998	76%
Terminal Rental Charge	\$12,588,725	\$13,976,284	11%	\$14,187,241	13%	\$13,871,286	10%
Terminal food/beverage/retail/other	\$7,097,458	\$5,587,405	-21%	\$6,693,813	-6%	\$7,209,428	2%
Rental Cars	\$3,806,612	\$3,656,336	-4%	\$3,409,655	-10%	\$3,265,279	-14%
Parking	\$16,620,465	\$15,082,832	-9%	\$15,127,384	-9%	\$14,897,244	-10%
Passenger Facility Charges	\$18,117,705	\$7,316,832	-60%	\$7,312,170	-60%	\$7,309,645	-60%
Operating Expenses	\$43,375,025	\$45,038,467	4%	\$49,613,336	14%	\$53,858,413	24%
Law Enforcement	\$1,800			\$353,580		\$701,400	
Net Profit	\$104,472,770	\$0		\$0		-\$50,112,066	

Source: FAA Form 5100-126 & 5100-127

The table clearly shows that Cincinnati/Northern Kentucky International Airport was negatively affected for 2001, 2002, and 2003. In 2001, revenues from rental cars and parking dropped by 4 and 9 percent respectively. For 2002, these numbers were 10 percent for rental cars and 9 percent for parking fees. 2003 still showed a reduction with revenues from rental cars down a total of 14 percent compared to 2000, and parking revenues remaining steady at a decline of 10 percent from 2000. Reliable law enforcement expenses were only reported for 2002 and 2003, and just over this one year span they doubled from \$353,580 to \$701,400. Landing fees for Cincinnati/Northern Kentucky International Airport have been increasing by 30 percent for 2001, 41 percent for 2002, and 76

percent for 2003, indicating an increase in the amount of air traffic at the airport.

Indianapolis International Airport in Indiana was selected as the medium hub airport for the midwest region. The financial matrix put together for Indianapolis International Airport is presented in table 9.

Table 9. Financial Data Indianapolis International Airport

Indianapolis International, IN							
	2000	2001	Δ%	2002	Δ%	2003	Δ%
Landing Fees	\$10,938,407	\$13,305,526	22%	\$12,070,480	10%	\$16,404,968	50%
Terminal Rental Charge	\$10,707,216	\$12,504,346	17%	\$11,455,358	7%	\$12,947,656	21%
Terminal food/beverage/retail/other	\$4,446,138	\$4,464,078	0%	\$4,536,470	2%	\$4,954,711	11%
Rental Cars	\$6,670,145	\$5,923,642	-11%	\$6,216,476	-7%	\$6,276,263	-6%
Parking	\$22,766,113	\$22,230,909	-2%	\$19,798,417	-13%	\$20,704,266	-9%
Passenger Facility Charges	\$10,889,937	\$13,909,327	28%	\$14,568,444	34%	\$15,606,697	43%
Operating Expenses	\$80,608,222	\$31,919,663	-60%	\$34,625,361	-57%	\$41,041,883	-49%
Law Enforcement							
Net Profit	\$80,042,723	\$37,281,562	-53%	\$45,567,121	-43%	\$2,580,095	-97%
Source: FAA Form 5100-126 & 5100-127							

There were no law enforcement expenses reported by Indianapolis International Airport so this category cannot be studied for this airport. As for rental car revenues, they decreased by 11 percent in 2001, 7 percent in 2002, and 6 percent in 2003; and parking fee revenues decreased by 2 percent, 13 percent, and 9 percent in the same years respectively. All other financial categories show good to modest improvements for the years analyzed with landing fees increasing by 22 percent for 2001, 10 percent for 2002, and 50 percent for 2003. Revenues from terminal services also increased by 2 percent from 2000 to 2002 and an additional 9 percent the following year to a total of 11 percent for 2003.

In 2001, passenger facility charges increased by 28 percent in 2001; and it continued to climb to 34 percent for 2002, and 43 percent for 2003.

The final airport to be studied in the midwest region belongs to the small hub category and was Des Moines International Airport in Iowa. The financial data for this airport is shown in Table 10.

Table 10. Financial Data Des Moines International Airport

Des Moines International, IA							
	2000	2001	Δ%	2002	Δ%	2003	Δ%
Landing Fees	\$4,246,096	\$4,148,540	-2%	\$4,646,640	9%	\$5,004,725	18%
Terminal Rental Charge	\$3,258,940	\$3,484,170	7%	\$4,242,614	30%	\$5,303,818	63%
Terminal food/beverage/retail/other	\$739,498	\$648,188	-12%	\$493,964	-33%	\$792,020	7%
Rental Cars	\$1,672,665	\$1,674,359	0%	\$1,811,952	8%	\$1,825,163	9%
Parking	\$3,166,278	\$4,279,444	35%	\$4,928,503	56%	\$5,664,725	79%
Passenger Facility Charges	\$2,223,300	\$2,456,542	10%	\$3,204,412	44%	\$3,614,075	63%
Operating Expenses	\$10,217,156	\$10,842,439	6%	\$12,270,364	20%	\$16,831,571	65%
Law Enforcement	\$556,368	\$607,828	9%	\$886,833	59%	\$2,650,784	376%
Net Profit	\$20,635,815	\$29,820,579	45%	\$18,503,786	-10%	\$3,076,625	-85%

Source: FAA Form 5100-126 & 5100-127

In 2001, operating expenses had increased by a normal 6 percent; however, in 2002 the increase was 20 percent and in 2003 they had increased by 65 percent compared to the expenses of 2000. Law enforcement expenses increased in 2001 by 9 percent, a rather modest increase, but in 2002 it was up to 59 percent, and in 2003 it was up by 376 percent. Revenues generated through agreements with rental car companies showed no increase for 2001, but increased by 8 percent for 2002 and 9 percent in 2003, a modest increase. Parking revenues increased by 35 percent, 56 percent, and 79 percent for the years 2001, 2002, and 2003 respectively. Terminal revenues

decreased in 2001 by 12 percent and 33 percent in 2002 before it rebounded and had a net gain of 7 percent in 2003 compared to 2000 levels. Passenger facility charges also showed a steady increase throughout the period from 2000 through 2003 with increases of 10 percent for 2001, 44 percent for 2002, and 63 percent for 2003.

Logan International Airport in Boston, Massachusetts, was in this study selected as the representative for the large hub category out of the northeast region. Table 11 shows the financial data for Logan International Airport, the one airport in the study that may be affected the most by September 11, 2001, being the place where hijackers were able to get on the planes used for the attacks.

Table 11. Financial Data Logan International Airport

Logan International, MA							
	2000	2001	Δ%	2002	Δ%	2003	Δ%
Landing Fees	\$52,929,656	\$56,141,196	6%	\$49,655,739	-6%	\$68,969,207	30%
Terminal Rental Charge	\$39,346,134	\$39,850,099	1%	\$41,164,483	5%	\$46,418,867	18%
Terminal food/beverage/retail/other	\$21,286,453	\$16,549,432	-22%	\$18,547,508	-13%	\$18,311,536	-14%
Rental Cars	\$20,280,504	\$19,814,090	-2%	\$15,084,859	-26%	\$19,983,138	-1%
Parking	\$71,107,801	\$73,268,967	3%	\$64,006,733	-10%	\$75,380,757	6%
Passenger Facility Charges	\$41,296,309	\$36,318,437	-12%	\$29,442,073	-29%	\$29,089,720	-30%
Operating Expenses	\$139,776,226	\$163,649,958	17%	\$155,654,156	11%	\$173,817,370	24%
Law Enforcement							
Net Profit	\$172,885,151	\$93,162,522	-46%	\$65,369,977	-62%	-\$59,727,147	
Source: FAA Form 5100-126 & 5100-127							

For the year 2001, Logan International Airport's revenues from services offered at the terminal dropped by 22 percent compared to the previous year. The reduction in revenue from terminal services was still 13 percent in 2002 and 14 percent

in 2003. There was even a reduction of 6 percent on revenue generated by landing fees in 2002, but in 2003 it rebounded to an increase of 30 percent in comparison to 2000. Revenue generated through agreements with the rental car companies decreased by 2 percent in 2001, 26 percent in 2002, and was back close to 2000 levels in 2003 with a reduction of a mere 1 percentage point. The year of 2002 was the only one that shows a negative trend in parking fee revenue with a reduction 10 percent compared to 2000, in 2003 the revenue was 6 percent higher than that of 2000. Throughout the time period studied, the revenue through passenger facility charges steadily declined by 12 percent in 2001, 29 percent in 2002, and 30 percent in 2003. Law enforcement expenses were not reported by Logan International Airports and were therefore not considered for this airport. Operating expenses jumped by 17 percent from 2000 to 2001, and then dropped back to an 11 percent increase for 2002. In 2003 the operating expenses were back up by 24 percent compared to 2000.

The airport selected in the medium hub category for the northeast region was Albany International Airport in New York and its financial data is presented in Table 12.

Table 12. Financial Data Albany International Airport

Albany International, NY							
	2000	2001	Δ%	2002	Δ%	2003	Δ%
Landing Fees	\$3,233,391	\$4,366,678	35%	\$4,992,747	54%	\$5,710,182	77%
Terminal Rental Charge	\$5,012,217	\$5,554,460	11%	\$6,783,705	35%	\$6,034,518	20%
Terminal food/beverage/retail/other	\$1,431,880	\$1,385,149	-3%	\$1,424,438	-1%	\$2,122,807	48%
Rental Cars	\$3,024,062	\$2,854,422	-6%	\$2,768,177	-8%	\$2,672,418	-12%
Parking	\$7,043,032	\$8,585,782	22%	\$8,342,849	18%	\$8,910,565	27%
Passenger Facility Charges	\$4,729,277	\$4,513,607	-5%	\$4,125,044	-13%	\$3,871,885	-18%
Operating Expenses	\$16,541,229	\$18,779,363	14%	\$19,431,061	17%	\$21,511,641	30%
Law Enforcement	\$858,274	\$929,862	8%	\$1,500,000	75%	\$1,650,000	92%
Net Profit	\$10,299,584	\$3,264,251	-68%	\$913,392	-91%	-\$19,662,161	

Source: FAA Form 5100-126 & 5100-127

In the expense category, law enforcement increased by 8 percent for 2001, 75 percent for 2002, and 92 percent for 2003. Operating expenses increased by 14 percent for 2001, an additional 3 percent for a 17 percent increase for 2002, and a 30 percent increase for 2003, when compared to the expenses of the calendar year of 2000. Landing fee revenues show an increasing trend for all years studied with increases of 35 percent, 54 percent, and 77 percent for the years 2001, 2002, and 2003 respectively. As for the revenue category terminal services, there were slight declines in 2001 of 3 percent and 2002 of 1 percent, but an astonishing increase of 48 percent when the year 2003 is compared to the year 2000. Revenue from passenger facility charges was reduced by 5 percent in 2001, 13 percent in 2002, and 18 percent in 2003. Parking revenue was up 22 percent in 2001; it dropped slightly in 2002, but still up 22 percent compared to 2000, and in 2003 the revenue generated from parking fees had increased by 27 percent from the year 2000. Rental car revenue was also down for all three

years following the base year of 2000. The revenue generated was down 6 percent in 2001, 8 percent in 2002, and 12 percent in 2003.

Portland International Jetport in Maine was the airport studied from the small hub category for the northeast region. The financial data collected through the FAA reporting forms is presented in Table 13.

Table 13. Financial Data Portland International Jetport

Portland International Jetport, ME							
	2000	2001	Δ%	2002	Δ%	2003	Δ%
Landing Fees	\$1,482,285	\$1,719,710	16%	\$2,094,864	41%	\$1,764,187	19%
Terminal Rental Charge	\$1,969,262	\$2,208,152	12%	\$1,912,811	-3%	\$2,111,340	7%
Terminal food/beverage/retail/other	\$735,377	\$495,323	-33%	\$712,852	-3%	\$465,023	-37%
Rental Cars	\$2,189,940	\$2,409,136	10%	\$1,850,617	-15%	\$2,390,767	9%
Parking	\$2,757,940	\$2,919,442	6%	\$1,926,194	-30%	\$2,107,272	-24%
Passenger Facility Charges	\$1,944,621	\$1,779,596	-8%	\$1,461,677	-25%	\$1,536,459	-21%
Operating Expenses	\$5,968,312	\$5,947,794	0%	\$5,663,007	-5%	\$6,552,250	10%
Law Enforcement	\$170,425	\$263,292	54%	\$1,305,284	666%	\$1,352,820	694%
Net Profit	\$7,821,346	\$6,234,734	-20%	\$5,339,462	-32%	\$3,783,384	-52%

Source: FAA Form 5100-126 & 5100-127

Both revenues from landing fees and terminal services show some interesting changes throughout the 4 year period studied. Revenues from landing fees in 2001 had increased by 16 percentage points and for 2002 the increase was 41 percent. In 2003 the increase dropped back down to a more modest increase of 19 percent compared to 2000, or a 19 percent decline from 2002. Income from terminal services provided was down 33 percent in 2001, 3 percent in 2002, and 37 percent in 2003; the change from 2002 to 2003 was a decline of 35 percent. In comparison to 2000 numbers, rental car revenue increased by 10 percent for 2001 and decreased by 30 percent for 2002 and 24

percent for 2002. Passenger facility charges retained by Portland International Jetport were reduced by 8 percent for 2001, 25 percent for 2002, and 21 percent for 2003. As for expenses, Law enforcement expenses reported in 2001 showed an increase of 54 percent compared to 2000, but this number had in 2002 and 2003 increased by 666 percent and 694 percent respectively. Operating expenses actually remained status quo for 2001 and declined by 5 percentage points for 2002, and then in 2003 increased by a rather modest amount of 10 percent when compared to 2000, but a 15 percent increase from the previous years' operating expenses.

The south region was the final region to be studied and George Bush Intercontinental Airport in Houston, Texas, was the large hub airport used. The financial data for George Bush Intercontinental Airport can be found in Table 14.

Table 14. Financial Data George Bush Intercontinental Airport

George Bush Intercontinental, TX							
	2000	2001	Δ%	2002	Δ%	2003	Δ%
Landing Fees	\$25,221,000	\$33,621,729	33%	\$37,626,124	49%	\$36,180,501	43%
Terminal Rental Charge	\$55,107,000	\$54,789,909	-1%	\$62,874,162	14%	\$69,248,493	26%
Terminal food/beverage/retail/other	\$22,383,000	\$16,832,878	-25%	\$17,340,577	-23%	\$20,345,733	-9%
Rental Cars	\$12,843,000	\$13,080,754	2%	\$11,604,858	-10%	\$10,878,752	-15%
Parking	\$33,758,000	\$43,389,303	29%	\$38,916,959	15%	\$42,489,013	26%
Passenger Facility Charges	\$0	\$0		\$0		\$0	
Operating Expenses	\$82,774,000	\$93,358,930	13%	\$106,098,267	28%	\$118,591,626	43%
Law Enforcement	\$10,282,000	\$11,230,165	9%	\$19,227,434	87%	\$14,635,062	42%
Net Profit	\$54,704,000	\$57,935,013	6%	\$83,416,032	52%	-\$71,431,843	
Source: FAA Form 5100-126 & 5100-127							

At George Bush Intercontinental Airport, landing fees climbed by 33 percent for 2001 and 49 percent for 2002. In 2003 there

was a reduction compared to 2002, but still an increase of 43 percent when compared to the base year of 2000. For the years 2001 to 2003, revenues generated through services provided at the terminal were all below that of 2000. There was a reduction in revenue of 25 percent for 2001, 23 percent for 2002, and 9 percent for 2003, which on the bright side was an increase of 17 percent from 2002. For the year 2001, there was a slight increase in revenue generated through rental car agreements of 2 percent, but for 2002 this revenue decreased by 10 percent and for 2003 it dropped another 5 percentage points to a total reduction of 15 percent. Parking fees increased by 29 percent in 2001, and when compared to 2000 there was still an increase of 15 percent in 2002 and 26 percent in 2003, but both these numbers are below that of 2001, indicating a potential loss. Operating expenses increased steadily throughout the time period studied by 13 percent for 2001, 28 percent for 2002, and 43 percent for 2003. As for law enforcement, the increase in the reported expense was 9 percent in 2001, 87 percent in 2002, and 42 percent in 2003, a drop of 25 percent from the previous year.

Will Rogers World Airport in Oklahoma City, Oklahoma was selected as the representative for the medium hub category in the south region and its financial data is presented in Table 15.

Table 15. Financial Data Will Rogers World International Airport

Will Rogers World, OK							
	2000	2001	Δ%	2002	Δ%	2003	Δ%
Landing Fees	\$3,881,134	\$3,818,004	-2%	\$3,980,877	3%	\$4,257,115	10%
Terminal Rental Charge	\$1,929,481	\$2,009,882	4%	\$1,883,516	-2%	\$1,642,491	-15%
Terminal food/beverage/retail/other	\$931,258			\$1,028,353	10%	\$968,174	4%
Rental Cars	\$3,393,377	\$3,064,494	-10%	\$3,051,780	-10%	\$3,033,242	-11%
Parking	\$6,245,301	\$6,278,015	1%	\$5,246,596	-16%	\$5,202,983	-17%
Passenger Facility Charges	\$4,862,830	\$4,837,440	-1%	\$4,420,587	-9%	\$4,315,374	-11%
Operating Expenses	\$12,940,233	\$14,170,634	10%	\$17,047,899	32%	\$18,188,035	41%
Law Enforcement	\$1,417,664			\$1,989,983	40%	\$3,194,578	125%
Net Profit	\$31,903,161	\$40,224,876	26%	\$11,815,730	-63%	\$2,109,648	-93%
Source: FAA Form 5100-126 & 5100-127							

From 2000 to 2001, landing fees generated at Will Rogers World Airport dropped by percent. In 2002 they were up by 3 percent from 2000, and in 2003 they had increased by 10 percent in comparison to 2000 numbers. Revenues generated through its terminal services were up 10 percent in 2002 and 4 percent in 2003, a slight drop from the previous year of 6 percent. The decrease in rental car revenue remained consistent for the years 2001 to 2003 at 10 percent below the 2000 level for 2001 and 2002 and 11 percent for 2003. Parking fees were up 1 percentage point in 2001, but dropped 16 percent for 2002 and 17 percent for 2003. Passenger facility charges also show a downward trend by being reduced by 1 percent for 2001, 9 percent for 2002, and 11 percent for 2003. In 2001, the operating expenses had increased by 10 percent compared to 2000; this increase was 32 percent by the end of 2002 and 41 percent by the end of 2003. Law enforcement expenses show a similar trend as that of other airports studied and in 2002

the expenses had increased by 40 percent and in 2003 the increase was 125 percent.

The last airport to be studied was Huntsville International Airport in Alabama; this airport belongs to the category of small hub airports and Table 16 presents the financial data for Huntsville International Airport.

Table 16. Financial Data Huntsville International Airport

Huntsville International, AL							
	2000	2001	Δ%	2002	Δ%	2003	Δ%
Landing Fees	\$1,773,664	\$2,025,244	14%	\$1,725,710	-3%	\$2,055,857	16%
Terminal Rental Charge	\$2,587,724	\$2,557,145	-1%	\$1,839,690	-29%	\$2,761,905	7%
Terminal food/beverage/retail/other	\$491,155	\$469,406	-4%	\$486,429	-1%	\$589,713	20%
Rental Cars	\$1,845,982	\$1,959,411	6%	\$1,735,210	-6%	\$2,040,916	11%
Parking	\$3,742,837	\$3,987,282	7%	\$2,865,564	-23%	\$4,292,598	15%
Passenger Facility Charges	\$1,371,823	\$1,385,202	1%	\$1,383,056	1%	\$1,228,916	-10%
Operating Expenses	\$11,682,519	\$12,240,712	5%	\$10,883,982	-7%	\$13,079,017	12%
Law Enforcement							
Net Profit	\$14,110,146	\$6,142,696	-56%	\$14,479,859	3%	\$6,728,345	-52%

Source: FAA Form 5100-126 & 5100-127

Landing fees were in 2001 up 14 percent and in 2003 up 16 percent. The year immediately following the terrorist attacks they were down 3 percent, or down 15 percent from 2001. Income through services provided at the terminal were down 4 percent in 2001 and 1 percent in 2002, but rebounded in 2003 and had by the end of the year increased by 20 percent. Rental car revenues were up for all years except 2002 when it experienced a reduction of 6 percent. In 2001 the increase was 6 percent and in 2003 it was 11 percent. Parking fees experienced the same trend as that of rental car revenues by increases of 7 percent in 2001 and 15 percent in 2003, but a reduction of 23 percent for 2002. For Huntsville International Airport,

revenue generated through the passenger facility charges remained steady for 2001 and 2002, but took a hit in 2003 when they dropped by 10 percent. There were no reported law enforcement expenses so that category was not analyzed for this airport, As for operating expenses, there was a modest increase of 5 percent for 2001 and 12 percent by the end of 2003, and even a reduction of 7 percent for 2002.

To compare the airports within each hub category, the percentage changes for all years studied and for each financial category were averaged and entered into a table. The result is shown in Table 17.

Table 17. Airport Category Comparison

	Large Hub				Medium Hub				Small Hub			
	West	Mid-west	North-east	South	West	Mid-west	North-east	South	West	Mid-west	North-east	South
Landing Fees	-1%	49%	10%	42%	24%	27%	55%	3%	-14%	8%	25%	9%
Terminal Rental Charge	9%	11%	8%	13%	44%	14%	22%	-4%	75%	33%	5%	-8%
Terminal food/beverage/retail/other	13%	-8%	-16%	-18%	67%	4%	14%			-13%	-24%	5%
Rental Cars	9%	-9%	-9%	-7%	21%	-8%	-8%	-10%		6%	1%	4%
Parking	11%	-9%	-0%	23%	30%	-8%	22%	-10%	6%	57%	-16%	-1%
Passenger Facility Charges	0%	-59%	-23%		35%	34%	-11%	-7%	10%	39%	-18%	-3%
Operating Expenses	21%	14%	17%	28%	38%	-55%	20%	27%	16%	30%	1%	3%
Law Enforcement	49%			46%	357%		58%			148%	471%	
Net Profit	-62%		-54%	29%	106%	-64%	-79%	-43%		-17%	-35%	-35%

Cells without numbers indicate areas where there was insufficient information to obtain a valid and reliable average to represent the time period being studied. For the large hub airports, the majority of the categories have numbers which have changed negatively compared to the year 2000 numbers. It shows that the average change in parking revenues for the large hub airport in the midwest region was a

reduction of 9.5 percent.

Table 18 shows a similar comparison in which each region is compared to the other three regions. The financial data has been averaged over the three years of changes and over the airport categories as well, leaving each region represented by one number.

Table 18. Geographical Region Comparison

	West	Midwest	Northeast	South
Landing Fees	3.0%	28.2%	30.3%	18.2%
Terminal Rental Charge	43.1%	19.8%	11.9%	0.3%
Terminal food/beverage/retail/other		-5.6%	-8.6%	
Rental Cars		-3.9%	-5.7%	-4.8%
Parking	16.3%	13.0%	2.0%	3.9%
Passenger Facility Charges	15.4%	4.8%	-17.8%	
Operating Expenses	25.3%	-3.7%	13.1%	19.5%
Law Enforcement				
Net Profit			-40.7%	-16.5%

As for Table 17, the empty cells indicate insufficient information available to obtain a valid and reliable number. Table 18 shows that in the northeast region, operating expenses for the three airports selected, when seen as one, increased by 13.1 percent.

Figure 1 shows the passenger enplanement data for the time period 2000-2003 for the airports used in this study. According to the enplanement data published by the FAA and presented in Figure 1, the number of passengers remained fairly stable for most airports. The one airport that had the most significant reduction in number of enplanements was Logan

International Airport in Boston. Oakland International Airport shows a steady increase in its enplanement numbers throughout the time period studied. Cincinnati/Kentucky International Airport also had a very significant drop in enplanements from 2000 to 2001, but rebounded more than Logan International Airport did over the next two years.

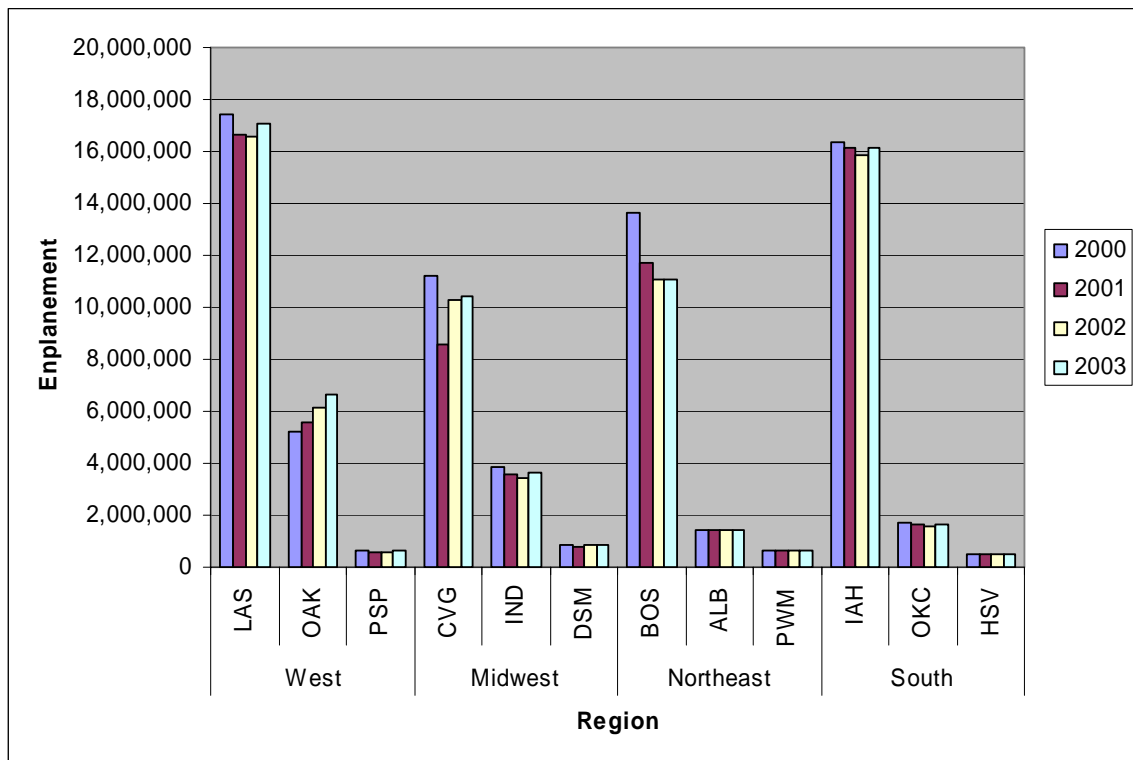


Figure 1. FAA Enplanement Data 2000-2003

CHAPTER V

SUMMARY, COCNLUSIONS, RECOMMENDATIONS

The purpose of this study was to analyze the economical impact of September 11, 2001, on airports' revenues, expenses, and the resulting changes to profit margins. The study was entirely quantitative using only financial data publicly available through the Federal Aviation Administration and submitted in accordance with federal regulations. The financial data was presented through the use of tables, which at the same time simplified the analysis of the data.

Summary

This study attempted to answer the following research questions:

4. What is the financial impact on airports of September 11, 2001?
5. How do small, medium, and large hub airports compare as to how they are affected financially by the aftermath of the terrorist attacks of September 11, 2001?
6. How are the different geographical regions affected by September 11, 2001?

This summary is based on the data presented in Chapter IV and will refer to those tables when applicable. The financial data was used to show trends and changes over the four year period from 2000 to 2004. Tables 5 through 16 show the financial data for each individual airport that was randomly selected for this study. The financial data used was the data deemed most volatile when it comes to the number of passengers and number of flights to and from an airport. The airports used in this study were selected through a stratified random sampling process to achieve an unbiased sample of airports.

It was expected that all airports would be different, but throughout the analysis it was also expected to see a trend as to how the airports were affected after September 11, 2001. Airports within the same hub category were compared as well as one region to the other. Table 17 was compiled by using information from the tables representing each airport and was used for the comparison of airports belonging to the same hub category.

When comparing the large hub airports, the numbers clearly show that the midwest and the northeast experienced a more downward economical turn than the airports in the west and south regions. All numbers in Table 17 are the average of the changes from 2000 to 2001, 2001 to 2002, and 2002 to 2003, and they clearly show what the trend was for the selected

airports in their respective geographical region. According to Table 17, the west region seems to be the least affected over the time period studied.

The main categories for revenue analysis were landing fees, terminal rental charges, terminal food, beverage, retail, and other, rental cars, parking, and passenger facility charges. Over the four years studied, Mc Carran International Airport in Las Vegas, Nevada, only showed a slight reduction of landing fees of 1.6 percent, the only airport in this category showing any reduction at all. The other three airports in the same category showed from modest to very good increases in landing fee revenue generated. The airports in both the northeast and midwest regions had negative numbers for all revenue categories except landing fees and terminal rental charge; however, a further analysis of those numbers shows a similar trend for rental car revenue in which both airports have a reduction in revenue of approximately ten percent. The other categories were affected differently among the two regions. The other category in which only the midwest and east regions were affected was parking revenue; Cincinnati/Northern Kentucky International Airport, representing the midwest region, experienced almost a ten percent drop in these revenues and Logan International Airport, representing the northeast region, only experienced a

meager reduction of less than one half of a percentage point. The other two regions had revenue increases of twelve and twenty three percent for the west and south regions respectively. The main expense categories that were studied were operating expenses and law enforcement expenses and as for these two categories, all four airports considered as large hub airports show alarmingly large increases when it comes to changes in law enforcement expenses. Even though law enforcement expenses were not reported for all years for all airports, the trend was clearly visible.

Medium hub airports show to many degrees a similar trend as to the large hub airports. The airport selected to represent the west, Metropolitan Oakland International Airport, was the airport which was affected the least over the years studied. Over the four year period, there were no negative trends regarding revenue categories for this airport. However, for the other three regions there were several categories in which there were significant reductions of revenues. The airport in the midwest region experienced an average reduction in parking revenue and rental car revenue of eight percent. Both the airports for the other two regions had rental car revenue decreases of eight percent for the northeast region and ten percent for the south region. Will Rogers World Airport in Oklahoma City had a decline of parking

fee revenue of almost eleven percent while the airport in the midwest region, Indianapolis International Airport, experienced an average increase of more than twenty two percent for the same time period. Furthermore, the medium hub airports show the same trend as the large hub airports when it comes to the expense categories with operating expenses increasing by thirty eight percent for the west region airport, twenty percent for the northeast region airport, and twenty seven percent for the south region airport. Interestingly enough, the Indianapolis International Airport in the midwest region, showed an average decrease of fifty five percent for this time period. However, when looking at Table 9, it can be seen that the operating expenses reported for 2000 were extraordinarily high when compared to any other year and from 2001 to 2003 there has been a rather significant increase of thirty percent. Law enforcement expenses also follow the trend set forth by the large hub airports and have increased significantly for all airports which have reported these costs

The last comparison of airports by size was done for the small hub category and once again the trends were similar to those found for the other two categories already analyzed. The west region showed very few signs of a recession during the years 2000 to 2003 and the only revenue categories in which

there were declines were for landing fees, with an average reduction of fourteen percent over the four years, and in revenue from terminal services, where the decline from 2000 to 2002 was five percent and from 2000 to 2003 was 2 percent. There was no revenue reported for 2001 in the latter category for Palm Springs International Airport so an average number for the three years following the base year of 2000 was not available. Both the midwest and south region airports experienced an increase in parking revenues and passenger facility charges, but the other two regions both experienced declines of sixteen and one percent in parking fees and eighteen and three percent for passenger facility charges for the northeast and south regions respectively. The expense categories studied both showed the same trends as the other two regions previously analyzed as well. All four regions had an increase in operating expenses as well as law enforcement expenses.

In Table 18 the comparison of airports and regions was taken one step further by averaging the percentage changes in Tables 5 through 16 collapsed over the regions, disregarding what airport category the different airports belonged to. This was done to verify the results from analyzing Table 17 and to find out whether or not there are any differences among the four regions when considered as a whole. The data as presented

in Table 18 verifies the conclusions drawn from Table 17 as well; it seems like the northeast region had the largest economical downturn during the time period from 2000 to 2003 that was analyzed in this study. The table also shows that the west was the least impacted during the same time period while the midwest and south regions were more or less equally affected.

Figure 1 was compiled using enplanement data for the selected airports, and this data was obtained from the official FAA statistics for passenger enplanement and cargo data. This table was used to show trends as to how the number of passengers flying to and from the airports in this study changed between 2000 and 2003. It was expected that this data would follow the same trends as the financial data which was analyzed. When it comes to enplanement data, the west and south regions show the least reduction in the number of enplanements while the northeast and midwest regions, and the large hubs in particular, have a much larger drop in the number of enplanements; which was expected after the analysis of the financial data where the northeast consistently was more affected than the other regions and the west was less affected than any of the other regions. The figure also clearly shows that the airports in the large hub category have

a much larger percentage wise drop in their enplanements from 2000 to 2001 than any of the other airport categories.

Conclusions

Throughout the analysis of the study there were certain trends that became very obvious and the most significant trend was regarding geographical location. It seemed like the physical distance from the actual location of the terrorist attacks of September 11, 2001, played a major factor in how the different airports were impacted during the time period analyzed. The west region, being the farthest away from the incidents, show less of an economic impact both when it comes to declines in revenues and the number of enplanements. As the airports then were located closer and closer to the east coast, the location of the terrorist attacks, the numbers showed an increasingly negative trend for revenues as well as enplanements, indicating that people's perception of the terrorist attacks may be different regarding the geographical region they live in.

There may be several reasons why the law enforcement expenses increased the way they did during this time period. It is assumed that the main reason is the new emphasis on security and the new security regulations that were mandated by the FAA shortly after September 11, 2001. Other reasons may also be a shift of the responsibility as to who is responsible

for these expenses. FAA Form 5100-126 shows the law enforcement expenses occurred by local, state, and federal agencies which the airport authority had to reimburse. These expenses may have been more hidden previously and therefore fallen in under other expense categories not analyzed in this study.

During the stratified random selection process, Logan International Airport in Boston, Massachusetts, was one of the airports selected and it was immediately considered that this airport may not be a very good indicator since it was more affected physically than any other airport that was selected. However, the thorough analysis of the financial data removed any doubts in the investigator's mind that the selection of this specific airport was skewering any numbers when it was compared to other airports in the same geographical region. There were other factors that were of concern as well when considering the tourism attraction of certain airports, and then especially regarding Palm Springs International Airport in California and Mc Carran International Airport in Las Vegas, Nevada. Mc Carran International Airport may be a very difficult airport to analyze because of its location and the city itself. Since two of the revenue categories analyzed were rental cars and parking fees, the local area of the airport may make a difference. As for Mc Carran International Airport,

there may not be a reflective amount of people renting cars at that location since Las Vegas will often be the final point of travel in which there will be very little use of a rental car. Mc Carran International may also not be the perfect airport of origin since most travelers to and from this airport will be tourists, not leaving their vehicles parked at the airport property for extended periods of time generating valuable revenue. Mc Carran International Airport also has slot machines in the terminal which are guaranteed to generate millions of dollars in revenue in a way that other airports in other states are not able to do. Even though these factors were of concern, it was decided that no airport selected through the random selection process was to be replaced; this was done to ensure that the sampling process was fair and valid. No matter which airports would be selected, there will always be some factor that may seem to disqualify the airport as a valid candidate for the research, but by staying with the results from the stratified random sampling all airports in all four geographical regions had the same chance of being selected.

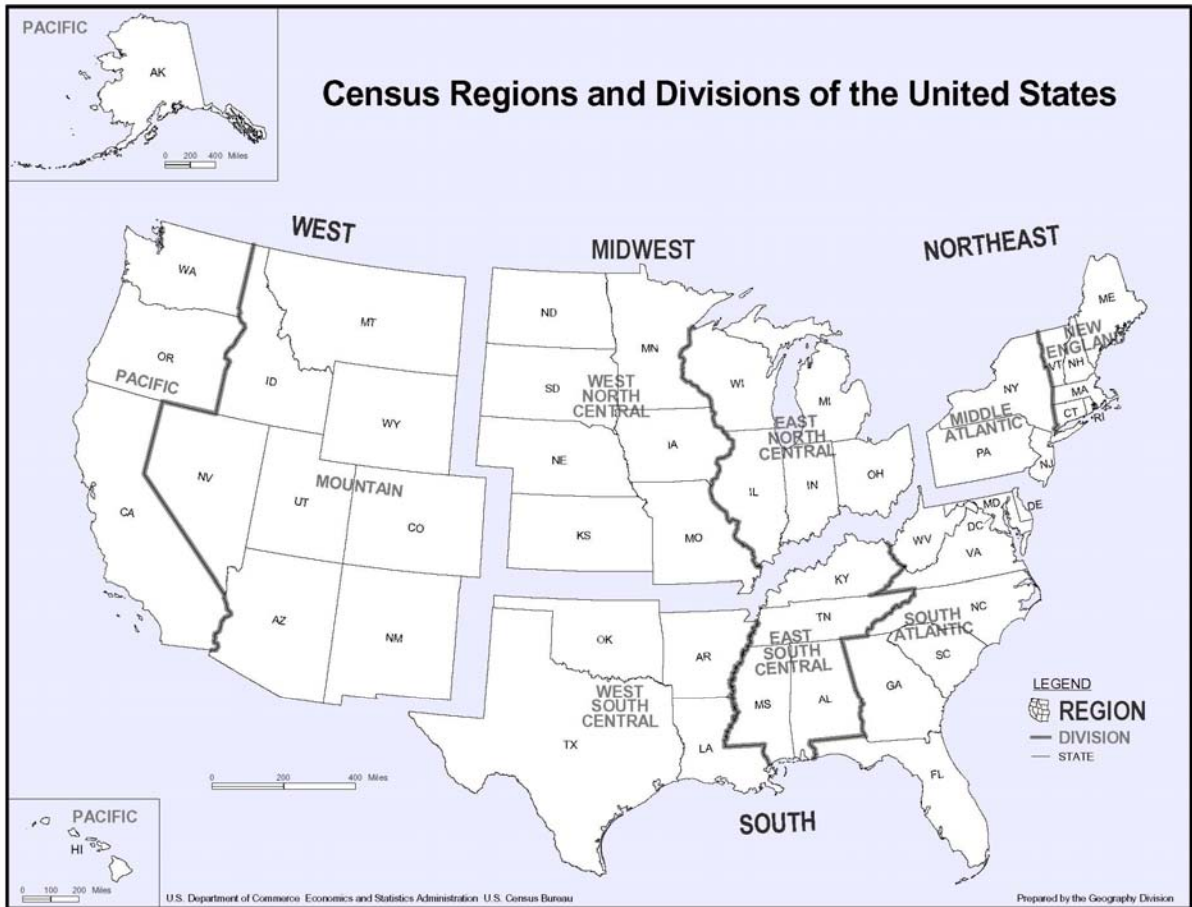
There is no question that expenses have increased over the last four years for all airports in this study, but there was a difference as to how much they increased individually. Some airports showed a fivefold increase in law enforcement

expenses while others had more modest increases; however, the conclusion is that following September 11, 2001, all airports experienced an increase in their expenses caused by the new and more stringent security regulations mandated by the FAA. With the increase in expenses and decrease in revenues, the airports' profit margins have decreased significantly in the years following September 11, 2001.

Recommendations

There is more research needed on this topic to verify the findings of this study. It is suggested that it will be beneficial to expand the sample to include a minimum of three airports from each category within each geographical region. This will give a better picture of the average revenues and expenses experienced for the different airports when compared to one another. Research can also be done in which a deeper analysis of the results is made through the use of statistical methods, and in order to accomplish this the data must be obtainable for all revenue and expense categories for all airports and this can be achieved through the use of individual financial statements rather than FAA Forms 5100-126 and 5100-127.

APPENDIX



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