

The Economic Impact of Wittman Regional Airport: Implications of a Long-Term Economic
Impact Research and Educational Program.

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ECONOMIC IMPACT OF WITTMAN REGIONAL AIRPORT

Abstract

In the late 1990s, Wittman Regional Airport, a county-owned airport located in Oshkosh, Wisconsin, lost its only commercial passenger airline. Faced with general public perceptions that the airport was closed because of this loss, despite the presence of the Experimental Aircraft Association (EAA) and annual AirVenture Fly-In event, the County Aviation committee sought help from the Winnebago County UW-Extension office to demonstrate and document the value of the airport. In 1998, and then again in 2003, 2007 and 2012, UW-Extension conducted surveys of the businesses located at the airport to estimate the number of jobs and wages supported by these businesses. Survey data and IMPLAN were used to gain a picture of the direct, indirect and induced economic impact of the airport on the Winnebago County economy. In 2012, a business climate survey was added as an additional study component. Results of the most recent Economic Impact Study showed that jobs and wages climbed slightly over the decade, even weathering the Great Recession. The research and education program developed by UW-Extension are outlined in this paper. Particular attention is paid to the lessons learned and future research and educational programming opportunities.

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Background

Wittman Regional Airport, owned by the Winnebago County government, is a general aviation airport located in Oshkosh, Wisconsin. It is most famously known for the Experimental Aircraft Association (EAA) and its Annual AirVenture Fly-In. In the late 1990s, Wittman Regional Airport lost its commercial passenger air service resulting, at times, in heated political discussions over how to keep the airport open, and in a “blame-game” over who was at fault for letting the airport “fail”. The feeling was that Wittman Regional Airport had lost its value to the community.

However, Wittman Regional Airport also provides value to the community through its ability to create and sustain economic activity through its aviation businesses. Wittman Regional Airport itself includes state-of-the-art runways, towers and aviation services, and is considered to be an aviation-related business/industrial park by some local economic development entities. Though it was once used for commercial passenger flights, the airport continues to contribute to local economic development by serving as a hub for over two dozen aviation related businesses, such as kit aircraft manufacturers, aircraft repair businesses, private and corporate hangars, and fixed-base operators, that are located at the airport facility.

Wittman Regional Airport is one of 90 general aviation airports in the state of Wisconsin and one of the 13 designated as Large General Aviation airports in the state. It contributes to the broader economic impact of aviation across Wisconsin (WI DOT, 2013). Additionally, the EAA, which makes its home at Wittman Regional Airport, was reported to have a \$110 million economic impact due to visitor and business spending during the one week AirVenture Fly-In

(Nedungadi, 2012). The EAA and the AirVenture Fly-In are visible to the general public, but the airport itself is less visible, and its contributions to the regional economy are less well understood.

To help the Winnebago County Board and area residents better understand the economic impact of Wittman Regional Airport and the businesses located there, the University of Wisconsin-Extension has undertaken a series of economic impact assessments of the airport. These impact assessments have formed the backbone of a broader effort to rethink how the airport contributes to the regional economy. Winnebago County UW- Extension has provided not only technical assistance in terms of conducting the impact assessments but a broader educational program about the economic impact the airport has on the community. As a result, key local and state partners have progressed in their understanding of the value and potential for the airport and are currently pursuing aviation and aeronautics cluster strategies. In the words of the chamber director, “We have taken a quantum step forward to realizing this vision and further establishing our place as the leader in the aviation community.” (Appendix A)

Economic Impact of Airports – Review of Literature and Implications for Wittman Regional Airport

Since the 1970s, which was the beginning of commercial passenger air deregulation, airports have been popularly viewed as being an economic driver in the community (Cooper, 1990; Green, 2007). Large commercial airports, such as O’Hare (Chicago) and LAX (Los Angeles) became the focus of airport-centric economic development, and where aviation is particularly critical, aviation comprises five percent or more of the regional economy (al Chalabi, 2002).

During this time, general aviation airports (those without commercial passenger air service) were recognized as having value in the community, though this value was less well understood and often received little attention as compared to commercial passenger airports. Though the economic impact may not be as large as commercial passenger airports, general aviation offers benefits to the community through added convenience for certain users, corporate use of the airport, convenient access to the national air transportation system, development of aviation related businesses, and local taxes on aircraft related purchases such as parts and fuel (Andrews, 1983; Weisbrod, 1991). Small and more rural manufacturing businesses also rely on general aviation for air cargo access and overnight and express shipping more so than passenger travel to help their business succeed. Only relatively recently has general aviation been evaluated for its full contributions to regional and national economy (Allen, Blond & Gellman, 2006). In Wisconsin this broader view of general aviation airports is gearing up for promotion and investment in aviation and aeronautics industries (WEDC, 2013). One could argue that these general aviation airports could serve as a focal point for an aviation and aeronautics industry cluster.

There is a body of literature that documents the general consensus that a link does exist between airport development and economic development (Cooper, 1990; Niemeier 2001; Green 2007). According to Cooper (1990), most of the literature covers a wide range of approaches and concerns that vary from location to location. Variation in research methodology, scope and size of region, makes it difficult to draw general conclusions or make data comparisons from airport to airport or region to region. The Federal Aviation Authority, however, now has

guidelines for these types of studies that facilitate comparability between similar studies across states (WI DOT, 2013).

Additionally, there is substantial literature that described urban and land use impacts of airports and airport development (e.g. Freestone, 2009; Karsner, 1997), a variety of studies describing and analyzing methodologies of economic impact measurement (e.g. Niemeier, 2001; Montalvo, 1998; Butler & Kiernan, 1992; Pfäler, 2001), as well as studies that focused specifically on the economic impact of general aviation airports (e.g. Andrews, 1983; Allen et al., 2006).

There are a few conventional approaches to measuring the economic impact of airports outlined in literature, including input-output modeling, cost-benefit analysis, fiscal feasibility studies, as well as environmental impact studies (Niemeier, 2001). Halpern and Brathen (2011) also look at the contribution of airports on the social development of a region. By far, input-output models, or multiplier analysis, appear to be the most commonly used approaches as they are relatively easy to implement and cost-effective. These models measure the direct, indirect and induced impact of an airport or airport project. Unfortunately, as mentioned above, different studies may focus on different scenarios so as to make study-to-study comparisons difficult. For example, some studies may look at daily operations of the airport, while other studies may focus on tourism expenditures of travelers. It is important to understand the specific scenario of an input-output study before making direct study-to-study comparisons.

The use of input-output models to document economic impact of airports grew during the 1980s and 1990s, even if it was not the most appropriate tool for the job, partially because of growing availability and ease of use of impact modeling software such as IMPLAN. Niemeier (2001) specifically studied the use of input-output models and determined that they were being used to draw faulty conclusions and used to support airport expansion projects without the additional cost benefit analyses necessary to determine actual cost. Niemeier cautions users of input-output modeling to understand the assumptions of the model and warns them against substituting them for a cost benefit analysis and/or environmental impact study. That stated, there is still validity in how the Wittman Regional Airport study was conducted, and, given the same methodology was used for each of the four studies, data are comparable across time.

On the other hand, economic impact tools such as input-output models are useful for understanding basic economic activity in a region and as a tool for helping a community understand effects of economic change, economic activity within a region, and economic linkages in the community. Understanding these linkages aid local governments in decision- and policy-making (Shields and Deller 2003, Leatherman and Deller 2001). A critical component of the research on the Wittman Regional Airport economic impact was the educational programming that accompanied it which enabled greater understanding of the impacts of the airport and opportunities for supporting it. This is described in the Educational Programming section, page 13, of this paper.

The purpose of this paper is two-fold. First, it will describe the research approach and results of the four Wittman Regional Airport economic impact studies that have occurred since

1998. Secondly, it will explore the value and effect of conducting economic impact studies over time compared with a single point-in-time study. The author's assertion is that the true value of the studies comes not from the data themselves, but rather from insights gained by looking at the data and trends over time. In essence, the impact studies formed the foundation of a broader educational program, creating opportunities to have community-wide discussions about the future of the airport as a hub for an aviation business cluster. Education that accompanied each study contributed to awareness and insights that framed the issue locally and supported action in the community.

Lessons learned and implications for the community development profession and Extension educators will also be discussed in this paper.

Wittman Airport Program Development

Faced with the loss of commercial air service and growing perception among the public and the County Board that the airport was closed, the County Aviation Committee approached Winnebago County UW-Extension about helping them demonstrate the value of the airport. UW-Extension responded by partnering with the County Aviation Committee, the Airport Director, and a representative from one of the businesses located at the airport to identify a research response. The primary question, particularly early on, was "What is the economic impact of the businesses at Wittman Regional Airport?" To answer this question, a research approach was developed to gather local wage and employee data and use IMPLAN to analyze the economic impact of the jobs and wages generated by airport businesses. Winnebago County UW-Extension provided education to help the team understand the limitations of this sort of analysis and possible approaches to estimating economic impact. It is important to note that

throughout the study periods, the economic impact of the one week EAA AirVenture Fly-In Event was not included.

The primary objective of the studies in 1998, 2002, and 2007 was:

- To document the direct, indirect and induced economic impact of the jobs located at the Wittman Regional Airport in order to better understand the role of the airport in the regional economy.

In 2012, an additional objective was added to the study:

- To understand the business needs, plans and concerns as it related to their business and being located at the Wittman Regional Airport with the intent of being better positioned to support local businesses.

Methodology

Economic Impact Analysis

To estimate the economic impact of the jobs and wages associated with the airport, UW-Extension used IMPLAN (Impact Analysis for Planning), a regional economic modeling system. IMPLAN was originally developed by the USDA Forest Service in the late 1970s and 1980s and then transferred to the University of Minnesota in the early 1990s. IMPLAN is an industry standard input-output modeling software system that includes data, industry multipliers and a social accounting matrix analysis. More information on IMPLAN can be found at the company website (<http://implan.com>).

IMPLAN was used for each study in 1998, 2002, 2007 and 2012. For each year that the study was conducted, a survey was designed to collect data from each business located at the airport (Appendix B). Only businesses that are dependent on the airport services (e.g. access to the runways) were included. The survey collected data on:

- Number of jobs provided by the businesses
- Total wages paid by the businesses
- Total non-wage expenditures of the businesses
- 3 or 6 digit NAICS code(s) related to their business, and
- Names of local businesses where non-wage expenditures are spent

All twenty-five businesses physically located at the airport were surveyed, including:

- Businesses within the airport terminal (airport staff, radio and TV studios, Hertz, Greyhound)
- Fixed-base operators
- Aircraft repair, maintenance and inspection businesses
- Flight training, testing and certification businesses
- Technical college training school
- Experimental kit airplane research, design and manufacturing
- DC-3 turbo conversion and manufacturing business
- Experimental Aircraft Association (EAA) Museum and grounds
- Hilton hotel
- Several corporations and private sector businesses that are located on the airport, lease hangar space, and use the airport for corporate flights.

- Department of Natural Resources flight division
- One non-profit organization that relies on private flights for their work

Paper surveys were mailed to each business with a cover letter and return envelope to UW-Extension. The cover letter was co-signed by the Airport Director and UW-Extension. After two weeks, phone calls were made by the airport committee to encourage response to the survey. All of these methods helped create a very high response rate, and thus reliable data. In the end, the 2012 survey (and previous surveys) received an 80% response rate to the questions (20 responses from 25 businesses). Non-respondents were contacted directly for data on the number of jobs, or estimates based on local knowledge of the business were used. Wages for non-respondents were estimated from IMPLAN.

The IMPLAN analysis¹ not only estimated indirect and induced impacts, but also provided estimates of tax impact, jobs by sector, and industry sales. For these studies, direct impact means the actual number of jobs and wages as reported by the businesses through the survey process; indirect impact indicates the non-wage expenditures made by businesses for products, supplies and services; and induced impacts represent the ripple effect of additional spending on goods and services in the community by employees who received wages and non-wage income from the airport businesses.

Overall, the methodology in data collection, including NAICS codes used, from 1998 to 2012 remained fairly constant to allow comparisons across years. A few variations occurred that

¹ Data was provided to project partner Professor Steve Deller, UW-Extension Economic Development specialist to run the IMPLAN analysis.

are worth mentioning but do not impact the comparability across the years. Initially, the airport businesses were asked to provide real estate tax, personal property tax and lease payment data. Later, municipal online property tax records databases were used to gather that information. Data consistency is critical to being able to compare studies across years, so the author relied on other sources of data to ground-truth data reported by the businesses.

Business Climate Survey

In 2012, an additional survey element was added to the study because the Aviation Committee wanted to move beyond understanding the economic impact to knowing more about how to support its businesses (Appendix C). This was a significant shift in the desired outcomes of the study. They felt it was more critical to understand how they could be responsive to their tenants, indicating that they were taking greater interest in supporting the airport as an economic driver in the community. To meet the purpose of understanding the business needs on the airport, a business climate survey was developed to ask questions about reasons for being located at the airport, their plans for expansion or job growth, any new markets or customers, and what constraints they were feeling on their business. The business climate survey was included with the mailing of the economic impact survey to the businesses. A similar response rate was received, and data were analyzed by UW-Extension.

Educational Programming

As part of the economic impact assessment, an educational program element was also developed. Initially, there were two key audiences for educational programming -- economic development professionals and governmental decision makers who could use the data to inform

their policy, investments and decision making; and the general public who could use the information to better understand the impact of the airport and reform their perceptions of its value. Study data were shared with the research planning committee, the County Aviation Committee, the Winnebago County Board, and the Economic Development Corporation Aviation committee through presentations and summary reports (Appendix D and Appendix E). Outreach to the public occurred primarily through press releases, electronic media, a few public presentations to local civic groups, and through cable access broadcast of the Winnebago County Board presentations. Due to the focus of educational programming primarily towards professional and local government audiences, outreach to the public was limited in scope and not formally evaluated.

The educational program focused on these key learning objectives. Economic development professionals, local government decision makers, and community members will:

- Understand what economic impact is, how IMPLAN works, and what results can tell us about how the local economy is structured
- Understand how the studies were conducted and what their limitations and assumptions are
- Understand the economic impact of the airport and incorporate information into their decisions and policies

Since input-output modeling is complex, the educational presentation was simplified to ensure that the audiences would understand the idea that economic impact is a measure of how dollars circulate in the local economy. It was critical to also state that the model only measures a

part of the economic impact of the airport – that other parts, such as the impact of the EAA event, tourism, and recreational spending was not included in these studies. Each successive year that the economic impact study was conducted, new data was compared to the previous data so that the audiences could see the changes over time. Trends are useful for understanding the scale of change.

Another component of teaching about the IMPLAN data included the impact on types of jobs created in the region. Additionally, in 2012, the information heard from the businesses was also included in the educational presentations to both key audiences. After most educational presentations, the audience was engaged in a conversation and asked to consider how data might be used in their work or for supporting the airport.

Results and Findings²

Economic Impact Study

Results of the IMPLAN analyses showed direct, indirect and induced impact from the jobs and wages provided by airport businesses (Table 1). In 2012, Wittman Regional Airport directly contributed 548 jobs and \$23.6 million in wages to the local economy. With the multipliers from the IMPLAN model (1.56 for employment and 1.51 for income), the ripple effect caused by these jobs and wages generated an additional 308 jobs and \$12.0 million in wages. As a result, the total impact comes to 856 jobs and \$35.6 million in wages (Neiswender and Biedermann, 2013). Overall, the jobs and wages supported by the Wittman Regional Airport make up almost 1% of the jobs and 0.7% of the wages in Winnebago County.

² This paper includes data and multipliers from the 2012 study. Data and multipliers for the 1998, 2002 and 2007 studies can be found in Koles and Deller (2000), Neiswender (2003, 2009) and Neiswender and Biedermann (2013).

Table 1.

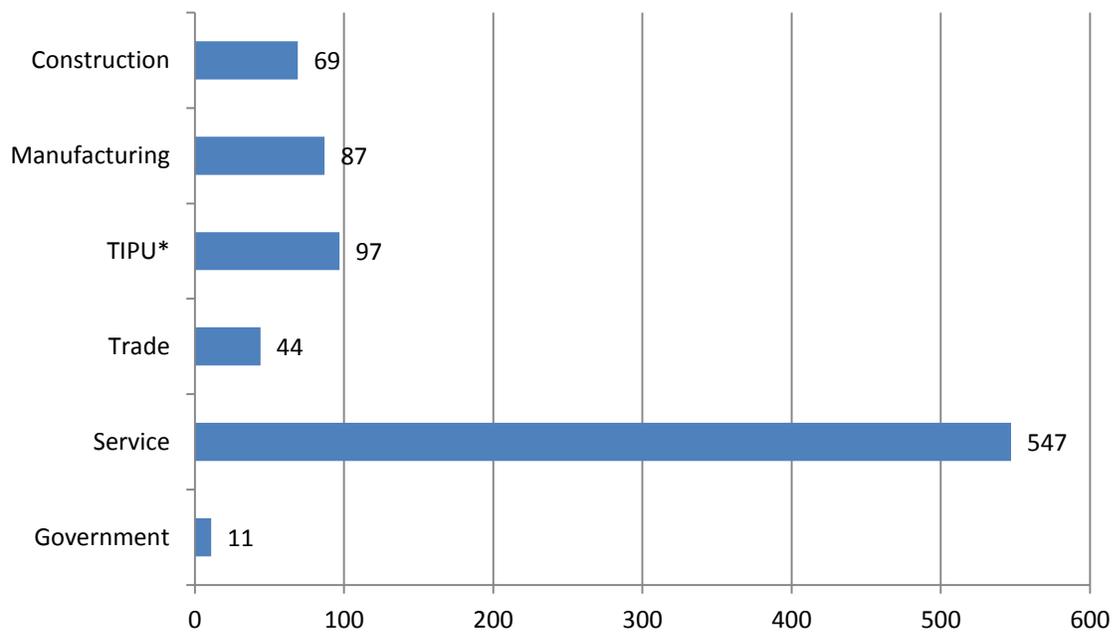
Direct, indirect, and induced impact from jobs and wages generated by businesses located at the Wittman Regional Airport in 2012.

	<u>Income</u>	<u>Jobs</u>
Direct	\$23,597,419	548
Indirect	\$6,069,130	132
Induced	\$5,975,148	176
Total	\$35,641,697	856

In addition to indirect and induced impacts, IMPLAN also provides job impact by sector, as shown in Table 2. The large number of service jobs is likely due to the impact of the types of jobs at the Hilton Garden Inn Hotel and the EAA Museum and their indirect and induced impacts. Jobs in the Transportation, Information and Public Utilities (TIPU), Construction and Manufacturing sectors make up the bulk of the remaining direct and multiplied jobs at the airport.

Table 2.

Distribution of direct and multiplied jobs by major economic sector, 2012.

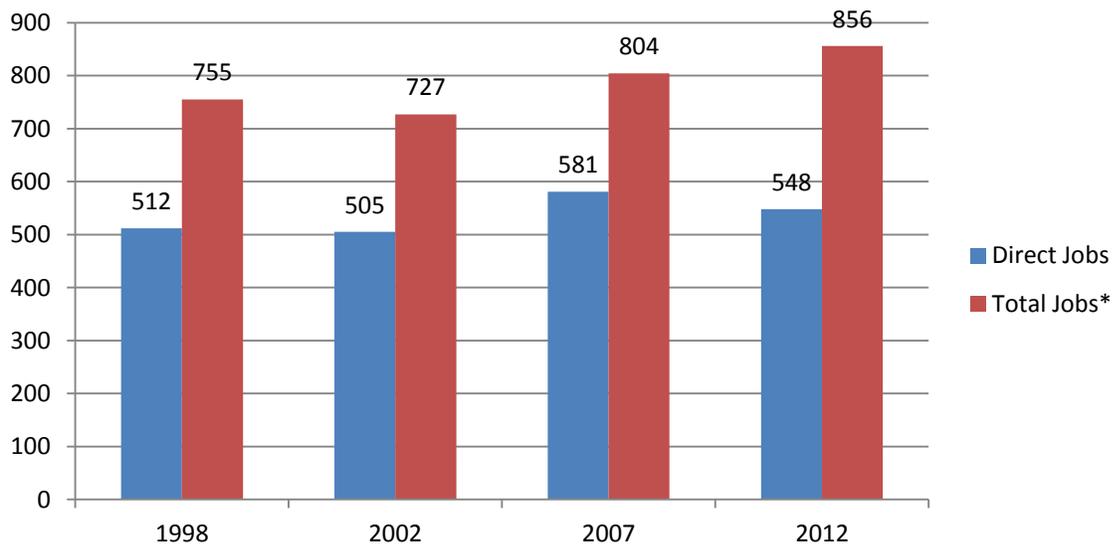


*Transportation, Information and Public Utilities

Jobs and Wages over Time

The value of this study and the consistent survey methodology is that data are comparable over time. The change in direct and total jobs and wages generated by the airport during the four study periods from 1998 to 2012 is provided in Tables 3 and 4. Data show that there has been a general stability in jobs. Data also show that while total wages have increased over time, direct wages have decreased.

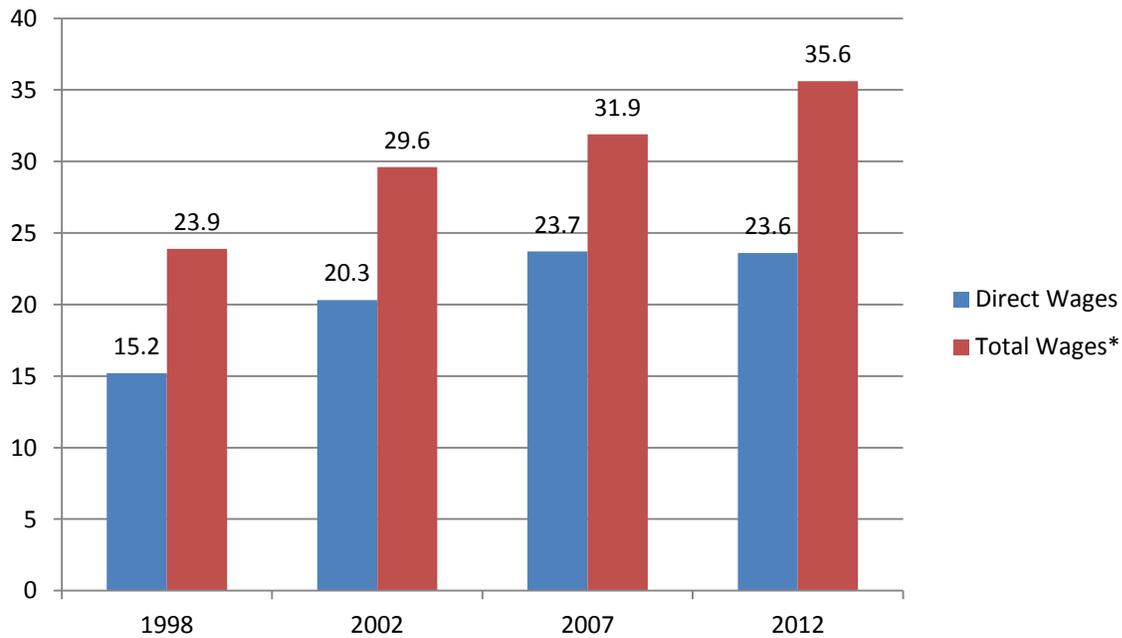
Table 3.
Changes in jobs over the four economic impact studies.



*Total jobs include the direct jobs created by businesses at the airport plus the multiplier effect.

Table 4.

Changes in wages over the four economic impact studies. Figures given in \$ millions.



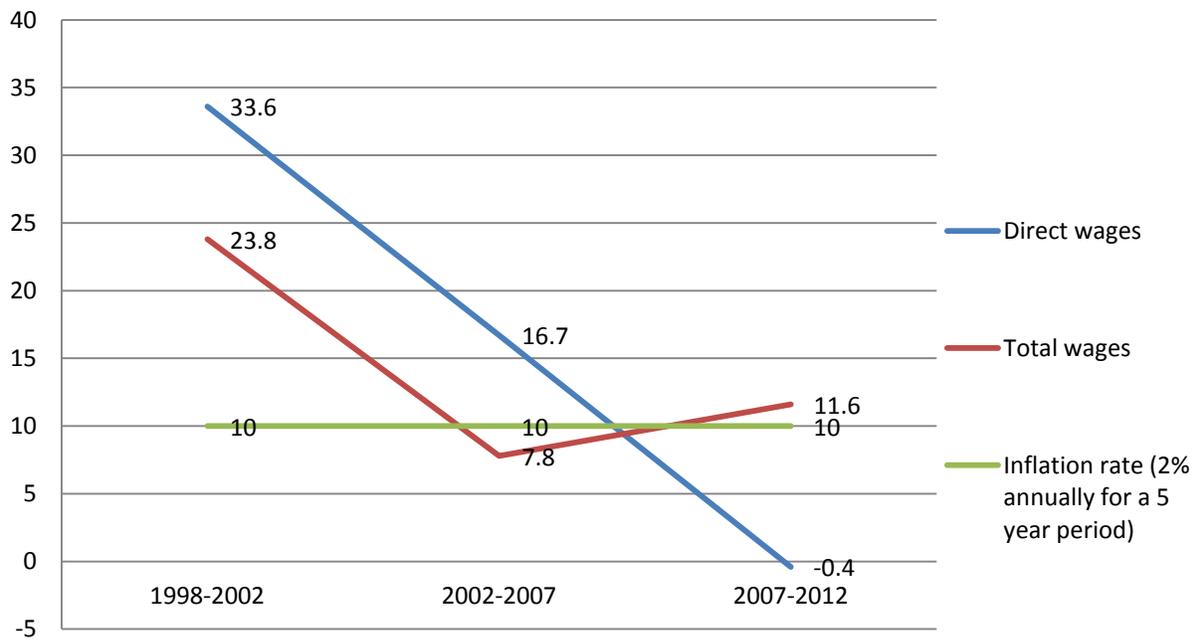
*Total wages include the direct wages paid by businesses at the airport plus the multiplier effect.

Additional observations can be made by examining the wage data further. Total wages (direct plus multiplied) grew over the four study years, but the direct wages declined slightly between 2007 and 2012. Looking further, the percent change in wages from study to study also decreased. Direct wages grew by more than an average rate of inflation of 2% per year during the first two studies from 1998 to 2007, but show a negative change between 2007 and 2012 (Table 5).

The study committee viewed these data as showing that the businesses weathered the two economic downturns experienced between 2007 and 2012 without significant losses. These data suggest a couple of possibilities – that wages per employee dropped, or that wages were significantly under-reported by the businesses. The latter is less likely given the rigor and consistency of the data collection methodology. Therefore, the increase in total wages came

primarily from increases in the multiplied wages in the community, not from the direct wages reported by the businesses. The estimate of multiplied wages is determined by the IMPLAN model and implicit income and employment multipliers for each year. The study committee did not look closer at the model and industry multipliers to better understand how the model itself impacted these data. Future research could include this analysis.

Table 5.
Percent change in wages between study periods.



Fiscal Impact Results

In 2012, Wittman Regional Airport directly contributed \$2.2 million in tax revenue and lease payments to the local economy. This includes real estate and personal property taxes paid by businesses and lease payments received by the airport for leasing of hangars and land. The multiplier effect calculated by IMPLAN shows that these taxes generated an additional \$2.88 million in revenue for a total fiscal impact of \$5.13 million in tax and lease revenue (Table 6).

Table 6.
Fiscal Impact of the airport businesses in 2012

Real Estate Taxes Paid^a	\$703,500
Personal Property Taxes^b	\$46,540
Lease Payments^c	\$1,500,000
Multiplier Effect^d	\$2,880,000
Total	\$5,130,040

a. Source: City of Oshkosh Property records online database

b. Source: City of Oshkosh Property records online database

c. Source: Airport financial billing records

d. Source: IMPLAN estimates

Business Climate Survey Results

All of the respondents of the business climate survey indicated that being located at Wittman Regional Airport was very important (76%) or important (24%) for their business. Reasons for being located at the airport varied, as shown in Table 7. The implication of these responses indicate that without the airport, its runways, tower and other aviation services infrastructure, these businesses would not be located here.

Table 7.
Reasons given for being located at Wittman Regional Airport

Primary Reasons	Secondary Reasons	Other reasons
Airport facilities	Trained workforce	Public safety
Support Services	Proximity to suppliers	Housing
Proximity of Highway 41	Proximity to customers	Recreation
Proximity to EAA	Overall cost of doing business	Metropolitan amenities

One of the key purposes of the business climate study was to understand which businesses need specific help so that resources can be targeted. Respondents cited the following concerns related to doing business at the airport:

- Fewer pilots available

- Need for ramp improvements
- More and larger hangars
- High speed wireless internet
- Flooding concerns
- Control tower safety
- Relationships with government
- Allocation of resources as applied to the airport

Most (65%) responded that they had no major constraints to their business. Of the respondents that cited major constraints, access to customers and new markets, and business visibility and signage ranked among the top two constraints (Neiswender and Biedermann, 2013).

Lessons Learned

Extension educators and community development professionals can play a significant role in not only conducting economic impact studies, but in helping the community understand their value and making the local story come to life. Should a local educator become involved in this type of study, there are a few lessons learned from this work that could translate to other projects:

- Ensure all relevant parties are at the table from the beginning and involved in the framing of the question, the education, the development of the study and the interpretation of the

results. Avoid the temptation to just be a researcher and complete the study in a vacuum, expecting engagement or learning to happen organically.

- Before the study begins, ensure the local committee has considered how they will use the data and how the information will be shared.
- It is critical that the local committee understands the limitations of both economic impact studies in general and IMPLAN software specifically.
- Strive for rigorous data collection and validation. The author took extra steps to ensure survey response rate was high, data was validated through external sources such as online city tax records, and follow up phone calls to non-respondents to include their information.
- It is important to clarify the assumptions and limitations of the data every time it is presented to a public audience (these are discussed in literature).
- Use the data to start a conversation with the community, to build awareness, and to help the community providing meaning and value to the data.

While educational learning objectives were not formally evaluated, learning and behaviors associated with the Wittman research were documented anecdotally. The author found through conversations with economic development professionals that there was an understanding of the data and shifts in perceptions about the value of the airport. Additionally, other professional organizations used and cited the research during presentations, in letters to the editor and in grant proposals, indicating a positive impact from the educational efforts. Current efforts by economic development professionals and municipalities to invest in the development of aviation

and aeronautics cluster strategies indicate longer-term impact of the economic impact research and education program.

Conclusions and Implications

For all four economic impact studies described in this paper, the data measured the extent to which the airport and its businesses support jobs and wages in the community. Additionally, the 2012 business climate survey indicated that most businesses rely on the presence of the airport to create these jobs. The survey also illuminated a couple of potential areas that the county could work on in order to support airport businesses, including enhancing airport infrastructure, aiding business marketing with better signage, and helping businesses identify and reach markets and customers.

Since the first study in 1998, the data have been shared with economic development professionals, the Winnebago County Board, the airport tenants via presentations, meetings and written articles, as well as with local community residents via newspaper media. Anecdotally, people who learned about the information responded that they had no idea that the airport had the level of impact it had above and beyond the one week EAA AirVenture Fly-In event and that this was good information to share broadly. Overall, as part of a larger educational program, economic impact studies can be effective at providing point in time information about an industry or event and how they relate to the community economy.

What makes this work more compelling is to look at how the information was used after the studies. After the 2002 and 2007 studies, the Winnebago County Board authorized capitol expenditures and bonding to support facilities upgrades at the airport including runway expansion, plowing equipment, and most significantly, the rebuilding of the control tower. In recent years, the Winnebago County Board has partnered with the City of Oshkosh to investigate the purchase of additional land which would allow business expansion adjacent to the airport. In fact, land was purchased early in 2013 and, as of the writing of this paper, plans are now underway to develop an Aviation Business Park complete with a connector runway to Wittman Regional Airport. The county and economic development professionals went beyond understanding the economic impact of the airport to using the data to inform budget and policy decisions that could help expand local business and economic development. As suggested by Shields and Deller (2003), the role of the author, as both researcher and community educator, elevated the overall impact of the data.

While it is difficult to make a direct causal connection between the economic impact studies and the outcomes themselves, personal communications with key partners indicate that the data added to the body of knowledge that supported various decisions and outcomes, such as whether to appropriate funds for infrastructure improvements, or pursue a cluster strategy for business expansion. One partner has also seen a shift in how the media has been characterizing the airport, moving from negative and critical, to supportive (J. Caspar, personal communication, June 17, 2013). S. Deller (personal communication, June 24, 2013) states that often these types of studies can be a foot in the door, opening up a conversation about potential economic development opportunities. In the author's experience, what began to occur was a reframing of

the situation where the original desire of the airport committee was simply to know the value of the airport so they could better market it. Over time, they became interested in looking at the airport as an economic asset that could grow jobs and income in the community. This reframing, while subtle, is important. Reframing of the issue opens up the solution space and empowers the local government to see the role they could play in supporting local economic development. While the airport committee continued to want to understand the economic impact using IMPLAN, they also engaged in other discussions about how to support the airport and its businesses.

Finally, this body of research demonstrates that economic impact studies done over time can show trends in jobs and wages which can be more useful than a single snapshot in time. Trends are useful in understanding changes in the local economy and in making policy and budgetary decisions. The trends seen in these data indicate that the businesses at the airport weathered the recent recession fairly well, while also demonstrating a latent opportunity to grow and support the existing businesses. The economic impact of EAA Fly-In also indicates that while the event itself contributes a pulse of impact during the event due to visitor spending, there are other values of EAA (such as its proximity and its expertise in specialized aircraft industries) that have a relevant impact on the overall economic impact of the airport and its businesses. In other words, EAA is a critical tenant to the airport and a partner that can be leveraged to help build economic development.

Future Research

These studies, while providing significant information and research to guide policy decisions locally, also generate more research questions. A more detailed Business Retention and Expansion Study could be conducted with the existing businesses to learn more about supplier and customer needs. Additionally, further data analysis on gaps and disconnects in the local economy could shed light on potential recruitment and expansion strategies for the new aviation business park.

Of more interest to Extension audiences would be to have a greater understanding of the causal effects of conducting economic impact research on perceptions, actions and policy decisions. Recent research conducted by University of Minnesota on the impact of Extension education and research on local economic development indicators (Linscheid, 2013) may offer a qualitative approach to measuring this sort of impact.

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Appendix A – Oshkosh Northwestern Letter to the Editor, 6/17/2013

John Casper: Wittman Regional Airport has significant impact on economy

Written by John Casper
Jun. 17

thenorthwestern.com

Oshkosh has earned a world-renowned reputation as the undisputed Aviation Capital of the World. We see this every day and experience it in a big way once a year during the EAA AirVenture when people from all over the world journey to Oshkosh. But, how often have you heard someone say, "The airport's a drain on the taxpayers and doesn't pay its way"? The reality is that airports are assets of considerable economic value and Wittman Regional Airport is no exception. However, this fact is not widely understood. The airport contributes jobs, services and taxes.

Wittman Regional Airport represents an enormous economic asset and opportunity to Oshkosh and Winnebago County. It is the centerpiece of an area that can be developed into a major job-generator and tax-revenue producer.

The economic impact of an airport is a measure of the benefits it provides to the community. These benefits include the jobs, wages, and expenditures that take place at the airport. They also include the effects of these expenditures in moving from hand-to-hand through the community, enhancing economic activity far from the airport itself.

Economic impact as a whole comprises direct and indirect impacts. Direct impact is associated with businesses and providers of services at the airport. The value of direct impact is the sum of all payroll, non-payroll and capital expenditures, operating and maintenance costs, taxes, and fees incurred by every business and provider of services. A recent study, commissioned by Wittman Regional Airport and the Winnebago County Aviation Committee and conducted by the University of Wisconsin-Extension, indicated that there was over \$28.5 million of direct economic impact at Wittman Regional Airport in 2012.

The analysis showed that the airport was responsible for 548 jobs, \$23.6 million in payroll, \$750,040 in tax revenue, and \$1.48 million in lease payment. Strictly speaking, these direct impacts represent economic activities that would not occur in the absence of the airport.

There is also an indirect economic impact associated with airport businesses, operations and services.

These include both corporate and public users, government agencies, and aviation and non-aviation businesses. The value of this impact results from payrolls, taxes generated and other expenditures related to items such as food, lodging, and similar outlays that ripples through the local economy.

The study indicates that Wittman Regional Airport is indirectly responsible for 308 jobs, \$12 million in payroll, and \$2.88 million in non-direct tax revenue.

All of this results in a total economic impact of \$40.7 million to Winnebago County and the surrounding areas and a total of 855 jobs. These numbers do not take into account the annual EAA AirVenture, estimated at over \$110 million annual economic impact, including direct spending of \$84.6 million in the Oshkosh area. The airport is an economic engine - like many business and industrial parks in Oshkosh.

Indeed, this economic activity is impressive, but what comes next?

This year, the Winnebago County Board and, specifically County Board Chairman David Albrecht, took the lead on an initiative to transform Wittman Regional Airport into a year-round global hub not only for sport and general aviation, but to leverage new aviation business development. Winnebago County, in partnership with the City of Oshkosh, purchased 50 acres of the land that abuts the south east portion of the existing airport property for the purpose of developing an Aviation Business Park.

The city established a TIF district to defray the costs of putting in the necessary utilities, roads and storm water management facilities.

Acquisition of this parcel assures development of land adjacent to the airport is consistent with airport and county objectives, and would drive economic growth.

We are well positioned to attract aviation-related business with the excellent facilities at the airport and the world headquarters of EAA, along with the skilled and hard-working labor force, and other existing aviation businesses and supply chain companies.

The UW-Extension estimates the aviation business park could create 1,619 jobs and generate \$138 million in total income, \$343 million in increased sales and \$8.4 million in local government revenue.

While it may take some time to fill the park, the community has great experience with this type of development.

A little more than 20 years ago, the Southwest Industrial Park in Oshkosh was farmland, and today it is home to companies like Bemis, 4imprint, Miles Kimball and many others, employing 3,500 people and having an assessed value of more than \$150 million. We have taken a quantum step forward to realizing this vision and further establishing our place as the leader in the aviation community.

Appendix B – Economic Impact Survey and Cover Letter

UWEX Letter head

August 2012

Dear Airport Tenant,

Wittman Regional Airport, in conjunction with University of Wisconsin-Extension, has periodically conducted economic impact analyses and updates of the airport over the past nine years. The purpose of the study is to gain a better understanding of how the airport impacts the economy so policy makers can make informed decisions regarding the future of Wittman Regional Airport. The latest analysis, dated August 2009, revealed that Wittman Regional Airport had a positive economic impact in the local economy including the generation of over 580 jobs and \$23.7 million in wage income. This information was used to educate local governments and the community, through a variety of public presentations, about the overall economic impact of the Wittman Regional Airport and the businesses located there. This has helped change public perception about the value of the Airport and raise awareness about its contributions to the tax base.

Because of the usefulness of this research and the critical component it plays in airport planning for the future, Wittman Regional Airport, under the direction of the Winnebago County Aviation Committee, and a coalition of businesses/tenants associated with the airport, have requested an update to the economic impact analysis since the last update.

In order to accomplish this analysis, we are conducting two unique surveys, both of which are enclosed in this envelope. The “**Economic Impact Survey**” is collecting business-specific information relate to employees, wages and non-wage expenditures. As in past years, all business/tenant specific information provided by you on this survey will be kept strictly confidential. It will not be reported or used in a form that would identify any one airport business. The “**Business Climate Survey**” is a new survey that is collecting general information about the business climate on the Wittman Regional Airport. The information you provide will be combined with all other data and you will not be individually indentified.

Please complete and return the two surveys in the self-addressed stamped envelopes provided no later than Friday, September 14, 2012.

Thank you in advance for your cooperation and prompt response with this information. If you have questions don't hesitate to contact Catherine Neiswender, Survey Coordinator, at cneiswender@co.winnebago.wi.us or (920) 232-1978.

Sincerely,



Catherine Neiswender
Community Development Educator
Winnebago County UW-Extension
cneiswender@co.winnebago.wi.us
(920) 232-1978



Peter Moll
Airport Director
Wittman Regional Airport
pmoll@co.winnebago.wi.us
(920) 236-4932

CC: Aviation Committee Members
Steve Deller, UW-Madison Professor, Department of Agriculture and Applied Economics

Enclosures
List of NAICS codes
Economic Impact Survey and SASE
Business Climate Survey and SASE

Wittman Regional Airport Economic Impact Study

August 2012

1. **Name of Business:**
2. **Type of business (refer to attached list of Industrial Codes):**
3. **Number of employees associated with your business at the airport:**
4. **Total wages paid annually to these employees (in 2011)**
5. **Total non-wage expenditures paid annually to businesses in Winnebago County (in 2011; e.g utilities, fuel, contracts, purchased goods)**
6. **Names of Businesses located in Winnebago County to which non-Wage Expenditures are Attributable:**

Note that if no information is provided by you, we will attempt to use your data from past years surveys as an estimate.

Thank you for your time! Please return in the enclosed stamped self-addressed envelope no later than September 14, 2012

Appendix C – Business Climate Survey

Wittman Regional Airport Business Climate Survey

August 2012

1. How important is being located at Wittman Regional Airport to your business?

- Very important
- Important
- Somewhat important
- Not at all important

2. What are the main reasons you are located at the Wittman Regional Airport?

Business-Related Reasons (check up to 4)

- Access to airport facilities (e.g. runways, taxiways etc.)
- Access to airport support services (e.g. FBO, repair, flight training etc.)
- Access to other businesses located at airport who are suppliers to my business
- Access to other businesses located at airport who are customers to my business
- Access to business support services (e.g. marketing, accounting, legal, etc.)
- Proximity of airport to Highway 41
- Availability of rail service
- Public safety services
- Overall business climate
- Cost of doing business, explain: _____
- Other, describe: _____

Other Reasons (Check up to 4)

- Presence of EAA at airport
- Proximity and availability of trained workforce
- Government financial incentives (e.g., state or city loans and grants)
- Support from local elected officials
- Proximity and availability of housing
- Proximity and availability of recreation/entertainment (e.g., parks, restaurants, etc.)
- Oshkosh/Winnebago County metro area's amenities (culture, diverse population, etc.)
- Oshkosh/Winnebago County metro area's quality of life
- Other, describe: _____

Comments:

3. If you have an IMMEDIATE concern or need related to your business, what would that be? How could local elected officials address that need or concern? *Please remember that your responses are anonymous and will only be used in summary with other responses. If you would like direct follow up regarding your specific need or question, please contact the survey coordinator directly.*

4. Over the next 12 months, are you planning make major changes to your business?
(check all that apply)

- Add new products or services
- Enter new markets or serve new customers
- Reduce or eliminate some existing products or services
- No major changes planned

5. Over the next 12 months, do you expect your current level of employment to:

- Increase
- Remain same
- Decrease

6. In the next 12 months, do you plan to expand, modernize or renovate your facilities?

- Yes
- No

7. If yes, what type of space do you plan to expand, modernize or renovate? (check all that apply)

- Manufacturing/production space
- Warehousing space
- Office space
- Hangar space
- Parking space

8. Where will your facility expansion, modernization or renovation occur? (check all that apply)

Location away from airport

Location at airport

In an existing building

In a new building on current site

In a new building on new site

Other, describe: _____

9. Is your business facing any major constraints to expansion or growth?

No major constraints

Business-Related Constraints

Need more access to conventional financing

Need more access to city and/or state tax incentives

Need access to new markets and more customers

Need access to more local suppliers of materials, products or services

Facility-Specific Constraints

Need facility/site planning assistance

Need changes in zoning/building regulations

Need better signage and visibility for my business

Need additional space than available in existing facility/site

Not enough space for expansion at current site

Parking issues at current site

Customers/Transportation Carriers need better access to facility/site

Need better access to rail

Other Constraints, describe _____

Additional Optional Questions regarding a Proposed Business Accelerator Program at Wittmann Regional Airport

10. The University of Wisconsin Oshkosh and Chamco Inc. are currently studying the feasibility of creating a Business Accelerator Program with a facility at Wittman Regional Airport. The program would focus on start up companies in the fields of: **Aviation and Space Technology**, Clean Technology, Advanced Manufacturing Technology, Advanced Materials, and Information Technology. The facility would also be a place where University faculty, staff and students could collaborate with local businesses on research, development and commercialization of new products and services.

Would your business benefit from such a facility?

- Yes
 No
 Maybe

11. The proposed Business Accelerator would provide entrepreneurs across the United States with access to a wide range of resources that are proven to accelerate the launch of new technology or science-based businesses. The program would provide participants with intensive mentoring by experienced entrepreneurs, and access to seed financing for new product research, development and commercialization.

Would such a program benefit companies already doing business at Wittman Regional Airport?

- Yes
 No
 Maybe

12. Please use the space below for any additional comments you would like to provide.

Thank you for your time and input! Please complete the survey and return it in the enclosed self-addressed stamped envelope no later than September 14, 2012

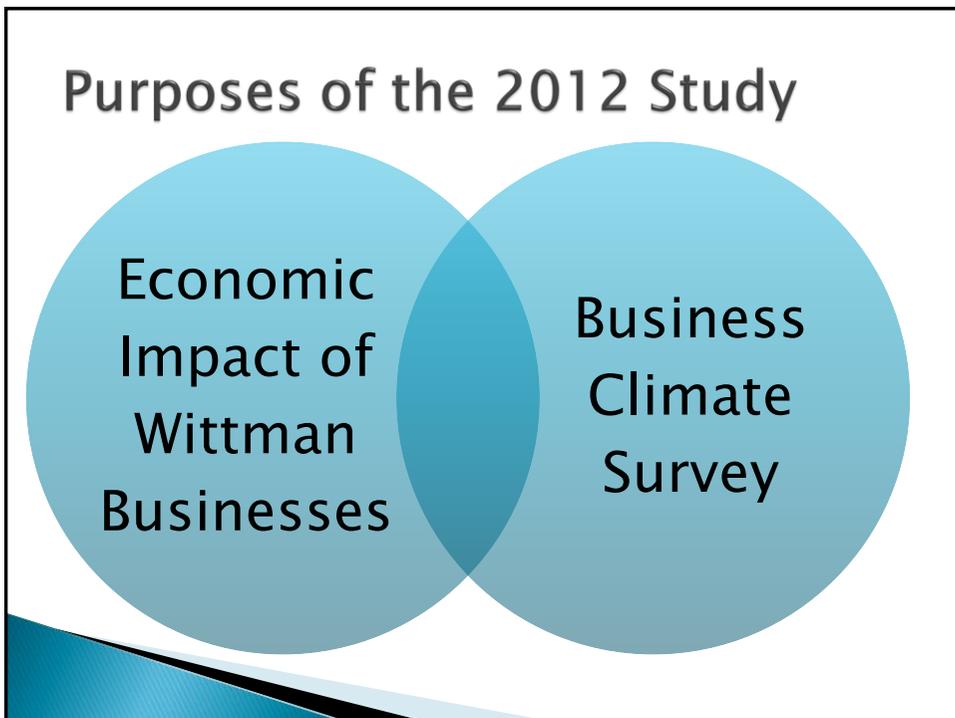
Appendix D – Educational presentation to the Winnebago County Board

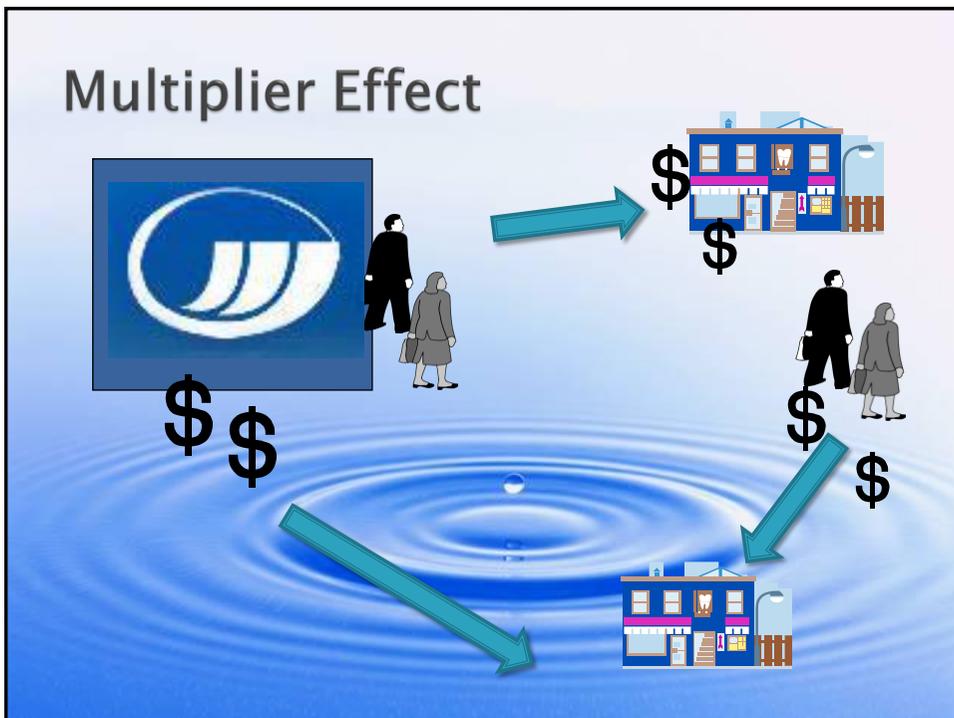
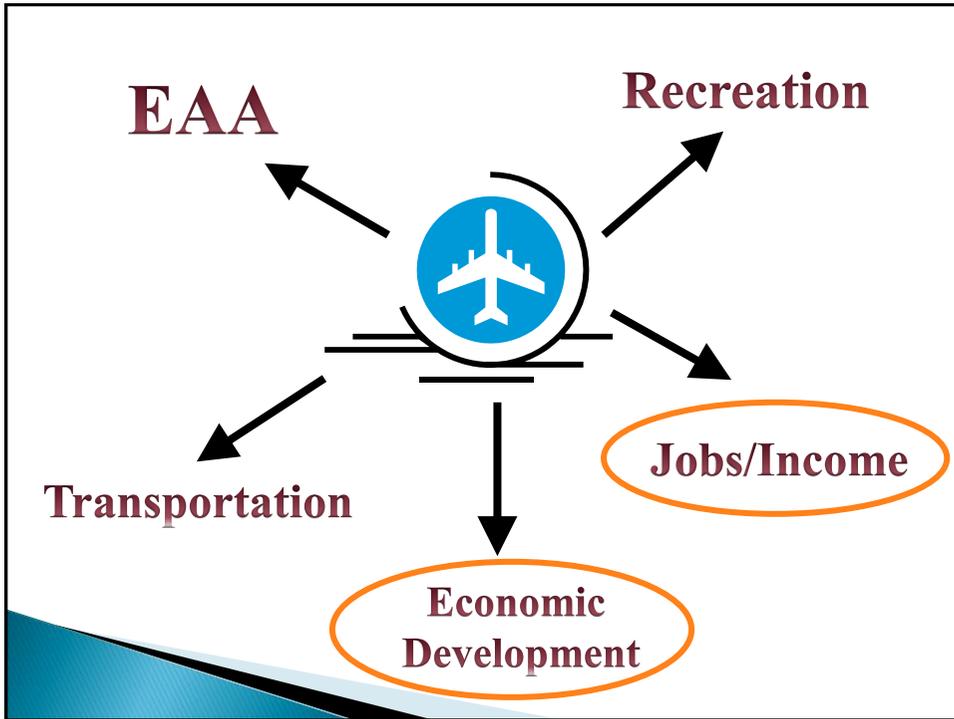
Wittman Regional Airport

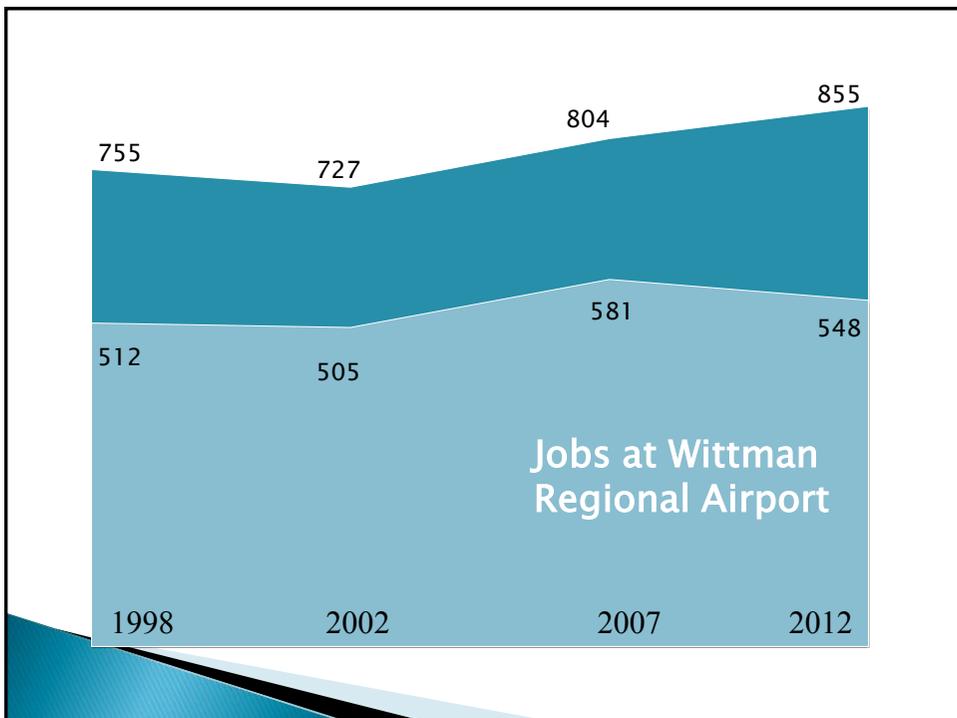
2012 Economic Impact Report
June 2013, Report to the Winnebago County Board

Catherine Neiswender, Community Development Educator
Kim Biedermann, Community Development Educator
UW-Extension Winnebago County

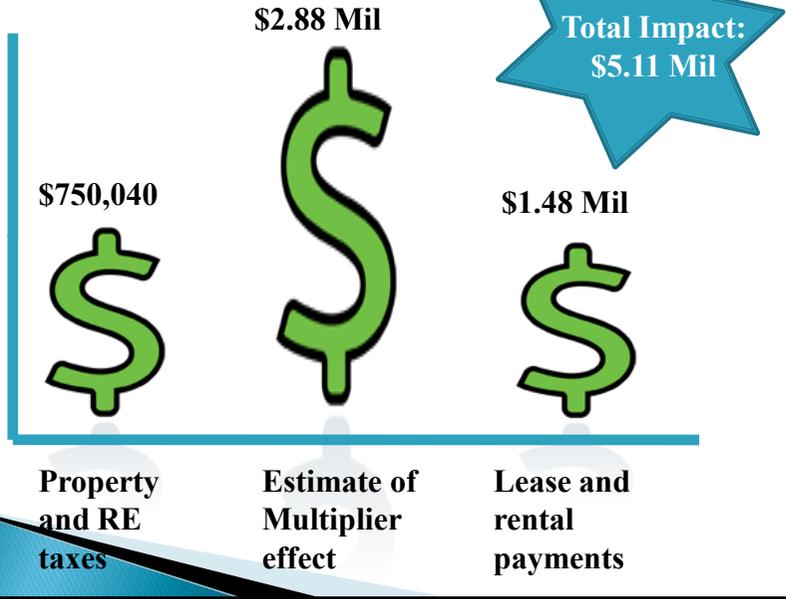
UW
Extension
Cooperative Extension







Fiscal Impact



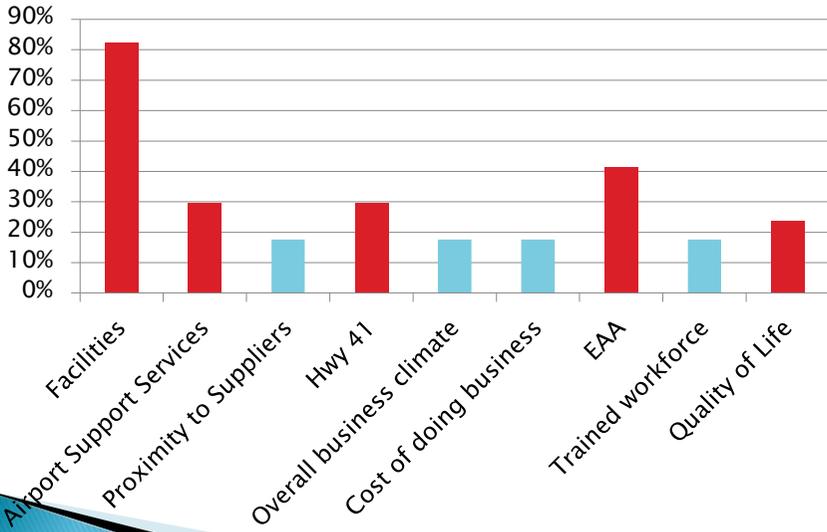
Business Climate



How important is being located at the airport to your business?



Why located at airport?



- We need more and larger hangars.
- We need more pilots.
- Deal with the flooding!
- How about providing us with high speed wireless?

Business changes



18% new products
35% new markets



29% plans to increase jobs
71% stay the same

Major Constraints



Access to customers
and new markets

65%
reported no
major
constraints

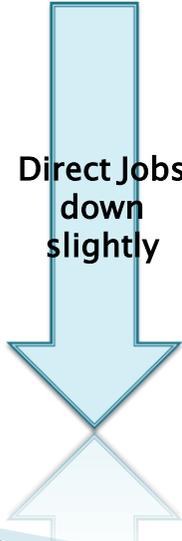
Business visibility/signage



Summary



Wages up
slightly



Direct Jobs
down
slightly

- ▶ Some planning expansion in markets, products and employees
- ▶ Most have no major constraints
- ▶ Business climate generally good
- ▶ Reliance on the airport



Questions and Opportunities

Appendix E - Detailed Reports developed for sharing with partners, 2012

Wittman Regional Airport Economic Impact Analysis, Detailed Report

Summary



In 1998, the Winnebago County Aviation Committee requested that the UW-Extension complete an economic impact analysis of the Wittman Regional Airport on the local economy to better understand its effects on local jobs and tax base. The initial study found that the airport and its businesses play a role in the local economy.

The Winnebago County UW-Extension has partnered with the Wittman Regional Airport to do an economic impact analysis every five years to follow up on the initial study. The fourth analysis,

completed in 2012 shows that the airport is directly responsible for the following:

- 548 jobs
- \$23.6 million in wages
- \$750,040 in tax revenue
- \$1.48 million in lease payments

Bring in the multiplier effect—that is, the ripple effect caused by the taxes generated, jobs created, and wages paid—and the airport is indirectly responsible for the following:

- 308 jobs
- \$12.0 million in wages
- \$2.88 million in non-direct tax revenue

All of this results in a TOTAL economic impact of \$40.7 million to Winnebago County and surrounding areas and a total of 855 jobs. These numbers do not take into account the AirVenture Convention.

Methodology

Data were compiled through the use of two surveys—an economic survey and a business climate survey—and through collecting real estate and personal property tax data on the City of Oshkosh assessor's website. Eighty percent of the surveys were mailed back, and tax data were collected for all pertinent businesses.

To assess the economic and fiscal impact of the Wittman Regional Airport and its businesses, an economic modeling tool called IMPLAN was used. This tool allows the user to describe in detail the level of interaction of all actors in the local economy, and allow the multiplier effect to be calculated. The multiplier effect traces how direct impacts can ripple throughout the rest of the regional economy. IMPLAN analysis was conducted by Steve Deller, Economic Specialist with UW-Extension/UW-Madison.

While the approach used here provides insights into the impact of the airport, it is a partial analysis. This study should not be interpreted as a full cost-benefit analysis in that the costs of the airport are not considered, particularly the fiscal costs imposed on local governments. The non-economic elements of the airport, such as the international exposure that the EAA and its AirVenture Convention bring to Oshkosh, are also not considered. Additionally, the economic impact of the AirVenture Convention was not taken into account.

Table 1 reports the impact on employment, annual income, and non-wage expenditures associated with the airport and its tenants.

Table 1. Initial Impact: Jobs, wages and non-wage expenditures (2012 and 2007)		
	2012	2007
Number of Jobs	548	581
Annual Wages paid	\$23.6 million	\$23.7 million
Non-wage expenditures	\$4.98 million	\$3.84 million
Total wage and non-wage expenditures	\$28.58 million	\$27.54 million

Wittman Regional Airport businesses were asked to list the other businesses they patronize with their non-wage expenditures (i.e. supplies, contracts etc).

Table 2 reports the **multiplier impacts** resulting from these expenditures associated with the airport. Multiplier effects are calculated using the IMPLAN model and are based on the idea that employment of one additional person causes ripple effects resulting from this person’s consumption of retail, real estate, and other goods in the economy. The implicit (i.e., overall) “income multiplier” used for this analysis was 1.51, meaning that for every \$1.00 of wages paid another \$0.51 in income was created elsewhere.

The implicit “employment multiplier” used for this analysis was 1.56, meaning that for every 100 jobs at the airport another 56 were created elsewhere in the county.

An examination of the impacts reveals that the trade (wholesale and retail), FIRE (finance, insurance and real estate) and service industries are the most affected. This is expected due to the bulk of the airport impact coming in the form of employees spending their wages in the local economy.

Table 2 shows the impact the ripple effect has on jobs and wages throughout the area.

Table 2. Summary of Initial and Multiplier Effect (2012 and 2007)				
	Jobs		Income Paid	
	2012	2007	2012	2007
Initial	548	581.5	\$23.6 million	\$23.7 million
Multiplier effect	308	222.1	\$12.0 million	\$8.2 million
Total	855	804	\$35.6 million	\$31.9 million

Data in Table 2 suggest that the airport remained relatively stable, and even experienced some growth between 2007 and 2012. Clusters of related industries, such as what is seen at Wittman Airport, enable healthy competition as well as cooperation, and may allow businesses to benefit from each other’s sales and customers.

The charts below display the changes in jobs and wages over the four economic impact studies. There has been a general stability in jobs, while the total wages have steadily increased over the four years that the airport was studied. Total jobs created and total wages indicate the direct impact the airport has on jobs and wages plus the multiplier effect.

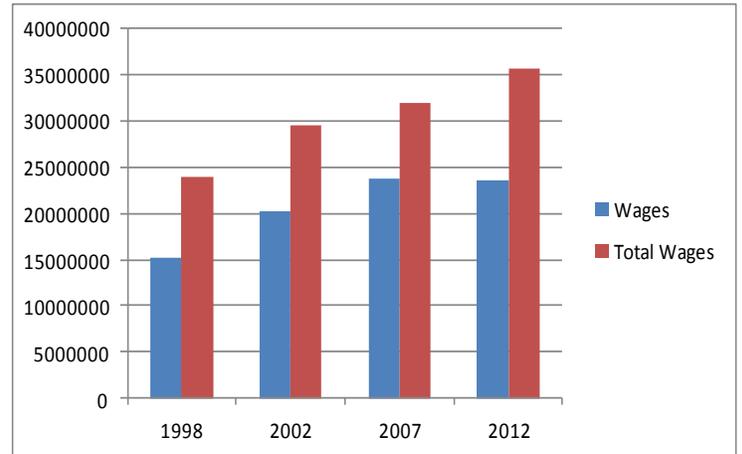
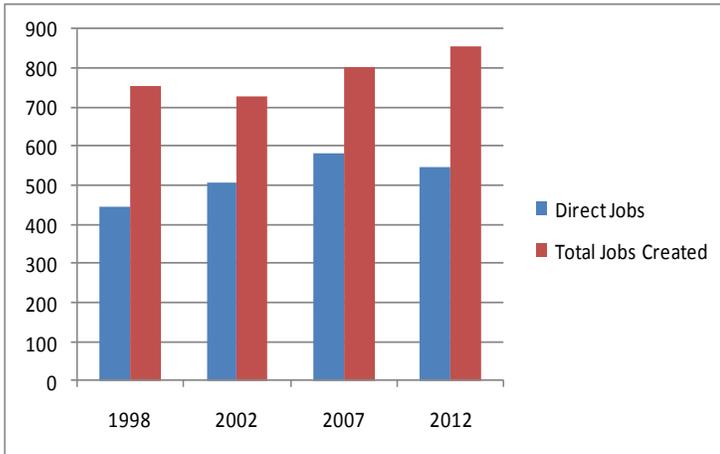


Table 3 summarizes the **initial** and **detailed multiplier impacts** resulting from expenditures associated with the airport and its tenants. The initial impact is due to the entire airport operation, which employs the equivalent of 548 persons with an income of \$23.6 million. Note that this includes the airport itself and all businesses that operate directly on the airport, such as Basler Turbo Conversions and the EAA (not including the AirVenture). Were it not for the airport, the case could be made that these businesses would not be operating in Winnebago County. Similarly, C.R. Meyer & Sons (a non-aviation related business), is also included in the analysis. C.R. Meyer reported that their business requires an airport and that they would also relocate if the airport were to close.

In Table 3, the multiplier impacts have been aggregated into general categories of impact source. The “indirect” impact captures the effect of non-wage expenditures (e.g., fuel, office supplies, etc.) associated with the airport. The indirect impact is about \$6.1 million. The “induced” impact (sometimes called the wage impact) captures the multiplier effect associated with employees spending in the local economy. The induced impact is about \$6.0 million.

Table 3. Total Initial and Detailed Multiplier Impact (2012 and 2007)				
	Income (dollars)		Employment (i.e., jobs)	
	2012	2007	2012	2007
Initial Impact	\$23,597,419	\$23,717,903	548	581.5
Indirect	\$6,069,130	\$5,276,367	132	124.6
Induced	\$5,975,148	\$2,936,500	176	97.5
Total	\$35,641,697	\$31,930,770	855	804

Table 3 shows the direct, indirect, and induced impacts of the airport on the economy.

Table 4 summarizes the direct total fiscal impacts of the airport's businesses when looking at real estate taxes and personal property taxes.

TABLE 4: Real Estate and Personal Property Taxes Paid in 2012	
Real Estate Taxes Paid	\$703,499.61
Personal Property Taxes Paid	\$46,540.38
Total	\$750,039.99

Table 4 (above) summarizes the direct total fiscal impacts from real estate taxes and personal property taxes. The total direct impact from these taxes is just over \$750,000 for 2012. Table 5 (below) summarizes the total fiscal impact of direct real estate and personal property taxes, lease payments from airport tenants, and the multiplier effect. The total fiscal impact is \$5.13 million dollars.

TABLE 5: Total Fiscal Impact in 2012	
Real Estate Taxes Paid	\$703,499.61
Personal Property Taxes	\$46,540.38
Lease Payments	\$1,500,000
Multiplier Effect	\$2,880,000
Total	\$5,130,040

Table 5 shows the total fiscal impact of the airport's businesses once lease payments and the multiplier effect are both taken into account.

This study was authorized and approved by the Winnebago County Board of Supervisors Aviation Committee



Wittman Regional Airport Business Climate Survey

Summary



New to the 2012 airport study was a survey on the business climate to better understand the current conditions faced by the businesses located at the airport. With over 80% of airport businesses responding to this survey, a picture can be painted of the current conditions faced by those at the airport.

When asked how important it was for the business to be located at Wittman, all respondents indicated that it was 'important' or 'very important' to be located at the airport. While being located at the airport is important, it is crucial to better understand both concerns and constraints to doing business so the appropriate response can be made. When asked about the major concerns to doing business, most respondents did not fill in any concerns, but several concerns were highlighted. Though there are some concerns to doing business, 65% of businesses said there were no major constraints to doing business.

This survey also asked if businesses have plans to increase, decrease, or stay the same over the next twelve months in regard to the following three categories: products/services and markets, facilities, and employees. In all three cases, most business plan to stay the same, several plan to expand, and no businesses plan to decrease (see graphic on backside).

All respondents of the Business Climate Survey indicated that being located at Wittman was very important (76%) or important (24%) for their business. The reasons given for being located at the airport varied, and the chart below shows the top reasons businesses are located at the Wittman Regional Airport.

Reasons for Being Located at Wittman Regional Airport		
Primary Reasons	Second Level Reasons	Other Reasons
Airport Facilities	Trained Workforce	Public Safety
Support Services	Proximity to Suppliers	Housing
Proximity of Highway 41	Proximity to Customers	Recreation
Proximity to EAA	Overall Cost of Doing Business	Metropolitan Amenities

Major Constraints and Concerns

One of the key purposes of a business retention and expansion study is to understand which businesses need specific help so that resources can be targeted. While the respondents were anonymous in this study, their answers can help identify barriers to both current and potential new businesses.

When asked what their major concerns were of doing business, the following answers were provided:

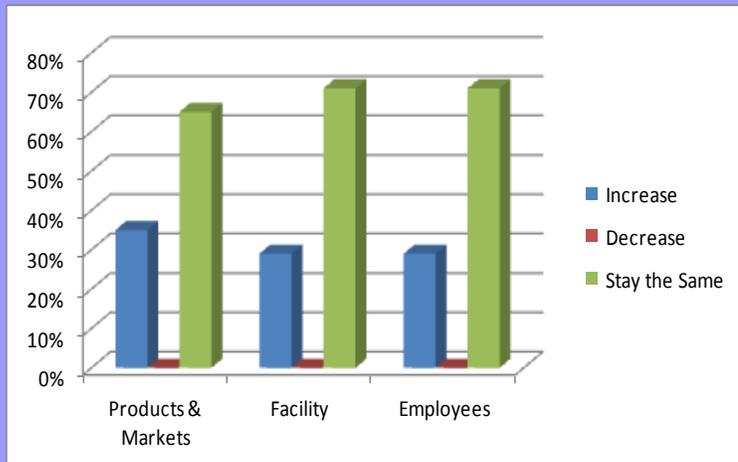
- fewer pilots (a problem not unique to the Oshkosh area)
- the need for ramp improvements
- more and larger hangars
- high speed wireless internet
- flooding, control tower safety, and relationships
- efficiency and effectiveness of government and allocation of resources

Major constraints to doing business should also be considered when looking to retain businesses and/or expand the business base. Survey information can also be used to help aviation partners market to and recruit aviation related businesses. Sixty-five percent of respondents indicated that there were no major constraints. The 35% of those with constraints identified the following as the major constraints:

- access to customers and new markets
- business visibility and signage



Business Changes



The chart to the left shows the changes businesses at the airport plan to make in the next twelve months. When asked to identify major changes to the business, 65% indicated that there would be no major changes, while 18% of respondents indicated they would be adding new products or services and 35% indicated they would be entering in new markets. Twenty-nine percent of respondents indicated they were planning on expanding, renovating, or modernizing their facility while 71% indicated they were planning on staying the same. Similarly, 29% of respondents indicated they would be adding new employees while 71% indicated they would keep employment levels

the same. In all three scenarios, none of the respondents indicated their business would be decreasing in any of the above categories.

Businesses looking to expand their facilities over the next twelve months indicated that they were primarily seeking to expand office space; however, other areas of expansion included manufacturing space, warehouses, hangar space, and parking. No business indicated they were expanding off the airport.

