



The Economic Impact of the Gerald R. Ford International Airport Grand Rapids, Michigan

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1.0 OVERVIEW



1.1 SUMMARY OF ECONOMIC IMPACT

Highlights from Gerald R. Ford International Airport's economic impact study include:

- Support for an estimated 30,883 jobs in Kent County and 40,324 jobs in the 13-county West Michigan Economic Development Region.
- The airport generates \$5.2 billion in economic activity for Kent County and \$7.7 billion in economic activity for the 13-county West Michigan Economic Development Region.
- The economic activity creates a fiscal impact of \$10.4 million for Kent County and \$10.3 million for the 13-county West Michigan Economic Development Region.
- The airport has a catalytic impact on household income of \$1.3 billion.

The table below summarizes the economic impact of two key measures and their source.

Impact Measure	Source	Total Impact Kent County	Total Impact-WMDR
Employment	Commercial visitors	13,222	9,630
	General aviation	439	450
	Airport operations	259	283
	Airport capital investments	328	397
	Airport business tenants	2,859	3,026
	Airport non-dependent businesses	13,775	26,538
	Total Employment		27,025
Annual Economic Activity	Commercial visitors	\$1.5B	\$1.1B
	General aviation	\$50M	\$50M
	Airport operations	\$57M	\$64M
	Airport capital investments	\$50M	\$58M
	Airport business tenants	\$562M	\$587M
	Airport non-dependent businesses	\$3.0B	\$5.8B
	Total Annual Economic Activity		\$5.2B



1.2 SCOPE OF WORK

This 2023 study assesses the economic impact of the Gerald R. Ford International Airport (GFIA). This study was funded by the Gerald R. Ford International Airport Authority (GFIAA). The economic assessment will include:

- The economic impact of GFIA on Kent County and the West Michigan Economic Development regions.
- A comparison to the economic impact over time on the community.
- A comparison to the impact of other airports on their respective communities.
- A definition of the geographic extent of the economic impact.
- A measure of significance to specific industries.
- A definition of how the airport factors into economic development.
- An attempt to quantify the airport's influence on economic growth – particularly business retention and business attraction.

This study will look at GFIA effects from two major perspectives:

1. The Airport's economic impact is from businesses at the airport, airport spending, general aviation, and commercial visitors passing through the airport.
2. The catalytic effect of the Airport. This includes the economic output of industries that exist because of the airport services, as well as the role the airport plays in attracting business to West Michigan. The catalytic effect also includes the impact the airport has on household incomes.

1.3 METHODOLOGY

This study will attempt to replicate studies completed in 1995 and 2015. The steps to achieve this are as follows:

1. Gather data on visitor spending.
2. Survey businesses directly (tenants) and indirectly involved with GFIA.
3. Gather data from GFIA on airport spending, aviation statistics, construction spending, general aviation spending, and other data as needed.

For this analysis of GFIA, annual economic impacts were estimated for each of the following:

- Commercial visitors
- General aviation visitors
- Airport operations
- Airport capital investment
- Airport business tenants

In addition to the annual economic impacts, this study will also estimate the catalytic effect of the airport on local businesses and household income.



COMMERCIAL VISITORS

Commercial visitors are defined as those who arrive at the airport on commercial airlines. To collect commercial visitor spending data, a Grand Valley State University student research team conducted surveys from June 2023 to August 2023. The surveying was administered on random days and at random times during the week. Data gathered includes zip code, length of visit, party size, spending patterns, and other important questions.¹ Data from this survey was used to calculate the economic impact of commercial visitor spending and the catalytic effect of GFIA on household incomes.

In calculating the economic impact of commercial visitors, only spending associated with nonlocal commercial visitors, that is visitors who live outside the defined local region, is included. This nonlocal spending is considered ‘new’ money to the local economy. For this study, the local economy is defined using two geographic regions: Kent County and the 13-county West Michigan Economic Development Region.²

¹ Copies of all surveys can be found in Appendix A2: Survey Details.

² This region includes the following counties: Ottawa County, Kent County, Montcalm County, Ionia County, Barry County, Allegan County, Muskegon County, Newaygo County, Oceana County, Osceola County, Mason County, Lake County and Mecosta County.

GENERAL AVIATION VISITORS

General aviation (GA) encompasses a wide range of aviation activities and aircraft types, with a focus on non-commercial, non-scheduled operations. Many GA visitors arrive and depart within a single day, thus having minimal economic impact. There are GA visitors who stay for one or more nights. These overnight GA visitors have a greater economic impact on the local economy. Overnight visitors often have the same spending patterns as commercial visitors.



GA visitors were not surveyed, instead, this study relied on the benefit transfer model. This model involves identifying previous studies that have valued similar airports, adjusting those values to account for contextual differences, and applying them to the new location. This approach is helpful when data collection is impractical or costly.

AIRPORT OPERATIONS



GFIA is operated by the Gerald R. Ford International Airport Authority (GFIAA), which consists of a wide range of jobs that are associated with the daily operations of GFIA. The analysis will rely on the financial information and aviation statistics from the last full fiscal year, December 31, 2022. This data was used to estimate the economic impact of GFIA operations.

AIRPORT CAPITAL INVESTMENT

In 2019, GFIA released its 20-year capital investment plan known as “Project Elevate”. This project has designated more than \$500 million in infrastructure investments to improve the guest experience while positioning the airport for continued growth. This study will use a five-year annual average to estimate the economic impact.

It is worth noting that, unlike other annual economic impacts, the economic impact associated with capital investment only occurs when the spending associated with the project is taking place. Once the project-related spending is over, the economic impact associated with the project also ends. Economic impacts in this category are not ongoing and can change annually.



AIRPORT BUSINESS TENANTS

Business tenants are defined as businesses located directly on airport grounds. These businesses provide aviation-related services or support for airport customers. Examples include fixed base operators (FBOs), aircraft maintenance, commercial airlines, concessions, etc.

Airport business tenants were surveyed via a Qualtrics email survey. Data gathered included the size of their labor force, annual wage expenses, past construction projects, future construction projects, dependence on airports, and other important questions.³ Data from this survey was used to calculate the economic impact of business tenants.

³ Copies of all surveys can be found in Appendix A2: Survey Details.



CATALYTIC EFFECT

A catalytic impact refers to a significant and often positive effect that stimulates change, growth, development, or transformation in a particular area. In the given context of an airport, a catalytic impact could mean that the airport plays a vital role in making an area more appealing and economically prosperous, thereby attracting, and retaining residents who contribute to the region's growth and income. The catalytic effect is a way to measure the value to a region of the income of residents who would live elsewhere if it were not for the airport.

Local businesses not directly on airport grounds were surveyed (mail survey) to identify their level of dependence on the airport for business.⁴ Data from this survey will be used to estimate the economic activity associated with airport dependency. Data from the commercial visitor survey will be used to estimate the catalytic effect of the airport on household income in the region.

⁴ Copies of all surveys can be found in Appendix A2: Survey Details.

ECONOMIC MODELING

The economic impact is estimated using the IMPLAN model. IMPLAN is a regional economic analysis software application that is designed to estimate the impact or ripple effect (specifically backward linkages) of a given economic activity within a specific geographic area through the implementation of its Input-Output model.⁵ This modeling system uses multipliers that provide a way to measure the complete economic impact that the initial change in demand has on the local economy. The results of an input-output model are broken down into three effects:⁶



Direct Effects A set of expenditures applied to the input-output multipliers. The direct effect is often referred to as direct spending or initial change in demand. This direct spending, or initial change in demand, is determined by the researcher or analyst. Applying these initial changes to the multipliers in IMPLAN will then display how a region will respond economically to them.

Indirect Effects Indirect effects are the business-to-business purchases in the supply chain taking place in the economic region that stem from the initial change in demand or direct spending (direct effects). In other words, this is the increase in sales by businesses that are suppliers to restaurants, hotels, retail stores, etc.

Induced Effects: Increased economic activity from household spending of labor income, after the removal of taxes and savings. The induced effects are generated by the spending of employees within the business' supply chain.

The IMPLAN model will report economic impact in four ways:⁷

Output **Gross output** is the total economic activity, including the sum of intermediate inputs and the value they add to the final good or service. The intermediate inputs are the resources used in the production of final goods and services. It should be noted that gross output can be overstated if the intermediate inputs are used multiple times in the production of other goods and services.

⁵ Full IMPLAN disclaimer can be found in Appendix A1: IMPLAN Disclaimer

⁶ <https://blog.implan.com/understanding-implan-effects>

⁷ Expanded definitions can be found in Appendix A1: IMPLAN Disclaimer

Labor Income	The increase in wages, salaries, and proprietors' income as a result of the initial change in demand (direct effects).
Employment	The total number of jobs supported by direct spending or initial change in demand. This measurement does not distinguish between a full-time or part-time employee. It also does not account for employees who moved from one job to another within the defined economic region. Thus it does tend to overstate the number of jobs created.
Value Added	The contribution to the economic region's gross domestic product (GDP).

In many cases, the findings of the economic impact analysis are rounded to the nearest million to avoid giving the reader a false sense of precision about the results. Readers should keep in mind the figures presented are estimates generated by economic models and not the result of an audit. The intent is not to obscure, but to provide reliable results without misleading the readers as to the overall level of precision.

1.4 DEFINING THE ECONOMIC REGION

To properly determine who is a visitor to GFIA, one must first define the local region. For this study, the local economy is defined using two geographic regions: Kent County and the 13-county West Michigan Economic Development Region (WMDR). Regional details are available in Appendix A5: The Economic Region. Figure 1 displays the map of Kent County and WMDR.

Figure 1: The defined economic regions



1.5 ABOUT THE GERALD R. FORD INTERNATIONAL AIRPORT

The Gerald R. Ford International Airport (GFIA) is the second busiest airport in Michigan and is managed and operated by the Gerald R. Ford International Airport Authority. The Bureau of Transportation ranks GFIA as the 76th busiest airport in the country.⁸ GFIA serves business and leisure travelers with thirty-four nonstop routes on six airlines (see Figure 2).

Figure 2: Nonstop flight destinations from GFIA

Nonstop Routes	Airline
Boston (BOS)	Allegiant
Destin/Fort Walton (VPS)	Allegiant
Las Vegas (LAS)	Allegiant
Nashville (BNA)	Allegiant
Orlando - Sanford (SFB)	Allegiant
Phoenix-Mesa (AZA)	Allegiant
Sarasota / Bradenton (SRQ)	Allegiant
St. Petersburg-Clearwater International (PIE)	Allegiant
Austin (AUS)	Allegiant (seasonal)
Fort Lauderdale (FLL)	Allegiant (seasonal)
Los Angeles (LAX)	Allegiant (seasonal)
Portland International (PDX)	Allegiant (seasonal)
Punta Gorda (PGD)	Allegiant (seasonal)
Savannah / Hilton Head (SAV)	Allegiant (seasonal)
Charlotte (CLT)	American
Dallas - Fort Worth (DFW)	American
Philadelphia (PHL)	American
Washington - Reagan Airport (DCA)	American
Miami (MIA)	American (seasonal)
Phoenix - Sky Harbor International (PHX)	American (seasonal)
Chicago - O'Hare (ORD)	American United
Atlanta (ATL)	Delta
Detroit (DTW)	Delta
LaGuardia (LGA)	Delta
Minneapolis-St. Paul (MSP)	Delta
Tampa International (TPA)	Southwest Frontier (<i>seasonal</i>)
Denver (DEN)	Frontier Southwest United
Baltimore - Washington (BWI)	Southwest
Chicago - Midway (MDW)	Southwest
Fort Myers (RSW)	Southwest (seasonal)
Orlando International (MCO)	Southwest (seasonal)
Tampa International (TPA)	Southwest (seasonal)
Houston - George Bush Intercontinental (IAH)	United
Newark (EWR)	United Allegiant

⁸ Based on 2022 statistics. <https://www.bts.gov/topics/annual-airport-rankings>



1.6 AIRPORT TRENDS

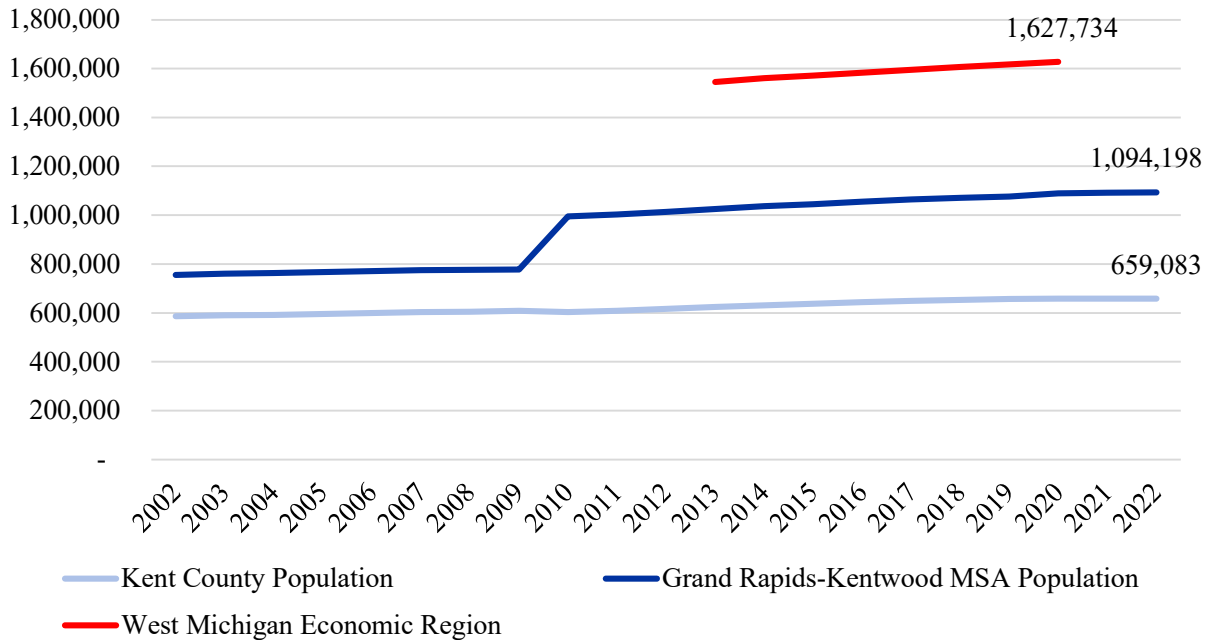


GFIA is a growing airport that serves a steadily increasing regional population. Over the past twenty years, Kent County has experienced an average annual growth rate of .59% and the Grand Rapids-Kentwood Metropolitan Statistical Area grew at a faster rate with an average annual growth rate of 1.96%.⁹ The 13-county West Michigan Economic Development Region grew at an average annual growth rate of .75% between 2013 and 2020 (see Figure 3).¹⁰

⁹ Grand Rapids-Kentwood MSA includes Ottawa, Kent, Montcalm, and Ionia Counties.

¹⁰ Population data for this region is limited in scope.

Figure 3: Population of Kent County, Grand Rapids-Kentwood MSA, and the West Michigan Economic Development Region



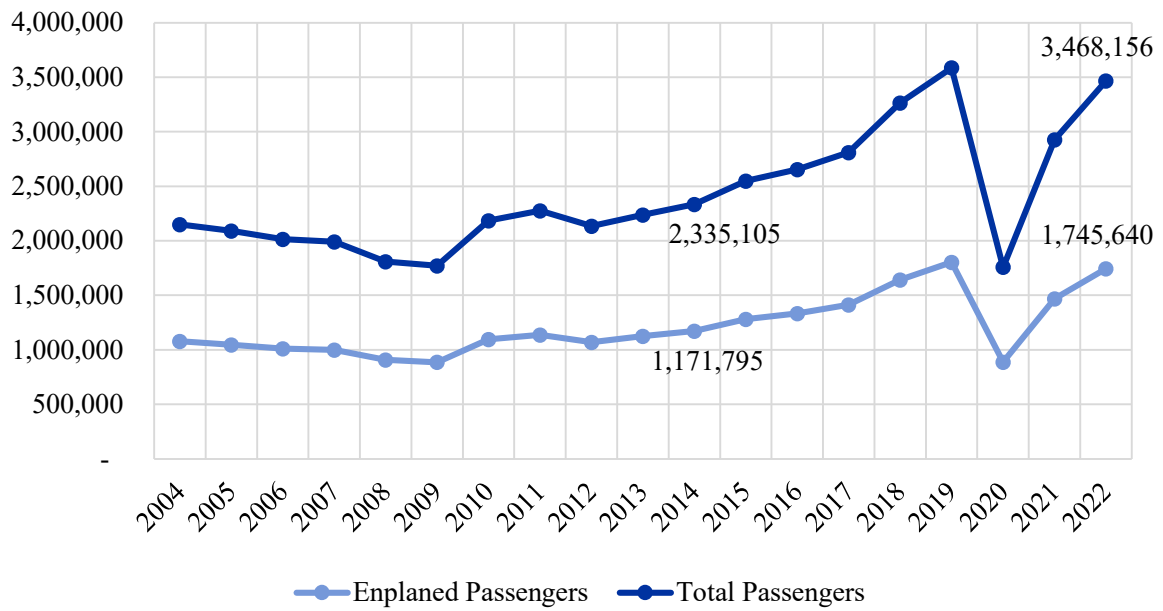
The growth in population and the addition of twelve nonstop routes since 2014 has led to an increase in passenger traffic. There were 1,745,640 enplaned passengers in 2022, which is still below the pre-COVID high of 1,804,358 in 2019.¹¹ However, the interim July 2023 aviation statistics show a 6.97% increase in enplaned passengers (over the same 7-month period), thus GFIA is on track to exceed the 2019 figures (see Figure 4 below).



¹¹ Informally defined, an enplaned passenger is one boarding a plane. Formally defined by the Federal Aviation Administration (FAA), an enplaned passenger means a domestic, territorial, or international revenue passenger enplaned in the States in scheduled or nonscheduled service on aircraft in intrastate, interstate, or foreign commerce.



Figure 4: Enplaned and total passengers at GFIA since 2004



During 2022, 9.63% of the enplaned passengers traveled in March. The second busiest month was July. Delta Airlines was the leading carrier, handling 30% of the enplaned passengers. In second place, Allegiant Airlines and American Airlines were identical at 18.8% and 18.7% respectively. These statistics are presented in Figure 5 and Figure 6 below.

Figure 5: 2022 Enplaned passengers by month, stated as a percentage.

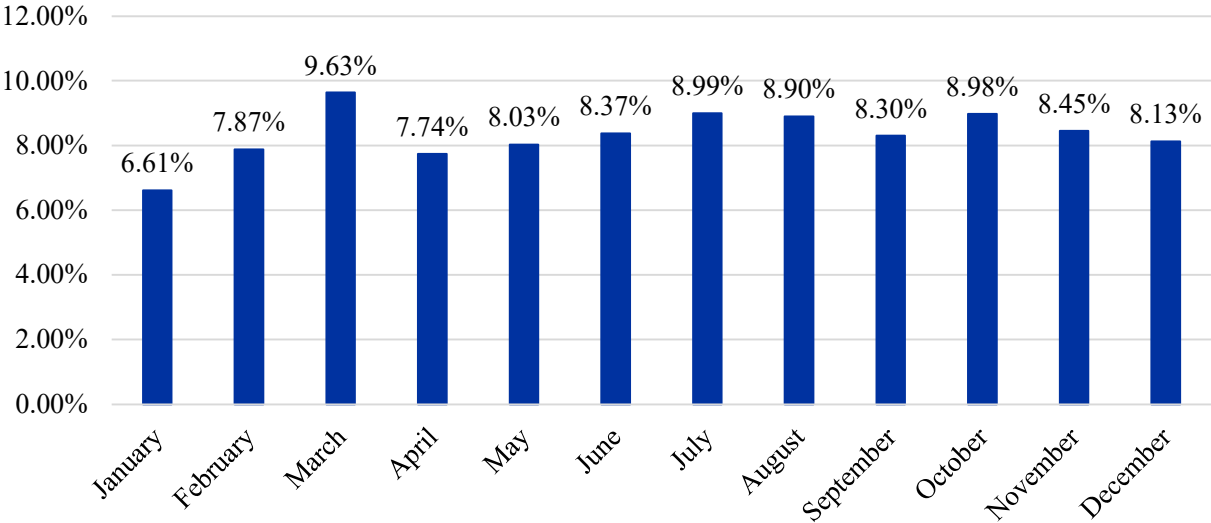
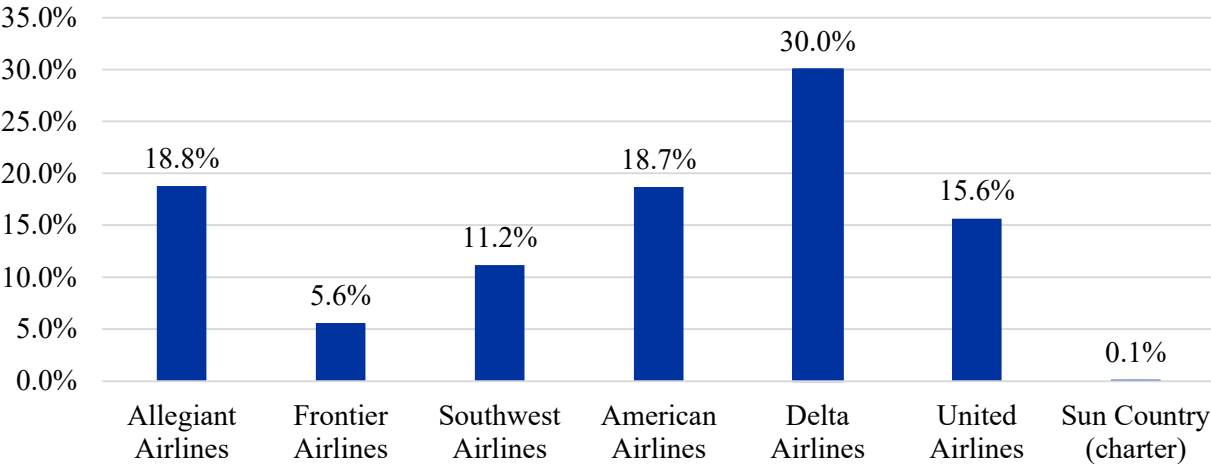


Figure 6: 2022 Enplaned passengers by airlines, stated as a percentage.



Total cargo falls to a six-year low of 85.3 million (enplaned and deplaned cargo). The 2023 7-month interim figures show a 5.38% drop in cargo, thus continuing the downward trend (see Figure 7 below).

The 2022 general aviation (GA) data shows 23,581 passengers (itinerant only), which does exceed pre-COVID figures. The 2023 7-month interim figure shows a 2.46% increase, thus continuing the growth trend (see Figure 8 below).

Figure 7: Cargo statistics since 2004

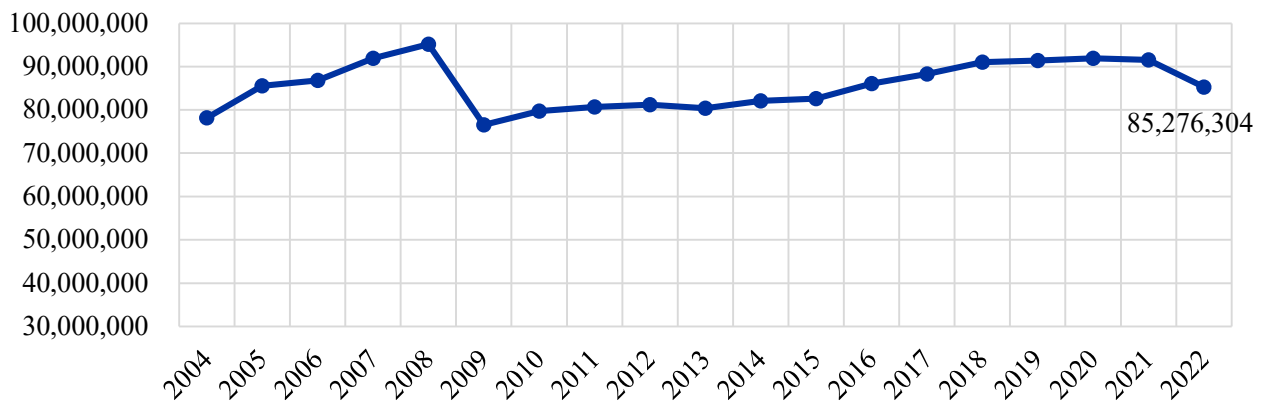
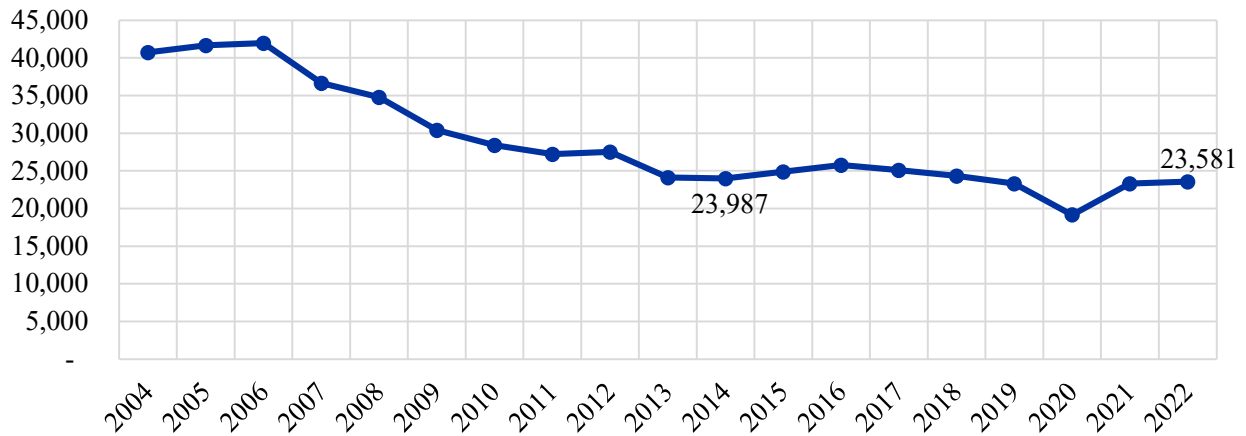


Figure 8: General aviation (itinerant) statistics since 2004



In 2019, GFIA released its 20-year capital investment plan known as “Project Elevate”. This project has designated more than \$500 million in infrastructure investments to improve the guest experience while positioning the airport for continued growth (See section 3.4 for more details).



In March 2023, the Grand Valley Metropolitan Council released its Airport Access Study.¹² This study focused on evaluating potential access paths to GFIA. This study had three phases of public engagement:

1. Phase one survey asked for people’s travel modes to and from GFIA and whether there were any significant issues accessing the airport.
2. Phase two provided opportunities for the public to examine alternative access points to GFIA and further explored the people’s preferences for specific types of airport access improvements.
3. Phase three informed the public on the preferred types of access improvements and future options. The public was asked to prioritize these improvements.

¹² <https://www.gvmc.org/airport-access-study>

The study concluded with six preferred projects and projected timelines:

1. Long-Term: Direct airport access from the I-96/36th Street interchange.
2. Near-Term: Additional freight access off Thornapple River Drive.
3. Near-Term: Safety improvements to the Patterson Avenue/44th Street intersection.
4. Near-Term: Safety improvements to the M-37/Patterson Avenue/60th Street areas.
5. Near-Term: Express bus/shuttle to and from Downtown Grand Rapids.
6. Near-term and long-term: Pedestrian/bike connectivity enhancements.

In October 2023, GFIA was voted the Best Small Airport in the Country by USA TODAY.¹³

The top five winners in the small airport category were:

- **Gerald R. Ford International Airport (GRR)**
- Huntsville International Airport (HSV)
- Wichita Dwight D. Eisenhower National Airport (ICT)
- Myrtle Beach International Airport (MYR)
- Long Island MacArthur Airport (ISP)

2.0 SURVEYING AND DEMOGRAPHICS



To assess the economic impact of GFIA, a survey was conducted on commercial visitors, business tenants, and local businesses. To collect this data, three different surveys were used: the commercial visitor survey, the business tenant survey, and the local business survey.¹⁴

2.1 COMMERCIAL VISITOR SURVEY

The commercial visitor survey collected the data used to estimate the economic impact of visitor spending. The survey was administered on random days from June 2023 to early August 2023 by a Grand Valley State University student research team. Data gathered includes zip code, length of visits, party size, spending patterns, and general demographics. Data from this survey was used to determine visitor origins (local vs. nonlocal), length of visit, and visitor spending.

Respondents had to be 18 years old or older to be included in the survey. During the surveying period, there were 1,964 interview requests with 1,516 surveys completed. This equates to a total response rate of 77%. The sample size exceeds the target (383), thus providing a 95% confidence level and a 5% margin of error. Figures 9 and 10 show the geographic distribution of the survey respondents within the United States and Michigan.

¹³ <https://www.grr.org/news/usa-today-best-small-airport>

¹⁴ Copies of all surveys can be found in Appendix A2: Survey Details.

Figure 9: Zip code distribution for the United States and Mexico

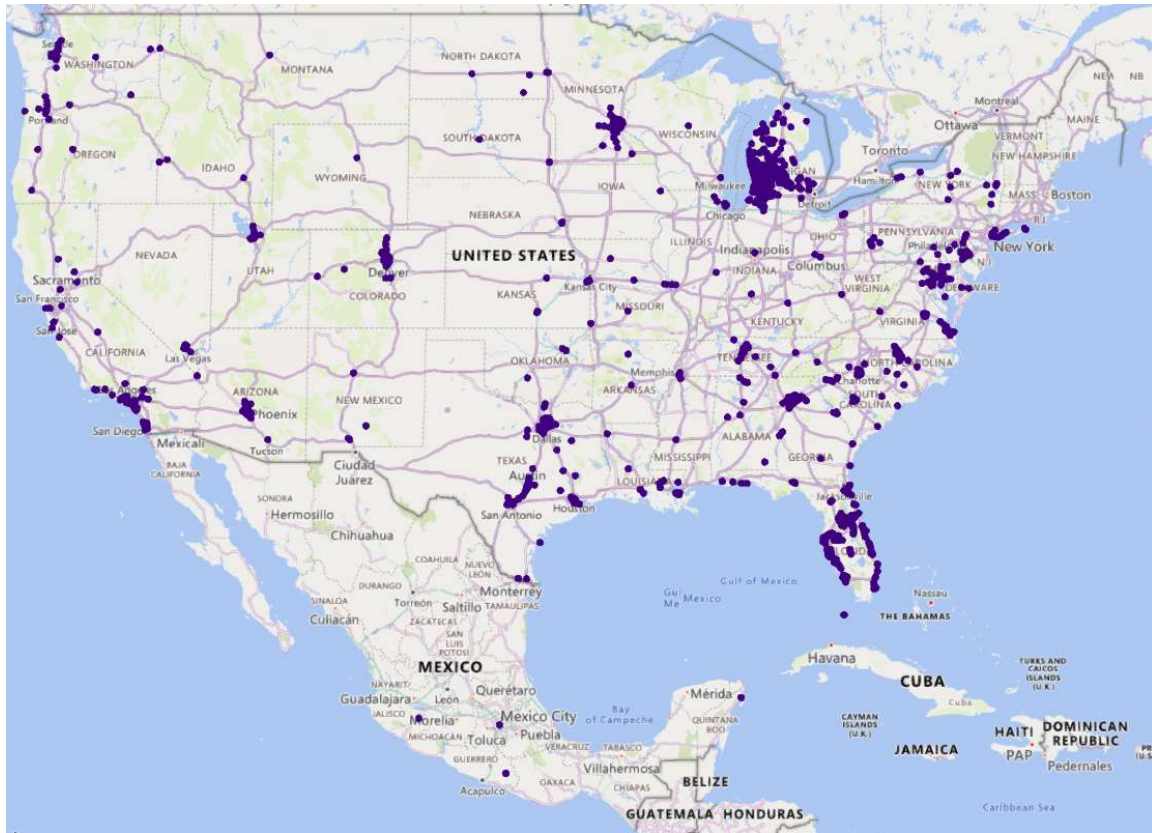
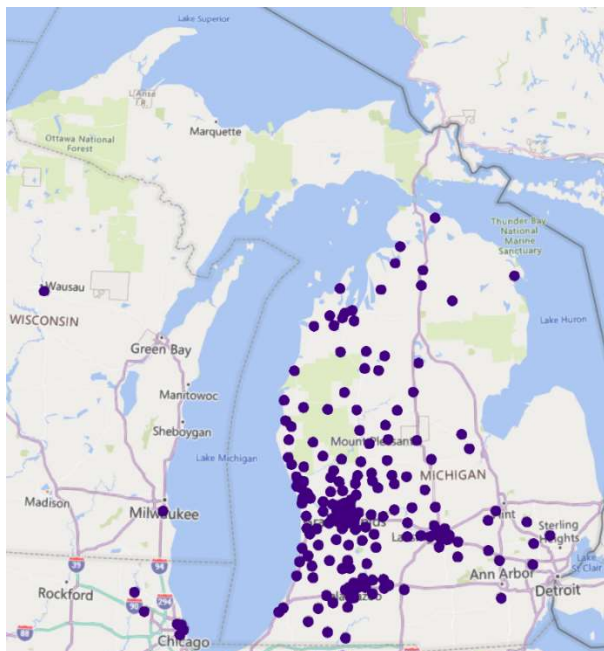
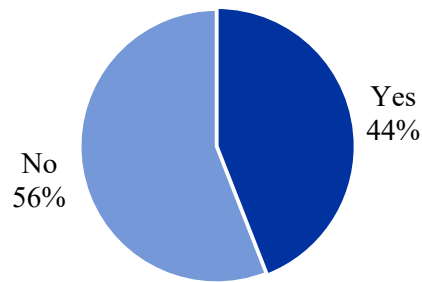


Figure 10: Zip code distribution for the Great Lakes region



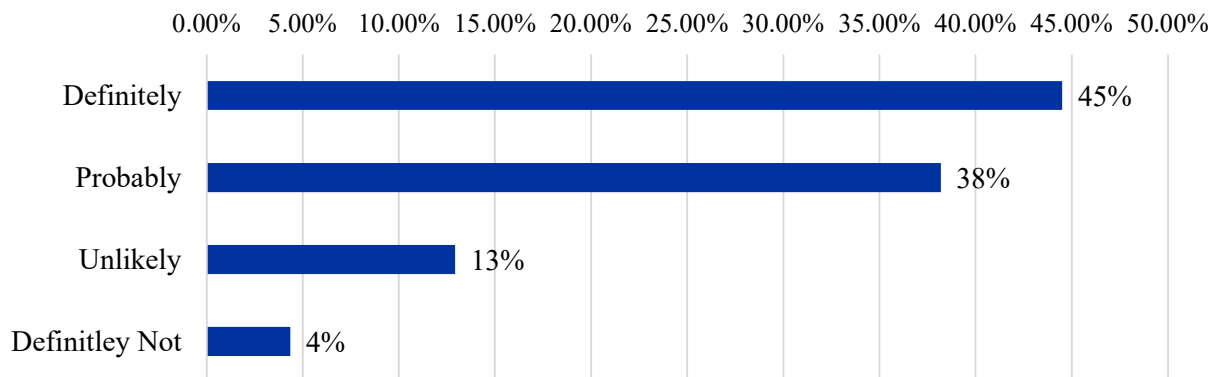
The commercial visitor survey was broken into two parts: local survey and nonlocal survey. Survey respondents were asked if they lived within a one-hour drive of GFIA. Those who answered “yes” completed the local survey, and those who answered “no” were asked to complete the nonlocal survey. Figure 11 shows the breakdown of local vs. nonlocal passengers.

Figure 11: Do you live within a one-hour drive of GFIA?



Those who lived further than a one-hour drive (nonlocal visitors) were asked additional questions on the primary purpose of their visit, length of visit, spending patterns, and general demographics. The figures below present the results of the survey.¹⁵

Figure 12: Would you have chosen to live where you do if the Gerald R. Ford International Airport did not exist? (Local passengers only)



¹⁵ Additional details can be found in Appendix A2: Survey Details.

Figure 13: What was the primary purpose of your visit to this area?

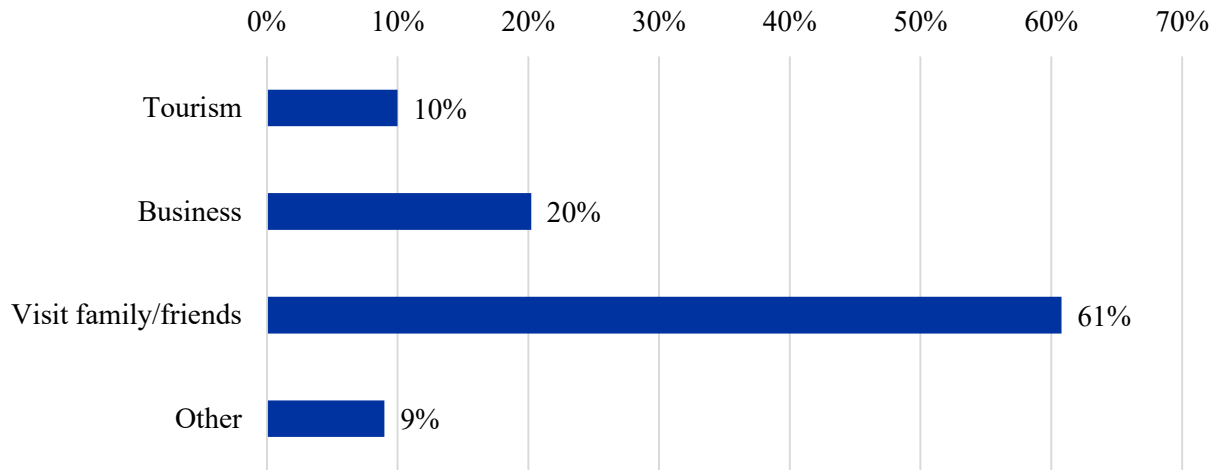


Figure 14: In what area did you stay?

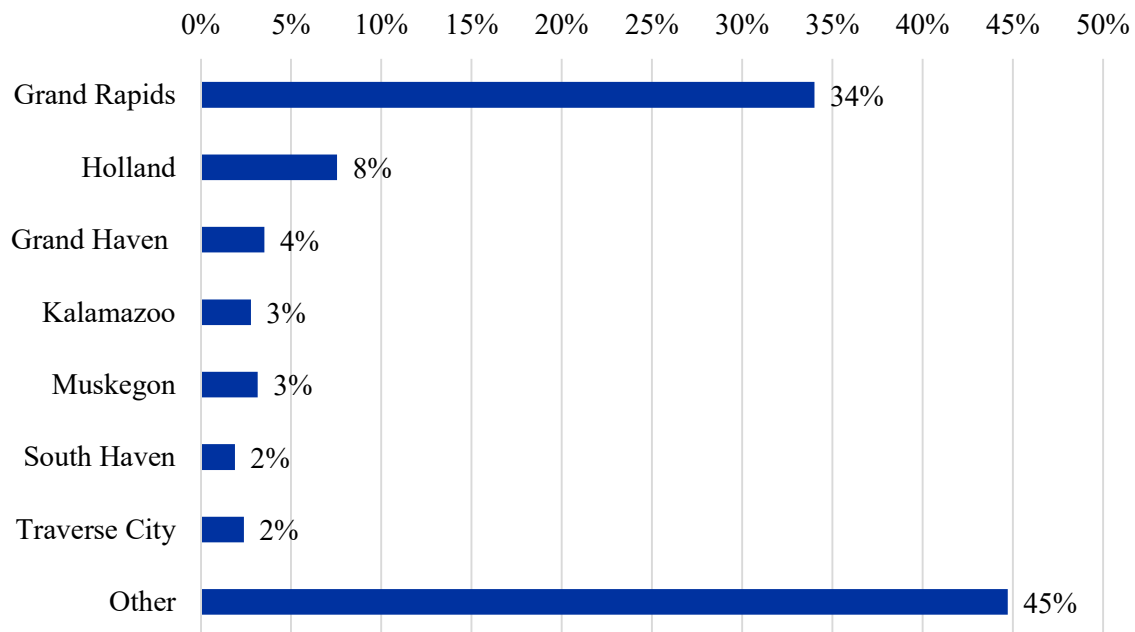


Figure 15: If Gerald R. Ford International Airport did not exist, would you still have made the trip?

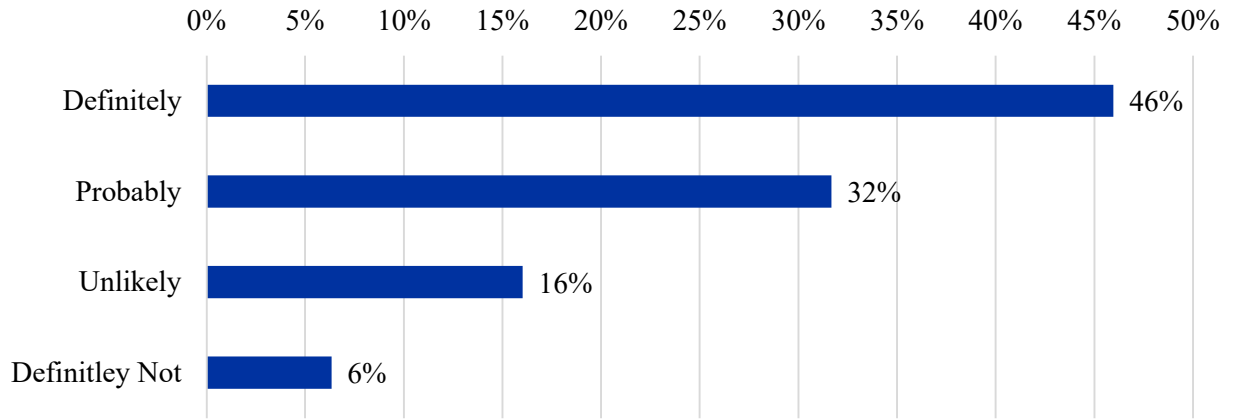
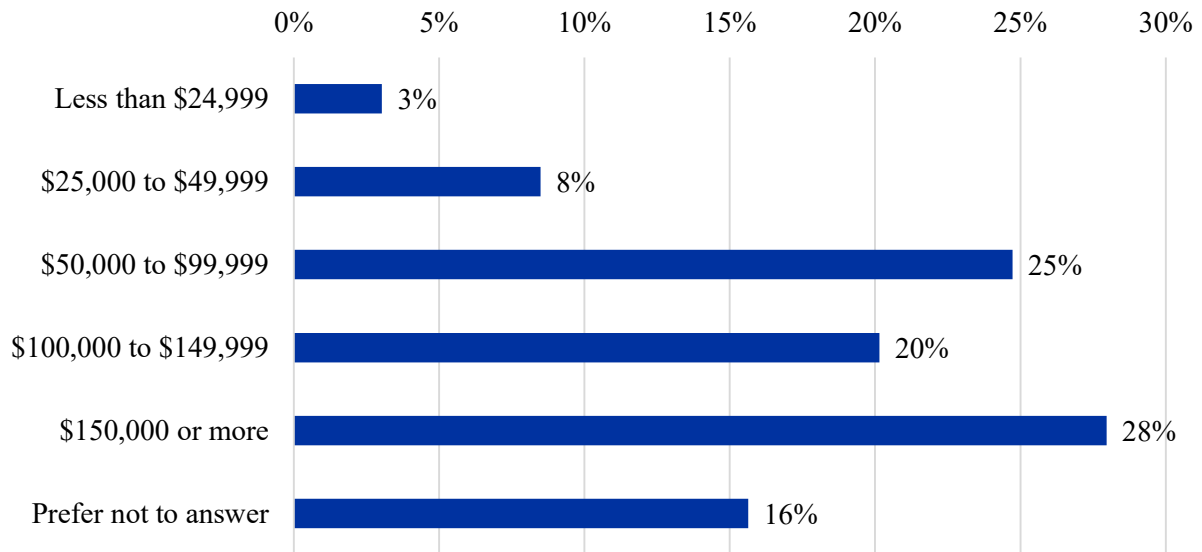


Figure 16: Which category best describes your annual household income before taxes? (Includes local and nonlocal passengers)

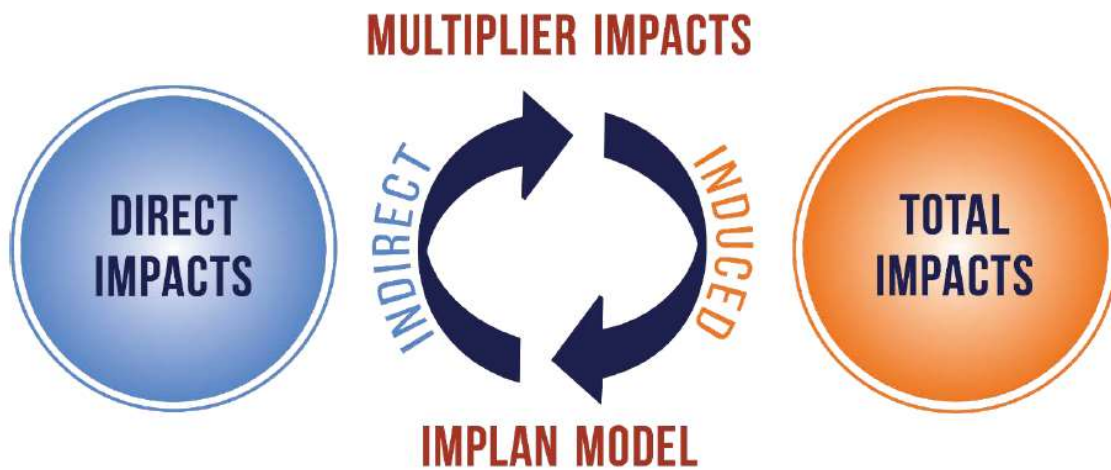
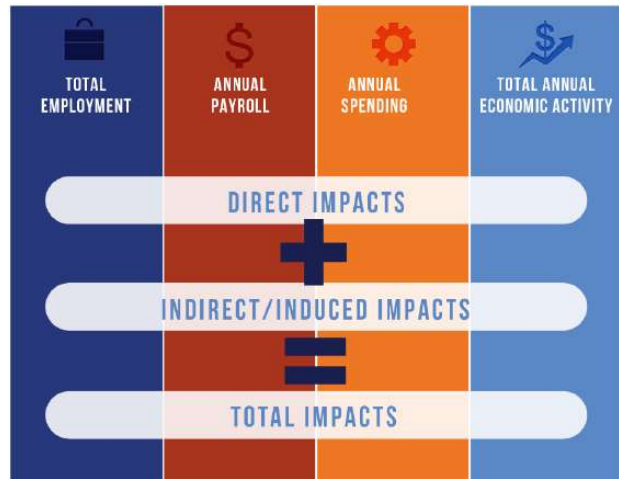


3.0 ECONOMIC IMPACT OF GFIA



The economic impact will be broken into five primary areas: commercial visitors, general aviation visitors, airport operations, capital investment, and business tenants. In addition to the annual economic impacts, this study will also estimate the catalytic effect of the airport on local businesses and household income.

The economic impact starts with direct impacts (direct spending). These direct impacts lead to indirect and induced spending. For example, a visitor to the area purchases from local retail stores (direct spending). These retail stores must then purchase more supplies from local distributors (indirect spending). Retail store owners and employees receive more income from the spending of visitors, and they spend some of that greater income in the local area (induced spending). The dollar amount and effect on employment of indirect and induced spending can be estimated using the IMPLAN economic modeling software.





3.1 THE ECONOMIC IMPACT OF COMMERCIAL VISITORS

The economic impact starts with direct spending. To calculate the direct spending of commercial visitors, one should only consider spending associated with nonlocal visitors. To accomplish this, survey respondents are categorized into two groups:

Local Visitors: Spending by residents is not counted in the economic impact because the spending would have happened regardless of their airport usage. The survey did not collect spending data from local visitors.

For this study, the definition of local visitors will change based on the economic region being discussed (see section 1.4). There are two definitions of a local visitor: A visitor whose primary residence is in Kent County and a visitor whose primary residence is in one of the thirteen counties defined by WMDR.

The survey collected the primary residence zip code from each visitor. These zip codes were used to determine the percentage from Kent County and the percentage from WMDR. Based on this data, it is estimated that 21% of those surveyed were from Kent County and 44.1% were from WMDR (based on Figure 11).

Nonlocal Visitors: Spending by nonlocal visitors is the key driver in economic impact studies. These visitors' primary residence must be outside the defined economic region.

The definition of a nonlocal visitor will change based on the economic region being discussed (see section 1.4). There are two definitions of a nonlocal visitor: A visitor whose primary residence is outside of Kent County and a visitor whose primary residence is outside the thirteen counties defined by WMDR. Based on the zip code data, it is estimated that 79% of those surveyed were from outside Kent County and 55.9% were from outside WMDR.

The visitor survey also asked for the length of their trip. Using this data and the enplaned passenger data from Figure 4, there were 6.0 million visitor days for Kent County and 4.3 million visitor days for WMDR (see Table 1).

Table 1: Total nonlocal visitors and visitor days based on visitor type

	Kent County	WMDR
2022 Total enplaned passengers	1,745,640	1,745,640
% of nonlocal passengers	79%	56%
Total number of nonlocal passengers	1,378,986	976,590
The average number of nights	4.32	4.43
Total number of nonlocal visitor days	5,957,221	4,326,293

Survey respondents were asked how much their party expected to spend on lodging, meals, retail shopping, entertainment, transportation, and other spending. The initial spending by visitors is referred to as ‘direct effect’ or ‘direct spending’. The direct spending is calculated as the product of the visitor per-person/per-day spending and total visitor days. It should be noted that categories that include retail pricing must be adjusted for retail margins. That is, retail prices will include the cost of manufacturing, the majority of which occurs outside the defined economic region. The estimated economic impact of visitor spending should not include these manufacturing costs. The IMPLAN economic modeling will adjust for retail margins, which in defined economic regions are estimated at 38.25% for retail spending and 15.49% for transportation spending.



Based on the survey data, both nonlocal visitor types spent approximately \$161 per person, per day, resulting in direct spending ranging from \$959 million to \$698 million (see Table 2 below).¹⁶

Table 2: Direct spending by nonlocal visitors for each defined economic region

Economic region	Direct spending
Spending from visitors outside Kent County	\$959M
Spending from visitors outside WMDR	\$698M

This direct spending leads to indirect and induced spending. The figures are estimated using the IMPLAN model (see Table 3 and Table 4):

¹⁶ Detailed methodology can be found in Appendix A3: Economic Impact: Commercial Visitors



Table 3: The annual economic impact of nonlocal commercial visitors to **Kent County**

Kent County	Output	Value-Added (GDP)	Earnings	Jobs
Direct Impact (less retail margins)	\$899M	\$513M	\$302M	9,873
Indirect Impact	\$336M	\$172M	\$117M	1,908
Induced Impact	\$256M	\$145M	\$83M	1,441
Total Impact	\$1.5B	\$830M	\$502M	13,222

Table 4: The annual economic impact of nonlocal commercial visitors to **W.MI Econ Develop Region**

WMDR	Output	Value-added (GDP)	Earnings	Jobs
Direct Impact (less retail margins)	\$655M	\$374M	\$220M	6,985
Indirect Impact	\$222M	\$105M	\$71M	1,322
Induced Impact	\$225M	\$124M	\$70M	1,323
Total Impact	\$1.1B	\$604M	\$361M	9,630

The increase in economic activity also produces additional tax revenue at the local, state, and federal levels. The IMPLAN economic model estimates these fiscal impacts. The tax at the county and sub-county levels consists of property taxes. At the state level, most of the tax is sales tax. The tables below are the best representation of “new” tax revenue caused by GFIA commercial passengers.

Table 5: Fiscal impact of nonlocal commercial visitor spending on **Kent County**

	Kent County	Sub-County: Municipalities	Sub-County: Special Districts	Michigan
Direct Impact	\$6,698,596	\$9,048,639	\$22,008,404	\$73,389,353
Indirect Impact	\$692,833	\$1,167,104	\$2,277,734	\$9,228,795
Induced Impact	\$821,281	\$1,231,743	\$2,699,094	\$10,005,971
Total Impact	\$8,212,709	\$11,447,487	\$26,985,232	\$92,624,119

Table 6: Fiscal impact of nonlocal commercial visitor spending on the **W.MI Econ Develop Region**

WMDR	13-Counties	Sub-County: Municipalities	Sub-County: Special Districts	Michigan
Direct Impact	\$5,969,961	\$7,128,999	\$18,065,697	\$53,751,463
Indirect Impact	\$589,724	\$790,525	\$1,785,437	\$6,453,542
Induced Impact	\$930,970	\$1,174,293	\$2,817,842	\$9,335,792
Total Impact	\$7,490,655	\$9,093,817	\$22,668,975	\$69,540,797



3.2 THE ECONOMIC IMPACT OF GENERAL AVIATION VISITORS

No survey data was collected on general aviation (GA) visitors; therefore, the benefit transfer model will be used. This model involves taking existing data or studies conducted in one area and applying the findings to a different area. The benefit transfer model is a useful tool when data collection is impractical or expensive. However, it is important to acknowledge that there are limitations and potential biases associated with benefit transfer, and the results should be interpreted with caution, considering the differences between the study sites and the potential errors in the transfer process.

It should be noted that many GA visitors stay for one day or even only for a few hours. These visitors will have little, if any, spending associated with their visit. In addition, aviation fuel purchases are not included in any spending estimates because fuel purchases are already reflected in business tenant spending (see section 3.5).

GA flights are divided into three categories: local, itinerant, and transient.

- **Local GA flight:** A local flight originates at GFIA. In the context of economic impact, these flights are treated in the same manner as local commercial visitors. That is, any spending by these GA visitors is not included in the economic impact. However, spending associated with flight operations (fuel, etc.) will be captured by the business tenant economic analysis.
- **Itinerant GA flight:** An itinerant GA flight originates at another airport. These flights are visiting GFIA for business or personal reasons. The visit could be for a few hours or a few days. These are considered nonlocal visitors, thus included in the economic impact.
- **Transient GA flight:** A transient GA flight is a subset of itinerant flights. These flights typically involve landing for a brief period, such as for refueling, maintenance, or passenger pick-up. The Airport Operations and Pilots Association (AOPA) states that “on average” 33 percent of an airport’s itinerant arrivals are typically attributable to visiting or transient aircraft.¹⁷ For this analysis, these flights will be considered day visitors.



¹⁷ Page 31. <https://www.dot.ga.gov/InvestSmart/Aviation/EconomicImpactStudy/Technical%20Report.pdf>

The 2022 GFIA aviation statistics show 28,982 general aviation (GA) flights in 2022.¹⁸ As shown in Figure 8, the majority (23,581) of these were itinerant GA visitors. As mentioned above, the AOPA states that “on average” 33 percent of an airport’s itinerant arrivals are typically attributable to visiting or transient aircraft. There were 23,581 itinerant flights in 2022, resulting in 7,782 transient flights. These will be the day visitors. The remaining 15,799 will be considered overnight visitors.

Using the benefit transfer method, there were 2.76 visitors per flight and an average visit length of 2.1 days (overnight visitors only). This results in 43,606 overnight visitors and 21,478 day visitors. Overnight visitors had 91,573 total visitor days. Using this data, the direct spending of GA visitors is estimated at \$34.9 million (see Table 7).¹⁹

Table 7: Direct spending by General Aviation visitors

	Overnight visitors	Day visitors
GA visitors	43,606	21,478
GA visitor days	91,573	21,478
GA transient direct spending	\$32.5M	\$2.4M
Total GA direct spending	\$34.9M	

This direct spending leads to indirect and induced spending. The figures are estimated using the IMPLAN model (see Table 8 and Table 9).

Table 8: Total economic impact of GFIA GA visitors to **Kent County**

Kent County	Output	Value-added (GDP)	Earnings	Jobs
Direct Impact (less retail margins)	\$30.0M	\$17.5M	\$10.1M	328
Indirect Impact	\$11.0M	\$5.6M	\$3.8M	64
Induced Impact	\$8.5M	\$4.8M	\$2.8M	48
Total Impact	\$49.5M	\$28.0M	\$16.7M	439

¹⁸ <https://www.grr.org/history>

¹⁹ Detailed methodology can be found in Appendix A4: Economic Impact: General Aviation Visitors

Table 9: Total economic impact of GFIA GA visitors to **W. MI Econ Develop Region**

WMDR	Output	Value-added (GDP)	Earnings	Jobs
Direct Impact (less retail margins)	\$30.0M	\$17.4M	\$10.2M	328
Indirect Impact	\$10.0M	\$4.8M	\$3.2M	61
Induced Impact	\$10.4M	\$5.7M	\$3.2M	61
Total Impact	\$50.5M	\$27.9M	\$16.6M	450

The increase in economic activity also produces additional tax revenue at the local, state, and federal levels. The IMPLAN economic model estimates these fiscal impacts. The tax at the county and sub-county levels consists of property taxes. At the state level, most of the tax is sales tax. The tables below are the best representation of “new” tax revenue caused by GFIA GA visitors.

Table 10: Fiscal impact of GA spending on **Kent County**

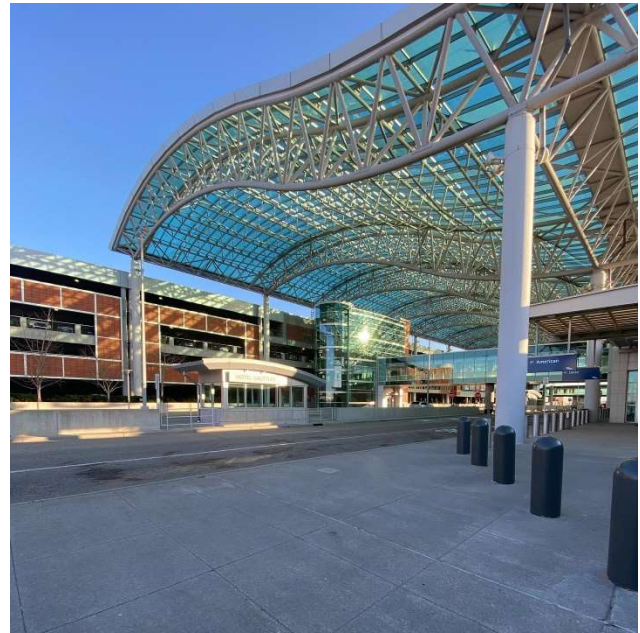
	Kent County	Sub-County: Municipalities	Sub-County: Special Districts	Michigan
Direct Impact	\$245,960	\$329,671	\$808,093	\$2,676,441
Indirect Impact	\$21,804	\$37,095	\$71,686	\$293,273
Induced Impact	\$27,285	\$40,922	\$89,671	\$332,424
Total Impact	\$295,050	\$407,688	\$969,449	\$3,302,138

Table 11: Fiscal impact of GA spending on the **W.MI Econ Develop Region**

WMDR	13-Counties	Sub-County: Municipalities	Sub-County: Special Districts	Michigan
Direct Impact	\$297,124	\$353,608	\$899,114	\$2,657,649
Indirect Impact	\$25,732	\$34,663	\$77,907	\$284,026
Induced Impact	\$42,981	\$54,214	\$130,093	\$431,010
Total Impact	\$365,836	\$442,485	\$1,107,114	\$3,372,686

3.3 THE ECONOMIC IMPACT OF AIRPORT OPERATIONS

GFIA is operated by the Gerald R. Ford International Airport Authority (GFIAA), which consists of a wide range of jobs that are associated with the daily operations of GFIA. The analysis will rely on the financial information and aviation statistics from the last full fiscal year, December 31, 2022. Based on these financials, GFIAA had 116 full-time equivalent jobs, \$14.4 million in salaries and fringes, and spent \$47.1 million operating GFIA,²⁰



The IMPLAN model will use 2022 salaries expenses (with fringe), number of employees, and operating expenses to estimate the economic impact of GFIA operations. These impact figures are presented in Table 12 (Kent County) and Table 13 (13-county region).²¹

Table 12: Total economic impact of GFIA operations on **Kent County**

Kent County	Output	Value-added (GDP)	Earnings	Jobs
Direct Impact (Spending)	\$33.9M	\$16.9M	\$14.4M	116
Indirect Impact	\$11.5M	\$6.6M	\$4.7M	76
Induced Impact	\$11.5M	\$6.5M	\$3.7M	65
Total Impact	\$56.9M	\$30.0M	\$22.9M	259

²⁰ <https://www.grr.org/publications>

²¹ Only locally spent operating expenses were included. Based on other studies, approximately 72% of operating expenses were spent locally for Kent County and 80% of operating expenses were spent locally for the 13-county WMDR.

Table 13: Total economic impact of GFIA operations on **W. MI Econ Develop Region**

WMDR	Output	Value-Added (GDP)	Earnings	Jobs
Direct Impact (operational spending)	\$37.6M	\$17.5M	\$14.4M	116
Indirect Impact	\$11.4M	\$6.2M	\$4.4M	81
Induced Impact	\$14.6M	\$8.0M	\$4.5M	86
Total Impact	\$63.6M	\$31.7M	\$23.3M	283

The increase in economic activity also produces additional tax revenue at the local, state, and federal levels. The IMPLAN economic model estimates these fiscal impacts. The tax at the county and sub-county levels consists of property taxes. At the state level, most of the tax is sales tax. The tables below are the best representation of “new” tax revenue caused by GFIA operational spending.

Table 14: Fiscal impact of GFIA operational spending on **Kent County**

	Kent County	Sub-County: Municipalities	Sub-County: Special Districts	Michigan
Direct Impact	\$119,587	\$183,313	\$393,044	\$1,431,156
Indirect Impact	\$41,921	\$64,302	\$137,779	\$509,083
Induced Impact	\$36,846	\$55,259	\$121,093	\$448,888
Total Impact	\$198,354	\$302,874	\$651,916	\$2,389,127

Table 15: Fiscal impact of GFIA operational spending on the **W.MI Econ Develop Region**

WMDR	13-Counties	Sub-County: Municipalities	Sub-County: Special Districts	Michigan
Direct Impact	\$148,986	\$192,755	\$450,999	\$1,508,313
Indirect Impact	\$51,359	\$65,755	\$155,463	\$516,919
Induced Impact	\$60,192	\$75,924	\$182,189	\$603,597
Total Impact	\$260,537	\$334,434	\$788,651	\$2,628,829

3.4 THE ECONOMIC IMPACT OF CAPITAL INVESTMENTS

In 2019, GFIA released its 20-year capital investment plan known as “Project Elevate”. This project has designated more than \$500 million in infrastructure investments to improve the guest experience while positioning the airport for continued growth. The project includes:

1. A \$110 million expansion to Concourse A (completed in June of 2023). This expansion included eight new gates (a total of 14 gates), expanded gate space to accommodate larger aircraft, new concession and retail space, more seating, and modernized restrooms.
2. The renovation of the existing portion of Concourse A with an expected completion date of 2024.
3. The addition of a federal inspection station (FIS) will enable the airport to offer nonstop international commercial passenger flights. The first phase of this project, which included a new baggage claim area, restrooms, and operations center, was completed in 2021.
4. The relocation of the current air traffic control tower (ATCT) to make way for additional terminal-area developments, such as additional tenant hangars and more parking. The new ATCT location was approved by the FAA in 2021 and is currently in the design phase.
5. A consolidated rental car facility, with an enclosed walkway from the terminal. This project broke ground in May 2023 with an expected completion date in 2025.
6. Expansion of the terminal to accommodate a new checked baggage inspection system, which will decrease processing time while increasing capacity.
7. Additional parking capacity.



Since 2018, GFIA has invested \$205 million into Project Elevate. A summary of major capital investments made in the past five years (2018-2022) are as follows:

Capital Investment Project	Amount
Concourse A expansion	\$52,819,693
Terminal apron reconstruction	\$31,560,180
Terminal apron expansion	\$16,473,550
Federal inspection station	\$9,888,521
Primary communications/emergency operations center	\$8,692,314
Other misc. investment projects	\$85,685,937

Since capital investment changes from year to year, a five-year historical average will be used for this study (2018-2022). This amounts to an average annual construction spending of \$41 million (see Table 16).

Table 16: Direct spending associated with capital investment.

2018 total capital investment	\$32.8M
2019 total capital investment	\$51.3M
2020 total capital investment	\$32.2M
2021 total capital investment	\$17.7M
2022 total capital investment	\$71.1M
Total 5-year capital investment	\$205.1M
Average annual capital investment	\$41M



The IMPLAN model will estimate the economic impact of GFIA's average annual capital investment spending.²² Traditionally, the economic impact of construction spending only occurs during the construction phase of the project. However, since the average annual capital investment was used, this is an average annual economic impact. The impact could fluctuate if the amount of capital investment increases or decreases. The economic impact figures are presented in Table 17 (Kent County) and Table 18 (WMDR).

²² Only locally spent operating expenses were used. Based on other studies, it is estimated that 72% of operating expenses were spent locally for Kent County and 80% of operating expenses were spent locally for the 13-county WMDR.

Table 17: Average annual economic impact of GFIA capital investments in **Kent County**

Kent County	Output	Value-added (GDP)	Earnings	Jobs
Direct Impact (Spending)	\$29.5M	\$16.1M	\$15.6M	225
Indirect Impact	\$8.5M	\$4.5M	\$2.9M	37
Induced Impact	\$11.7M	\$6.7M	\$3.8M	66
Total Impact	\$49.7M	\$27.3M	\$22.3M	328

Table 18: Total economic impact of GFIA capital investments on **W. MI Econ Develop Region**

WMDR	Output	Value-added (GDP)	Earnings	Jobs
Direct Impact (operational spending)	\$32.8M	\$17.3M	\$16.8M	261
Indirect Impact	\$10.0M	\$5.0M	\$3.2M	45
Induced Impact	\$15.5M	\$8.6M	\$4.8M	91
Total Impact	\$58.4M	\$30.9M	\$24.8M	397

The increase in economic activity also produces additional tax revenue at the local, state, and federal levels. The IMPLAN economic model estimates these fiscal impacts. The tax at the county and sub-county levels consists of property taxes. At the state level, most of the tax is sales tax. The tables below are the best representation of “new” tax revenue caused by GFIA capital investment. The negative direct impacts are a result of government subsidies or tax breaks for construction projects.

Table 19: Fiscal impact of GFIA capital investments on **Kent County**

	Kent County	Sub-County: Municipalities	Sub-County: Special Districts	Michigan
Direct Impact	(\$15,850)	\$24,203	(\$51,801)	\$106,254
Indirect Impact	\$23,614	\$36,931	\$77,616	\$295,505
Induced Impact	\$37,554	\$56,327	\$123,420	\$457,580
Total Impact	\$45,318	\$117,461	\$149,235	\$859,339

Table 20: Fiscal impact of GFIA capital investments on the **W.MI Econ Develop Region**

WMDR	13-Counties	Sub-County: Municipalities	Sub-County: Special Districts	Michigan
Direct Impact	(\$21,443)	\$6,184	(\$64,569)	\$179,437
Indirect Impact	\$32,495	\$42,253	\$98,367	\$340,172
Induced Impact	\$64,166	\$80,937	\$194,215	\$643,505
Total Impact	\$75,217	\$129,374	\$228,012	\$1,163,114



3.5 THE ECONOMIC IMPACT OF BUSINESS TENANTS

To determine the economic impact of airport tenants, a brief email survey was developed and administered via Qualtrics. This survey collected information on:

- Number of employees
- Annual payroll expense
- Past and future construction projects
- Dependency on airport

There are approximately 49 tenants at GFIA, and even with repeated follow-up attempts, the response rate was low, with 22 tenants responding to the survey (45% response rate). To supplement the survey response, we collected tenant badge counts for an additional 17 tenants from GFIA. Although not a perfect substitute for survey responses, it will give us some insight into employee counts for non-respondent tenants.

Based on the survey results and badge counts, we estimated that 1,535 workers are employed as a direct result of GFIA. This includes 661 in air transportation, 182 in various government entities (FAA and TSA), and 217 in retail/dining. The tables below show the economic impact and the fiscal impact of this employment on Kent County and WMDR.

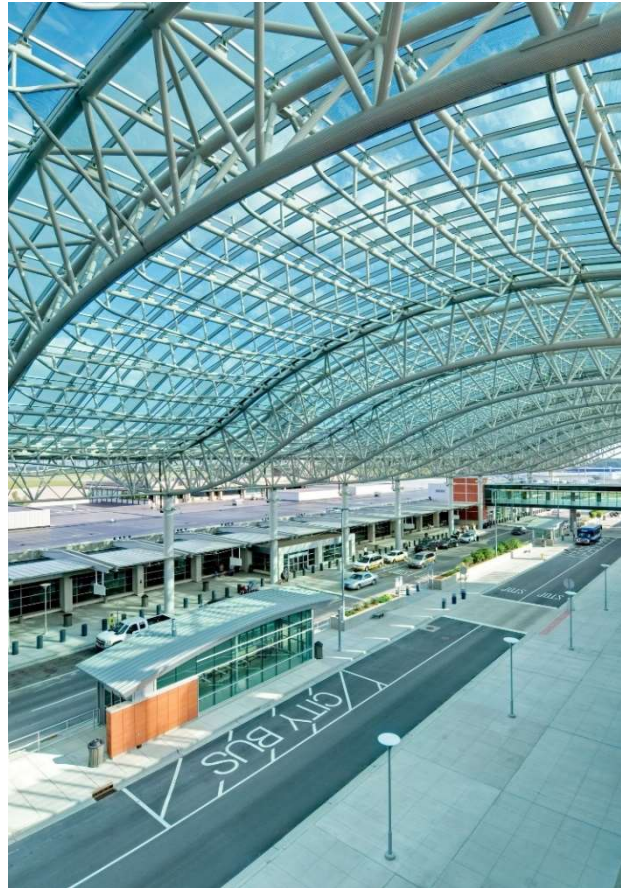


Table 21: Average annual economic impact of GFIA business tenants in Kent County

Kent County	Output	Value-added (GDP)	Earnings	Jobs
Direct Impact	\$350M	\$171M	\$130M	1,535
Indirect Impact	\$103M	\$60M	\$44M	710
Induced Impact	\$109M	\$62M	\$36M	615
Total Impact	\$562M	\$293M	\$209M	2,859

Table 22: Average annual economic impact of GFIA business tenants in **W. MI Econ Develop Region**

WMDR	Output	Value-added (GDP)	Earnings	Jobs
Direct Impact	\$356M	\$177M	\$136M	1,535
Indirect Impact	\$96M	\$53M	\$38M	699
Induced Impact	\$135M	\$74M	\$42M	792
Total Impact	\$587M	\$305M	\$216M	3,026

Table 23: The annual fiscal impact of GFIA business tenants on **Kent County**

Kent County	Kent County	Sub-County: Municipalities	Sub-County: Special Districts	Michigan
Direct Impact	\$928,764	\$2,623,037	\$5,469,999	\$11,768,277
Indirect Impact	\$387,562	\$2,623,037	\$5,469,999	\$4,700,479
Induced Impact	\$347,863	\$2,623,037	\$5,469,999	\$4,242,299
Total Impact	\$1,664,188	\$2,623,037	\$5,469,999	\$20,711,056

Table 24: The annual fiscal impact of GFIA business tenants on the **W. MI Econ Develop Region**

WMDR	13-Counties	Sub-County: Municipalities	Sub-County: Special Districts	Michigan
Direct Impact	\$1,082,412	\$1,460,922	\$3,277,190	\$11,791,239
Indirect Impact	\$446,914	\$572,413	\$1,352,797	\$4,496,251
Induced Impact	\$549,381	\$693,967	\$1,662,866	\$5,524,406
Total Impact	\$2,078,707	\$2,727,302	\$6,292,854	\$21,811,896

The business tenants were also asked about investment projects (capital and construction) over the past year and future investments over the next two years. The tenants invested approximately \$7.4 million in the past year. The resulting economic and fiscal impact from these investments is presented in the tables below. It should be noted, the economic impact of investment spending only occurs during the initial investment in the project. These are not annual impacts; therefore, they are omitted from the overall economic and fiscal impact totals.

Table 25: The economic impact of GFIA business tenant's investments over the past year on Kent County

Kent County	Output	Value-added (GDP)	Earnings	Jobs
Direct Impact	\$7.4M	\$2.5M	\$2.1M	31
Indirect Impact	\$2.9M	\$1.5M	\$915,000	12
Induced Impact	\$1.9M	\$1.1M	\$608,000	11
Total Impact	\$12.2M	\$5.1M	\$3.6M	54

Table 26: The economic impact of GFIA business tenant's investments over the past year on the W. MI Econ Develop Region

WMDR	Output	Value-added (GDP)	Earnings	Jobs
Direct Impact	\$7.4M	\$2.6M	\$2.1M	32
Indirect Impact	\$2.9M	\$1.3M	\$832,000	12
Induced Impact	\$2.3M	\$1.3M	\$715,000	13
Total Impact	\$12.6M	\$5.2M	\$3.7M	58

The tenants indicated that over the next two years, they plan to invest \$11.5 million in the GFIA location. This investment could add \$20M in economic impact and support for 127 jobs in Kent County. Due to the volatility of capital investment spending, these impact figures are not included in the overall totals and are presented for informational purposes only.

3.6 THE ECONOMIC IMPACT OF NON-AIRPORT-DEPENDENT BUSINESSES



Local businesses not directly on airport grounds were surveyed (mail survey) to identify their level of dependence on the airport for business. Kent Communications Incorporated (KCI) conducted the mail survey. Data from this survey was used to estimate the economic activity associated with airport dependency.

The survey was mailed to 1,057, with 50 or more employees in Kent County. From this sample, there was a 10% response rate. To determine if this is a representative sample, key statistics are compared to the overall population of firms in Kent County. Although some industries are over-sampled, the distribution of firms that responded by size, location, and industry matched closely to the results expected from a random draw of firms.

Table 27: Business survey respondents by industry with regional comparison

	Survey Respondents	Kent County
Manufacturing	17%	13%
Retail	11%	8%
Healthcare	11%	13%
Construction	8%	5%
Wholesale Trade	9%	6%
Religious & Other Nonprofits	6%	1%
Education	2%	2%
Professional and Technical Services	17%	17%
Financial & Accounting Services	15%	9%
Accommodation and Food Service	4%	6%

Figure 17: The number of full-time equivalent employees

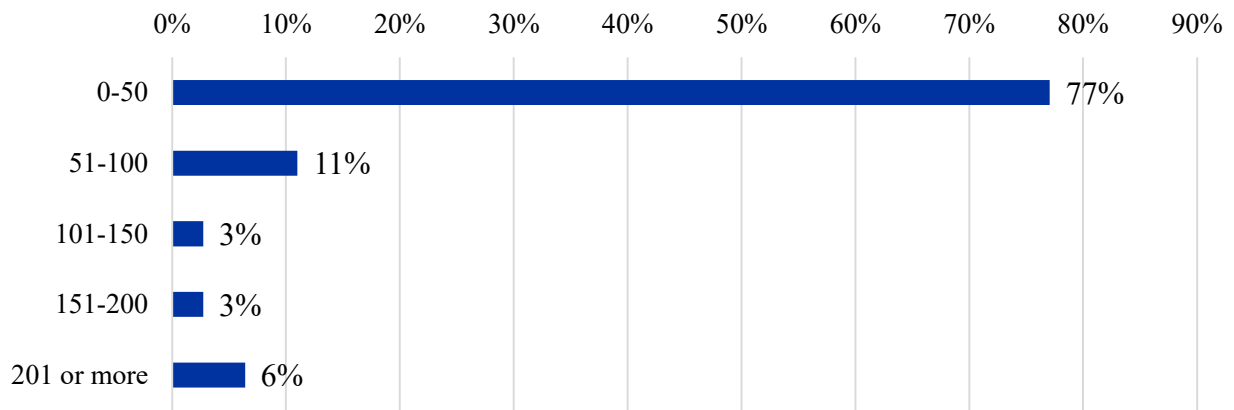
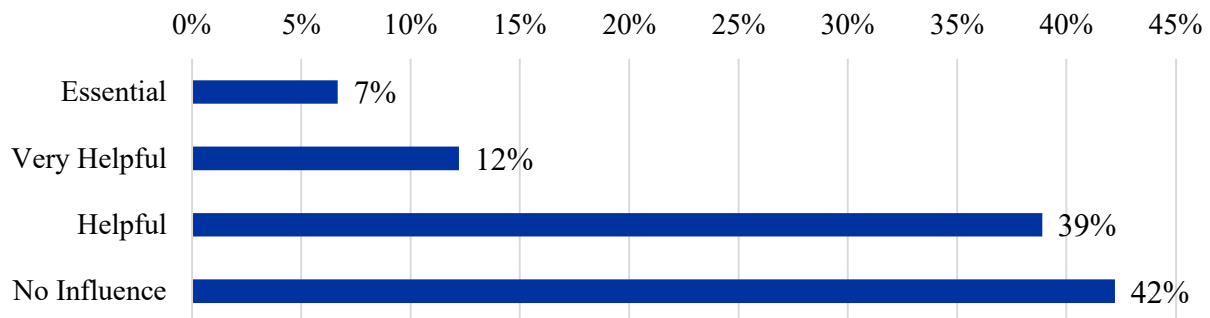


Figure 18: GFIA’s impact on local businesses



As shown in Figure 18, approximately 7% of the non-airport-dependent firms that responded to the survey indicated that GFIA is “essential” to their business, 12% “very helpful”, 39% “helpful”, and 42% “no influence.”

On average, these respondents indicated that 5.4% of their revenue could be attributed to the existence of GFIA. Because the impact of visitors has already been calculated, the responses from arts, entertainment, recreation, accommodation, and food services firms are removed, thereby avoiding double counting. The result is that 5.14% of the revenue from firms that do not have a direct relationship with GFIA can be attributed to the presence of the airport.²³

This percentage should be used with care as it is influenced by non-response bias. In other words, if a firm does not use the airport it is more likely to not fill out a survey about the airport.

²³ Firms with under 50 employees were also removed from the calculations.

Therefore, it is likely that among those who did not respond, there is a higher proportion of firms with none of their revenue attributed to the airport. This implies that 5.14% is too high of an estimate.

A conservative approach to address the non-response bias is to assign 0% to all non-responders and to apply the 5.14% average to only 10% of the businesses in the area. However, this procedure underestimates the effect as it is likely that some firms that did not respond to the survey have positive values for the amount of revenue attributed to the existence of the airport. A solution to this problem is to perform a sensitivity analysis. We will assign 0% to 75%, 50%, and 25% of the non-responses (See Table 28).

Table 28: Response-bias sensitivity analysis

Assumption	% of revenue attributed to GFIA
75% of non-responses at 0%	1.68%
50% of non-responses at 0%	2.83%
25% of non-responses at 0%	3.99%

This report will use the average (2.83%) to estimate the overall economic impact of GFIA. These results are summarized in Table 29 below.

Table 29: GFIA’s impact on non-airport-dependent firms

	Output	Value-added (GDP)	Earnings	Jobs
Kent County	\$3.0B	\$1.6B	\$1.2B	13,775
WMDR	\$5.8B	\$2.8B	\$2.5B	26,538



3.7 THE CATALYTIC IMPACT ON HOUSEHOLD EARNINGS

A catalytic impact refers to a significant and often positive effect that stimulates change, growth, development, or transformation in a particular area. In the given context of an airport, a catalytic impact could mean that the airport plays a vital role in making an area more appealing and economically prosperous, thereby attracting, and retaining residents who contribute to the region's growth and income. The catalytic effect is a way to measure the value to a region of the income of residents who would live elsewhere if it were not for the airport.

Per the commercial visitor survey, 44.06% of respondents indicated they live within an hour's drive of GFIA and, thus are local to the region.²⁴ Approximately 17.3% of the local commercial visitors indicated that they would not live in the region if it were not for GFIA. These same local commercial visitors reported a median income of \$125,000. Using this data, we estimate the catalytic effect of GFIA at \$1.3 billion (See Table 30).

²⁴ The local region is defined as Kent County and WMDR. The catalytic effect does not change.

Table 30: Catalytic effect of GFIA

Total enplaned passengers	1,745,640
Percentage who live within an hour's drive of GFIA	44.06%
Total local commercial visitors	769,129
Percentage of local commercial visitors who would not live in the region if not for GFIA	17.29%
Total locals who would not live here	132,982
Discount factor for repeat travelers ²⁵	80%
Estimated number of residents who would not live in the region if not for GFIA	26,596
Average household size ²⁶	2.58
Estimated number of households	10,309
Median household salary ²⁷	\$125,000
Total catalytic effect	\$1,288,589,160

Care must be taken when using this estimate. The catalytic effect cannot be simply added to the other effects estimated in this study, as it would double count some values. However, this estimate is enlightening as a way of considering the economic potential of individuals drawn to the Grand Rapids area.

3.8 INDUSTRIES BY IMPACT

The IMPLAN economic model can estimate the impact for each industry in the region. The tables below present the top fifteen industries impacted in terms of output and employment. This is based on direct output associated with commercial visitors, general aviation visitors, GFIA operational spending, GFIA investment spending, and GFIA business tenants. The tables represent industries within WMDR. There is no notable change in composition with Kent County.

²⁵ This was taken from the 2015 GFIA economic impact study.

²⁶ Based on data from: <https://www.census.gov/quickfacts/fact/table/kentcountymichigan/PST045222>

²⁷ Taken from commercial visitor survey. Median answer was an income range of \$100,000 to \$150,000. The average value was used in this analysis.

Table 31: Top fifteen industries impacted by GFIA direct output stated as a percentage of indirect/induced **output** and **total output**.

Category	% Of Indirect/Induced Output	% Of Total Output
Lodging and Accommodations	0.00%	17.78%
Air Transportation	0.17%	15.54%
Meals and Dining	7.46%	13.74%
Transportation	0.53%	6.42%
Retail Shopping	6.07%	4.29%
Owner-occupied dwellings ²⁸	6.74%	2.71%
Other real estate	6.53%	2.63%
All Entertainment and Recreation Industries	0.69%	2.21%
Hospitals	4.86%	1.95%
Insurance carriers, except direct life	4.40%	1.77%
Employment services	2.91%	1.17%
Scenic and sightseeing transportation and support activities for transportation	2.14%	1.14%
Electric power transmission and distribution	2.56%	1.03%
Management of companies and enterprises	2.44%	0.98%
Monetary authorities and depository credit intermediation	2.35%	0.94%

²⁸ Owner-occupied dwellings are treated as an industry because homeownership generates wealth (the home can be rented out to others or can save the owner from having to pay rent); this income is counted as part of GDP. This treatment is necessary in order for GDP to be invariant when housing units shift between tenant occupancy and owner occupancy.

Table 32: Top fifteen industries impacted by GFIA direct output stated as a percentage of indirect/induced **employment** and **total employment**.

Category	% Of Indirect/Induced Output	% Of Total Output
Lodging and Accommodations	0.01%	22.6%
Meals and Dining	15.01%	22.2%
Transportation	0.98%	9.5%
Air Transportation	0.07%	5.8%
Retail Shopping	8.66%	5.0%
All Entertainment and Recreation Industries	1.85%	4.8%
Other real estate	5.56%	1.8%
Employment services	5.07%	1.7%
Scenic and sightseeing transportation and support activities for transportation	3.60%	1.5%
Hospitals	4.58%	1.5%
Couriers and messengers	0.89%	1.4%
Services to buildings	2.84%	1.3%
Other educational services	0.76%	0.7%
Management of companies and enterprises	1.90%	0.6%
Offices of physicians	1.81%	0.6%



4.0 CONCLUSION



4.1 CONCLUSION

GFIA has a vital role in facilitating air travel for the West Michigan region. However, that is not the only role GFIA has in the local region. GFIA also contributes to the region's economy by creating economic activity, jobs, and income. This economic activity multiplies within the entire regional economy. This study attempts to estimate this economic impact based on commercial visitors, general aviation visitors, GFIA operations, GFIA capital investments, and GFIA business tenants. The economic impact was estimated using the IMPLAN model. The total annual economic impact of GFIA is presented in Table 33 (Kent County) and Table 34 (WMDR) below.²⁹

²⁹ GFIA capital investments are included in the overall economic impact total because the figures represent a 5-year annual average.

Table 33: The total annual economic impact of GFIA on **Kent County**

Kent County	Output	Value-added (GDP)	Earnings	Jobs
Commercial visitors	\$1.5B	\$830M	\$502M	13,222
General aviation	\$50M	\$28M	\$17M	439
GFIA operations	\$57M	\$30M	\$23M	259
GFIA capital investments	\$50M	\$27M	\$22M	328
GFIA business tenants	\$562M	\$293M	\$209M	2,859
Non-Airport dependent businesses	\$3.0B	\$1.6B	\$1.2B	13,775
Total Impact	\$5.2B	\$2.8B	\$1.9B	30,883

Table 34: The total annual economic impact of GFIA on **W. MI Econ Develop Region**

WMDR	Output	Value-added (GDP)	Earnings	Jobs
Commercial visitors	\$1.1B	\$604M	\$361M	9,630
General aviation	\$51M	\$28M	\$17M	450
GFIA operations	\$64M	\$32M	\$23M	283
GFIA capital investments	\$58M	\$31M	\$25M	397
GFIA business tenants	\$587M	\$305M	\$216M	3,026
Non-Airport dependent businesses	\$5.8B	\$2.8B	\$2.5B	26,538
Total Impact	\$7.7B	\$3.8B	\$3.2B	40,324

It should be noted that the economic impact associated with tenant capital investments was not included in Table 33 and Table 34. The economic impact associated with these investments occurs during the construction phase and, thus are not annual economic impacts. In the past year, the tenant capital investments added \$12.6 million in economic activity and support for 58 jobs in WMDR.

In addition, we also estimated the catalytic effect of GFIA on household income. This household income catalytic effect totals \$1.3B. To avoid double counting, the household catalytic effect is omitted from the overall economic impact total.

The increase in economic activity also produces additional tax revenue at the local and state levels. The IMPLAN economic model estimates a fiscal impact of \$8 million for Kent County and \$10.3 million for WMDR (see Table 35).

Table 35: The annual fiscal impact of GFIA on each economic region.

	Sub-County: Municipalities	Sub-County: Special Districts	County	Michigan
Kent County	\$14,898,546	\$34,225,831	\$10,415,619	\$119,885,779
WMDR	\$12,727,413	\$31,085,606	\$10,270,953	\$98,517,322

As shown in this study, GFIA is far more than a vital transportation resource for the West Michigan region. The airport is also an important catalyst for the regional economy.

4.2 ECONOMIC IMPACT COMPARISON

The tables below present a comparison of GFIA to the 2015 GFIA economic impact study and to other airports similar to GFIA (as measured by total enplanements). Any blank areas in the tables are where detailed data was not available. All data in Table 37 was converted to 2023 dollars. One should use caution when comparing airports as their structure and business practices vary based on the regions they serve. In addition, the methodology for collecting and analyzing data can vary.



Table 36: Comparison to the 2015 GFIA impact study

Total Economic Impact: ³⁰	GFIA 2023 ³¹	GFIA 2015
Direct spending	\$1.0B	\$655M
Economic activity (output)	\$7.5B	\$3.2B
Earnings (payroll)	\$3.1B	\$1.5B
Employment	39,089	40,582
Commercial Visitors		
Direct spending	\$637M	\$418M
Economic activity (output)	\$1.1B	\$651M
Earnings (payroll)	\$355M	\$187M
Employment	9,364	7,541
Capital Investments		
Direct spending	\$30M	\$25M
Output	\$50M	\$46M
Earnings	\$22M	\$11M
Employment	328	271
Business Tenants		
Direct spending	\$350M	\$212M
Output	\$562M	\$371M
Earnings	\$209M	\$103M
Employment	2,859	2,554
Non-Airport Dependent Firms		
Direct spending	NA	NA
Output	\$5.8B	\$2.1B
Earnings	\$2.5B	\$1.2B
Employment	26,538	30,216

³⁰ The total impact figure only includes commercial visitors, capital investments, business tenants, and non-airport dependent firms. The 2015 study did not include airport operations.

³¹ Impact data from WMDR was used for this comparison.

Table 37: Comparison to other airports (all data is in 2023 dollars)

	GFIA ³²	Savannah Hilton Head International	Myrtle Beach International	Long Beach Airport	Tulsa International
Year of Study	2023	2019	2018	2018	2016
BTS Airport Rank ³³	76	75	77	79	82
Enplaned passengers ³⁴	1,745,640	1,723,000	1,702,000	1,594,000	1,444,000
Total Economic Impact					
Direct spending	\$1.1B	\$2.02B	\$2.66B	\$1.93B	\$5.03B
Output	\$7.7B	\$5.11B	\$3.61B	\$3.9B	\$7.5B
Earnings	\$3.2B	\$3.1B	\$946M	\$1.09B	\$2.3B
Employment	40,324	44,786	25,781	16,884	36,531
Commercial Visitors					
Direct spending	\$655M	\$836M	\$2.4B	\$405M	\$603M
Output	\$1.1B	\$1.11B	\$3.3B	\$845M	\$878M
Earnings	\$361M	\$278M	\$837M	\$257M	\$352M
Employment	9,630	8,558	23,474	5,804	9,599
Capital Investments					
Direct spending	\$33M	\$142M		\$23M	\$61M
Output	\$64M	\$176M		\$49M	\$112M
Earnings	\$23M	\$35M		\$16M	\$39M
Employment	283	922		236	707
General Aviation					
Direct spending	\$30M	\$24M			\$29M
Output	\$50M	\$40M			\$44M
Earnings	\$17M	\$16M			\$18M
Employment	450	475			494

³² Impact data from WMDR was used for this comparison.

³³ <https://www.bts.gov/topics/annual-airport-rankings>

³⁴ Enplaned passenger figures are based on the BTS ranking data from 2022.



APPENDIX



A1: IMPLAN ECONOMIC MODEL

DISCLAIMER

IMPLAN is a regional economic analysis software application that is designed to estimate the impact or ripple effect (specifically backward linkages) of a given economic activity within a specific geographic area through the implementation of its Input-Output model. Studies, results, and reports that rely on IMPLAN data or applications are limited by the researcher's assumptions concerning the subject or event being modeled. Studies such as this one are in no way endorsed or verified by IMPLAN Group, LLC unless otherwise stated by a representative of IMPLAN.

IMPLAN provides the estimated Indirect and Induced Effects of the given economic activity as defined by the user's inputs. Some Direct Effects may be estimated by IMPLAN when such information is not specified by the user. While IMPLAN is an excellent tool for its designed purposes, it is the responsibility of analysts using IMPLAN to be sure inputs are defined appropriately and to be aware of the following assumptions within any I-O Model:

- Constant returns to scale
- No supply constraints
- Fixed input structure
- Industry technology assumption
- Constant byproducts coefficients
- The model is static

By design, the following key limitations apply to Input-Output Models such as IMPLAN and should be considered by analysts using the tool:

- **Feasibility:** The assumption that there are no supply constraints and there is a fixed input structure means that even if input resources required are scarce, IMPLAN will assume it will still only require the same portion of production value to acquire that input unless otherwise specified by the user. The assumption of no supply constraints also applies to human resources, so there is assumed to be no constraint on the talent pool from which a business or organization can draw. Analysts should evaluate the logistical feasibility of a business outside of IMPLAN. Similarly, IMPLAN cannot determine whether a given business venture being analyzed will be financially successful.

Backward-linked and Static model: I-O models do not account for forward linkages, nor do I-O models account for offsetting effects such as cannibalization of other existing businesses, diverting funds used for the project from other potential or existing projects, etc. It falls upon the analyst to take such possible countervailing or offsetting effects into account or to note the omission of such possible effects from the analysis.

- **Like the model, prices are also static:** Price changes cannot be modeled in IMPLAN directly; instead, the final demand effects of a price change must be estimated by the analyst before modeling them in IMPLAN to estimate the additional economic impacts of such changes.

DEFINITIONS

The IMPLAN model will report economic impact in four ways:

Output **Gross output** is the total economic activity, including the sum of intermediate inputs and the value they add to the final good or service. The intermediate inputs are the resources used in the production of final goods and services. It should be noted that gross output can be overstated if the intermediate inputs are used multiple times in the production of other goods and services.

Direct output is the same as the direct effect (direct spending). **The indirect output** represents the value of economic activity generated because of direct business-to-business spending. **Induced output** is the total value that all industries take in as a result of household spending.

Labor Income The increase in wages, salaries, and proprietors' income as a result of the initial change in demand (direct effects).

Direct labor income is the total wages, benefits, and payroll taxes associated with the business or organization responsible for the direct effects. **Indirect labor income** represents the amount of compensation that is supported by business-to-business transactions. **Induced labor income** is the value of employee compensation and proprietor income that comes from the household spending of the employees connected to the business/organization and supply chain.

Employment The total number of jobs supported by direct spending or initial change in demand. This measurement does not distinguish between a full-time or part-time employee. It also does not account for employees who moved from one job to another within the defined economic region. Thus it does tend to overstate the number of jobs created.

Direct employment is the jobs supported at the business or organization responsible for the direct effects. **Indirect employment** represents the number of jobs that are supported by business-to-business transactions. **Induced employment** is the number of jobs supported by the household spending generated by the business activity.

Value Added The contribution to the economic region's gross domestic product (GDP).

Direct value added is associated with the business or organization responsible for the direct effects. **Indirect value added** is the specific value generated by the business-to-business transaction as a result of the direct effects. **Induced value added** is the specific value associated with household spending as a result of the direct effects.

INDUSTRY AGGREGATION

Commercial visitors were asked to identify their spending in six basic categories. Each of these categories represents multiple industry classifications within the IMPLAN model. To account for this, the IMPLAN model allows users to combine IMPLAN industry classification so the model matches the data being collected. Table A1-1 on the next page shows this industry aggregation.

Table A1-1: IMPLAN industry aggregation

Visiting spending categories	IMPLAN Industry
Lodging	Hotels and motels, including casino hotels Other accommodations
Meals	Full-service restaurants Limited-service restaurants All other food and drinking places
Retail shopping	Retail-Motor vehicle and parts dealers Retail-Furniture and home furnishings stores Retail – Electronics and appliance stores Retail – Food and beverage stores Retail – Health and personal care stores Retail - Building material and garden equipment and supplies stores Retail - Health and personal care stores Retail - Clothing and clothing accessories stores Retail - Sporting goods, hobby, musical instrument, and bookstores Retail - General merchandise stores Retail - Miscellaneous store retailers Retail - Nonstore retailers
Transportation	Retail-Gasoline stores Transit and ground passenger transportation
Entertainment and Recreation	Performing arts companies Museums, historical sites, zoos, and parks Commercial Sports Except Racing Racing and Track Operation Amusement parks and arcades Gambling industries (except casino hotels) Fitness and recreational sports centers Other amusement and recreation industries Bowling centers

A2: SURVEY DETAILS

COMMERCIAL VISITOR SURVEY



Survey of Visitors to Gerald R. Ford International Airport

1. Zip code of primary residence _____
2. Do you live within one hour's drive from this airport? Yes No (skip to other side)
Yes? – please **only** answer questions 3-5 below
No? – please **only** answer questions 6-13 on the **other side**
3. Would you have chosen to live where you do if the Gerald R. Ford International Airport did not exist?
 Definitely Probably Unlikely Definitely not
4. What is your final destination airport for today's trip? _____
5. Which category best describes your annual household income before taxes? (please check one)
 Less than \$24,999 \$25,000 to \$49,999 \$50,000 to \$99,999
 \$100,000 to \$149,999 \$150,000 or more I prefer not to answer
6. What was the primary purpose of your visit to this area?
 Tourism Business Visit family/friends Other (please specify): _____
7. What is your final destination airport for today's trip? _____
8. In what area did you stay? Grand Rapids Holland Other (please specify): _____
9. How many people are in your party? Adults: _____ Kids (under 18): _____
10. How many nights did you stay? _____
11. Please estimate the total amount your entire party spent on your visit:
Note: please do not include spending inside the airport
Lodging/Accommodations: \$ _____ Meals/Food/Drinks: \$ _____
Retail spending/Shopping: \$ _____ Entertainment/Recreation (golf, concerts, etc.): \$ _____
Ground transportation (rental, gas, Uber, taxi, etc.): \$ _____ Other spending: \$ _____
12. If Gerald R. Ford International Airport did not exist, would you still have made the trip? (please circle one)
 Definitely Probably Unlikely Definitely not
13. Which category best describes your annual household income before taxes? (please check one)
 Less than \$24,999 \$25,000 to \$49,999 \$50,000 to \$99,999
 \$100,000 to \$149,999 \$150,000 or more I prefer not to answer

BUSINESS TENANT SURVEY

The business tenant survey was administered via a Qualtrics email survey. The survey questions were as follows:

1. What is the name of your business?
2. How many employees do you have at your airport location?
3. What is your annual payroll expense (including benefits)?
4. On a scale from 0-10, what influence does the GRR airport have on your decision to establish a presence here?
5. On a scale from 0-10, how important is the GRR airport to your revenue.
6. Approximately what percentage of your business revenue do you attribute to your proximity to the airport?
7. Have you expanded your facilities or invested in capital equipment in the past year? If so, how much?
8. Do you plan to expand your facilities or invest in capital equipment in the next two years? If so, how much?
9. What industry would best classify your establishment?
10. What year did your business open?



LOCAL BUSINESS SURVEY

The local business survey was administered by Kent Communications, Inc. KCI will distribute the survey (see below) to businesses with 50+ employees, and within a 6.5-mile radius of GFIA.



Gerald R. Ford International Airport Survey 2023 Survey of Businesses

1. What is the Zip Code for this business at this location? _____
2. How many full-time (35 hours or more per week) paid employees worked for this business at this location in your last fiscal year? _____
3. How many part-time (less than 35 hours per week) paid employees worked for this business at this location in your last fiscal year? _____
4. Approximately what percentage of the total revenues or sales of this business can be attributed to the availability of air travel at Gerald R. Ford International Airport? _____
5. Was the location of this business chosen because of the Gerald R. Ford International Airport?
Yes _____ No _____
6. Please indicate the category of business done at this location: _____
(for example, motor vehicle manufacturing, construction, real estate, lodging, rail transportation, oil and gas extraction, food services, wholesale trade, machinery manufacturing, retail trade, furniture manufacturing, etc.)
7. Circle one that best describes the Gerald R. Ford International Airport's relationship to this business:
Essential Very helpful Helpful No influence
8. Briefly describe the primary purpose of your business: _____

A3: ECONOMIC IMPACT: COMMERCIAL VISITORS

This section will provide a more detailed methodology of the economic impact of airport visitors. As the reader may recall, the economic impact is based on two geographic regions: Kent County and the 13-county West Michigan Economic Development Region.

ESTIMATING DIRECT SPENDING

As the reader may recall, visitors outside Kent County had 4,218,868 visitor days and visitors outside the 13-county region had 4,688,946 visitor days. The direct spending is calculated as the product of the visitor per-person/per-day spending and total visitor days

Table A3-1: Detailed breakdown of direct spending for visitors outside **Kent County**

Kent County	Per person, per day spending	Total direct spending
Lodging	\$72.82	\$433,804,858
Meals	\$40.14	\$239,122,864
Retail	\$14.16	\$84,354,254
Entertainment	\$7.44	\$44,321,727
Transport	\$24.37	\$145,177,484
Other	\$1.97	\$11,735,726
Total	\$160.90	\$958,516,913

Table A3-2: Detailed breakdown of direct spending for visitors outside the **W.MI Econ Develop Region**

13-county region	Per person, per day spending	Total direct spending
Lodging	\$73.44	\$317,722,971
Meals	\$39.93	\$172,748,886
Retail	\$14.04	\$60,741,156
Entertainment	\$7.33	\$31,711,729
Transport	\$24.63	\$106,556,601
Other	\$1.99	\$8,609,323
Total	\$161.36	\$698,090,666

A4: ECONOMIC IMPACT: GENERAL AVIATION VISITORS

This section will provide a more detailed methodology of the economic impact of general aviation (GA) visitors. As the reader may recall, the economic impact is based on two geographic regions: Kent County and the 13-county West Michigan Economic Development Region.

No survey data was collected on general aviation (GA) visitors; therefore, the benefit transfer model will be used. This model involves taking existing data or studies conducted in one area

and applying the findings to a different area. The benefit transfer model is a useful tool when data collection is impractical or expensive. However, it is important to acknowledge that there are limitations and potential biases associated with benefit transfer, and the results should be interpreted with caution, considering the differences between the study sites and the potential errors in the transfer process.

BENEFIT TRANSFER STUDIES

Multiple studies were used to estimate visitors per flight, days per visit, and spending patterns. A summary is provided in Table A4-1 below. Copies of the study are available upon request.

Table A4-1: Summary of the benefit transfer model

Name and year of study	Data used
South Dakota Aviation Economic Impact Study (2020)	Overnight visitors and visitors per flight.
Oxnard Airport Economic Benefit Analysis (2019)	Overnight visitors, visitors per flight, length of visit, and spending
The Economic Impact of San Jose International Airport (2015)	Length of visit
Economic Impact Study of Long Beach Airport (2019)	Visitors per flight and spending
Economic Impact Study-SW Florida International Airport and Page Field General Aviation Airport (2006)	Visitors per flight

Using the data from the studies above, we can estimate visitors and visitor days.

Table A4-2: Estimating GA visitors and visitor days

GA itinerant flights	23,581	
Transient (day visitors) flights ³⁵	33%	Day visitors
Transient overnight/day flights	15,799	7,782
Average number of visitors per flight	2.76	2.76
Total number of transient visitors	43,606	21,478
The average number of days per visit	2.1	1.0
Total number of visitor days	91,573	21,478

³⁵ As mentioned earlier, the AOPA states that “on average” 33 percent of an airport’s itinerant arrivals are typically attributable to visiting or transient aircraft.

ESTIMATING DIRECT SPENDING

As shown in Table A4-2, there were 91,573 overnight visitor days and 21,478 day visitors. Using spending data from the studies in Table A4-1, we can estimate the direct spending associated with GA visitors. The direct spending is calculated as the product of the visitor per-person/per-day spending and total visitor days. All benefit transfer figures were adjusted for inflation. California spending figures were also adjusted for cost-of-living differences.

Table A4-3: Detailed breakdown of direct spending by GA overnight and day visitors

	Per person, per day spending: Overnight	Per person, per day spending: Day	Overnight visitor direct spending	Day visitor's direct spending
Lodging	\$161.12	\$0.00	\$14,754,435	\$0
Meals	\$46.45	\$29.97	\$4,253,176	\$643,683
Retail	\$52.52	\$12.49	\$4,808,933	\$268,255
Entertainment	\$48.19	\$2.50	\$4,412,563	\$53,694
Transport	\$29.75	\$9.99	\$2,724,033	\$214,561
Other	\$17.40	\$54.95	\$1,593,526	\$1,180,193
Total	\$355.42	\$109.90	\$32,546,667	\$2,360,385

A5: ECONOMIC REGION DATA

Table A5-1: Kent County regional data

Based on 2021 data	
Population	658,046
Households	257,860
Gross Domestic Product	\$50.9B
Total employment	486,085
Total personal income	\$40.7B

Table A5-2: Top 15 industries ranked by employment: **Kent County**

Based on 2021 data	% of total employment
Employment services	7%
Hospitals	7%
Other real estate	3%
Full-service restaurants	3%
Employment and payroll of local govt, education	2%
Offices of physicians	2%
Limited-service restaurants	2%
Retail - General merchandise stores	2%
Nursing and community care facilities	2%
Insurance carriers, except direct life	1%
Truck transportation	1%
Management of companies and enterprises	1%
Wholesale - Other durable goods merchant wholesalers	1%
Automotive repair and maintenance, except car washes	1%
Monetary authorities and depository credit intermediation	1%

Table A5-2: Top 15 industries ranked by contribution to GDP: **Kent County**

Based on 2021 data	% of local GDP
Hospitals	6%
Owner-occupied dwellings	6%
Employment services	4%
Insurance carriers, except direct life	3%
Offices of physicians	3%
Tenant-occupied housing	3%
Other real estate	2%
Wholesale - Other durable goods merchant wholesalers	2%
Employment and payroll of local govt, education	2%
Monetary authorities and depository credit intermediation	2%
Soap and other detergent manufacturing	2%
Retail - Nonstore retailers	2%
Management of companies and enterprises	2%
Wholesale - Other nondurable goods merchant wholesalers	1%

Table A5-3: W. MI Econ Develop Region economic data.

Based on 2021 data

Population	1,634,011
Households	639,503
Gross Domestic Product	\$92.4B
Total employment	936,463
Total personal income	\$89.7B

Table A5-4: Top 15 industries ranked by employment: W. MI Econ Develop Region

Based on 2021 data

	% of total employment
Employment services	8%
Hospitals	8%
Employment and payroll of local govt, education	8%
Other real estate	5%
Limited-service restaurants	5%
Full-service restaurants	4%
Employment and payroll of local govt, other services	4%
Retail - General merchandise stores	4%
Offices of physicians	3%
Truck transportation	3%
Nursing and community care facilities	3%
Employment and payroll of state govt, other services	2%
Automotive repair and maintenance, except car washes	2%
Construction of new single-family residential structures	2%
All other food and drinking places	2%



Table A5-5: Top 15 industries ranked by contribution to GDP: **W. MI Econ Develop Region**

Based on 2021 data	% of local GDP
Owner-occupied dwellings	13%
Hospitals	7%
Employment and payroll of local govt, education	6%
Employment services	4%
Other real estate	3%
Offices of physicians	3%
Insurance carriers, except direct life	3%
Tenant-occupied housing	3%
Wholesale - Other durable goods merchant wholesalers	3%
Employment and payroll of local govt, other services	3%
Monetary authorities and depository credit intermediation	3%
Employment and payroll of state govt, other services	2%
Truck transportation	2%
Retail - Nonstore retailers	2%
Soap and other detergent manufacturing	2%

PHOTO CREDITS

Unless noted below, all photos were taken from the GFIA website or social media accounts.

Page #	Source
4	https://www.airport-technology.com/projects/gerald-r-ford-international-airport-grand-rapids/
6	https://www.greshamsmith.com/project/gerald-r-ford-international-airport-parking-garage-grr/
7	www.nbaa.org
25	https://www.greshamsmith.com/project/gerald-r-ford-international-airport-parking-garage-grr/
30	https://www.pioneerinc.com/project-archive/amway-aviation-hangar/
37	Mlive.com
39	https://www.greshamsmith.com/project/gerald-r-ford-international-airport-parking-garage-grr/
40	https://www.greshamsmith.com/project/gerald-r-ford-international-airport-parking-garage-grr/

