

The Economic Impact of Toledo's Airports

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On Behalf of: **The Toledo-Lucas County Port Authority**



Table of Contents

Introduction & Methodology	1
The Economic Impact of Eugene F. Kranz Toledo Express Airport (TOL)	6
The Economic Impact of Toledo Executive Airport (TDZ)	11
The Cost of Leakage to Detroit Metropolitan Wayne County Airport (DTW)	15
The Economic Impact of New Air Service at TOL	17
Conclusions	20
Appendix A: Infographics	22
Appendix B: Eugene F. Kranz Toledo Express Airport Passenger Survey	29
Appendix C: Airport Tenant Survey	32

All photos courtesy of Toledo-Lucas County Port Authority

Executive Summary

Introduction

The Center for Regional Development (CRD) at Bowling Green State University (BGSU) was retained by the Toledo-Lucas County Port Authority (TLCPA) to conduct an economic impact analysis of Eugene F. Kranz Toledo Express Airport (TOL) and Toledo Executive Airport (TDZ). Additionally, CRD performed an analysis that examined the economic impact of passengers from the Toledo region who choose to drive to fly (known as leakage) from Detroit Metropolitan Wayne County Airport (DTW). Finally, CRD also performed an economic impact analysis on two new flight scenarios: a 4x weekly flight on an ultra-low-cost carrier (ULCC) and 2x daily service on a network carrier. In addition to this final report, CRD produced infographics for each portion of the analysis and a ESRI ArcGIS Story Map that makes the results of this report available in a more visually appealing format.

The Economic Impact of Eugene F. Kranz Toledo Express Airport (TOL)



The Eugene F. Kranz Toledo Express Airport (TOL) is a vital public asset that serves as an economic engine for Northwest Ohio. TOL is more than an airport—it is a vital economic asset that supports a diverse array of economic activity in the region. Owned by the City

of Toledo and operated by the Toledo Lucas County Port Authority (TLCPA), TOL connects Northwest Ohio to the air transportation network by providing commercial air service on American Airlines and Allegiant Air and general aviation services, supports the national defense mission by serving as home to the 180th Fighter Wing of the Ohio Air National Guard, serves as a vital cargo hub that connects goods to the region's robust advanced manufacturing industry, and is home to a diverse set of employers that generate significant employment, payroll, and economic output in Northwest Ohio.

ES Table 1: Overall Economic Impact of Eugene F. Kranz Toledo Express Airport (TOL)

OVERALL	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	2,140	\$129,214,345	\$458,618,726
INDIRECT	204	\$13,160,095	\$34,041,261
INDUCED	594	\$29,969,089	\$88,867,835
TOTAL	2,938	\$172,343,529	\$581,527,822

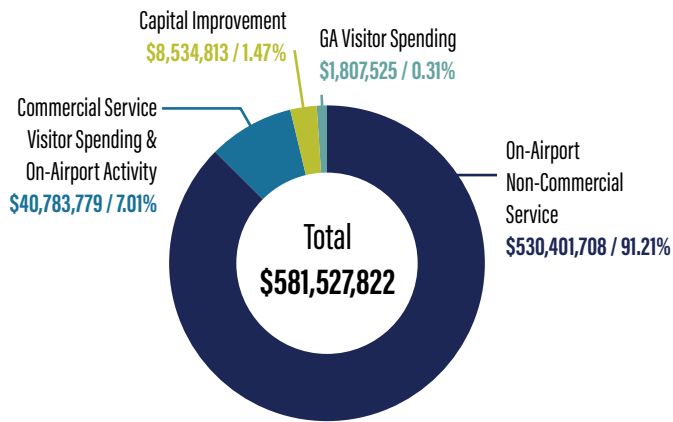
Source: CRD Calculations Using IMPLAN

In 2021, TOL supported a total of 2,938 jobs, \$172.3 million in payroll, and \$581.5 million in economic output (ES Table 1). Activities at TOL directly supported 2,140 jobs, over \$129 million in payroll and \$458.6 million in economic output in the Toledo region. Indirect impacts from business-to-business purchases supported an additional 204 jobs, \$13.1 million in payroll, and \$34 million in economic output. Spending of wages by employees at TOL supported another 594 jobs, approximately \$30 million in payroll and over \$88.8 million in economic output.

Executive Summary Figure 1 highlights the composition of the total

economic impact of TOL in 2021. On-airport businesses not related to commercial air service contributed over \$530 million, or 91.21% of the total economic impact of TOL. Commercial air service-related visitor spending and on-airport employment contributed over \$40 million, or around 7% of the total economic impact at TOL. Impacts related to capital improvements contributed an additional \$8.5 million or 1.47% while general aviation visitor spending contributed an additional \$1.8 million, or 0.31%.

ES Figure 1: Composition of TOL Economic Impact



Source: CRD Calculations. Numbers may not sum due to rounding.

The Economic Impact of Toledo Executive Airport (TDZ)



Located in Wood County, Toledo Executive Airport (TDZ) provides important aviation capacity to northwest Ohio that results in significant economic impacts to the region. Opened in 1928 as the Transcontinental Airport of Toledo, Incorporated, TDZ was the first

airport to serve the Toledo metro area. TDZ is classified by the Federal Aviation Administration (FAA) as a local general aviation airport that serves corporate aviation, premium air freight services, law enforcement, flight training, and privately owned aircraft. In 2021, TDZ supported a total of 44 jobs, \$3.04 million in payroll, and \$6.68 million in economic output (ES Table 2). Activities at TDZ directly supported 26 jobs, over \$2.06 million in payroll and \$3.93 million in economic output in the Toledo region. Indirect impacts from business-to-business purchases supported an additional 7 jobs, \$443,000 in payroll, and \$1.15 million in economic output. Spending of wages by employees at TDZ supported another 11 jobs, approximately \$541,000 in payroll and over \$1.6 million in economic output.

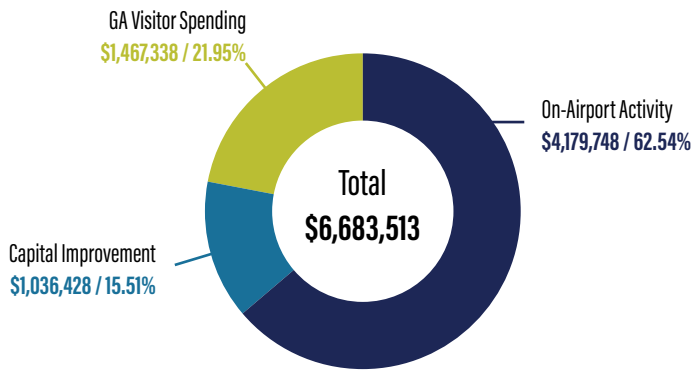
ES Table 2: Overall Economic Impact of Toledo Executive Airport (TDZ)

OVERALL	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	26	\$2,058,655	\$3,926,126
INDIRECT	7	\$443,244	\$1,152,378
INDUCED	11	\$541,351	\$1,605,009
TOTAL	44	\$3,043,251	\$6,683,513

Source: CRD Calculations Using IMPLAN

Executive Summary Figure 2 highlights the composition of the total economic impact of TDZ in 2021. On-airport businesses contributed over \$4 million, or 62.54% of the total impact. Impacts related to capital improvements contributed an additional \$1 million or 15.51% while general aviation visitor spending contributed an additional \$1.46 million, or 21.95%.

ES Figure 2: Composition of TDZ Economic Impact

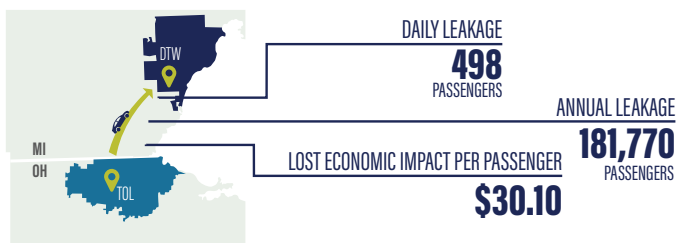


Source: CRD Calculations. Numbers may not sum due to rounding.

The Cost of Leakage to Detroit Metropolitan Wayne County Airport (DTW)

Each year, the Toledo region loses significant economic and fiscal impacts as people from the area drive to Detroit Metropolitan Wayne County Airport (DTW) for flights. According to a 2018 leakage study from Ailevon Pacific Aviation Consulting (APAC), a total of 498 people per day, or 181,770 people per year leave the Toledo primary and secondary catchment areas to fly from DTW. In addition to the inconvenience and lost time driving to DTW, the money spent on parking, concessions, and retail while at DTW is money that is being transferred from the economy of northwest Ohio to the Detroit metro area and the State of Michigan.

ES Figure 3: Daily and Annual Leakage from Toledo Primary Catchment Area to DTW



Source: Ailevon Pacific Aviation Consulting (2018)

Over \$3.2 million in direct economic output to northwest Ohio is lost each year as residents of the region drive to Michigan to fly from DTW (ES Table 3). This \$3.2 million in direct economic output includes \$1.65 million in payroll, representing 55 jobs that are not realized in the region. In addition, lost business to business purchases cost the Toledo region another \$960,000 in economic impact including \$339,000 in payroll, representing 6 jobs. Lost spending from employee wages results in another \$1.2 million in lost economic output, including \$432 in payroll, representing 9 jobs. In sum, leakage from northwest Ohio to DTW results in a loss of \$5.4 million in economic output, or \$30.10 per passenger, \$2.4 million in payroll, and 70 jobs.

ES Table 3: Annual Cost of Leakage to DTW

LEAKAGE IMPACT BY ECONOMIC INDICATORS	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	55	\$1,659,848	\$3,226,216
INDIRECT	6	\$339,406	\$964,119
INDUCED	9	\$432,336	\$1,281,820
TOTAL	70	\$2,431,589	\$5,472,155

Source: CRD Calculations Using IMPLAN

The Economic Impact of New Air Service at TOL

Each new commercial airline flight provides additional marginal benefits to the community through the added employment at the airport to service the flights as well as additional visitor spending in the region. The economic impact of new air service depends upon several factors including the frequency of the service, the size of the aircraft serving the flight, the percentage of travelers who are true visitors to the region, and the number of new employees hired by the airline to service the new flight. This analysis examines the economic impact generated by new twice daily air service on a

network carrier and four times weekly service on an ultra-low-cost carrier (ULCC) at Toledo Express Airport.

New twice daily service on a network carrier would support an additional 115 employees, over \$7 million in payroll, and over \$13 million in economic output (ES Table 4). The new flight would directly support 79 new employees, \$5.1 million in payroll, and \$7.6 million in economic output. Business to business purchases support an additional 11 employees, \$680,000 in payroll, and \$1.7 million in value added. The spending of wages by employees supports an additional 25 employees, \$1.2 million in payroll, and \$3.7 million in economic output.

ES Table 4: Economic Impact of New Network Carrier Service at TOL

ECONOMIC IMPACTS	EMPLOYMENT	LABOR INCOME	OUTPUT
DIRECT	79	\$5,145,415	\$7,683,117
INDIRECT	11	\$680,412	\$1,721,793
INDUCED	25	\$1,260,286	\$3,736,646
TOTAL	115	\$7,086,113	\$13,321,556

Source: CRD Calculations Using IMPLAN

Four flights a week on an ultra-low-cost carrier (ULCC) would support an additional 73 employees, over \$5.2 million in payroll, and over \$9 million in economic output (ES Table 5). The new flight would directly support 48 new employees, \$3.9 million in payroll, and \$5.3 million in economic output. Business to business purchases support an additional 6 employees, \$400,000 in payroll, and approximately \$1 million in economic output. The spending of wages by employees supports an additional 19 employees, \$935,000 in payroll, and \$2.7 million in economic output.

ES Table 5: Economic Impact of New Ultra-Low-Cost Carrier Service at TOL

ECONOMIC IMPACTS	EMPLOYMENT	LABOR INCOME	OUTPUT
DIRECT	48	\$3,906,249	\$5,304,076
INDIRECT	6	\$400,677	\$966,267
INDUCED	19	\$935,492	\$2,773,606
TOTAL	73	\$5,242,418	\$9,043,949

Source: CRD Calculations Using IMPLAN

Introduction & Methodology

Introduction



The Center for Regional Development (CRD) at Bowling Green State University (BGSU) was retained by the Toledo-Lucas County Port Authority (TLCPA) to conduct an economic impact analysis of Eugene F. Kranz Toledo Express Airport (TOL) and Toledo Executive Airport (TDZ). Additionally, CRD performed an analysis that examined the economic impact of passengers from the Toledo region who choose to drive to fly (known as leakage) from Detroit Metropolitan Wayne County Airport (DTW). Finally, CRD also performed an economic impact analysis on two new flight scenarios: a 4x weekly flight on an ultra-low-cost carrier (ULCC) and 2x daily service on a network carrier. In addition to this final report, CRD produced infographics for each portion of the analysis and a ESRI ArcGIS Story Map that makes the results of this report available in a more visually appealing format.

Methodology

A Primer on IMPLAN

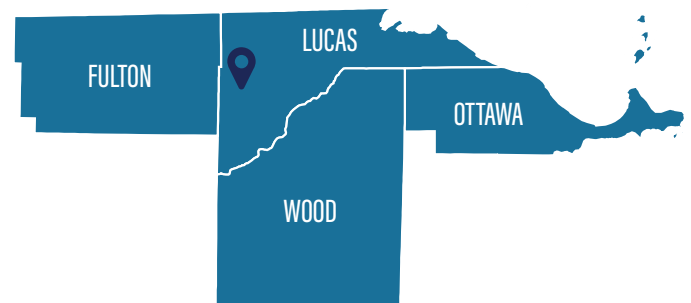
First developed in 1976 by the U.S. Forest Service (USFS), IMPLAN or impact analysis for planning, is an expanded input-output (I-O)

model that allows users to examine the relationships between industries in a geographic location. Using data from a variety of government data sources, IMPLAN is rooted in a social account matrix (SAM) model that contains 546 industries and allows users to examine how the injection of a dollar in an industry flow throughout a state, regional, or local economy. The IMPLAN model allows users to estimate the impact of these changes in demand in terms of employment, employee compensation (payroll), value added, and economic output. In addition, IMPLAN can estimate the entire economic contribution of one or multiple industries to a state, regional, or local economy in a year. Finally, IMPLAN allows users to estimate the tax revenue associated with an industry in a regional economy.

Year of Dollar and Geography

For this project, CRD used IMPLAN data from 2020. All results are presented in 2022 dollars. The geography used for this study is the Toledo metropolitan statistical area (MSA), which includes Lucas, Ottawa, Wood, and Fulton counties.

Figure 1: Toledo metropolitan statistical area (MSA)



Estimating the Economic Impact of an Airport

An airport is a complex organization that has significant impacts well beyond its runways and taxiways. In addition to the staff that keep the airport operational, airports are responsible for significant

economic impacts through large capital improvement projects for infrastructure and the visitor spending they facilitate as a point of entry to the local community. Figure 1 outlines the categories of economic impacts that will be examined in this study as well as the outputs that will be estimated. The three categories of airport economic impacts that will be assessed in this study are:

- **On-Airport Impacts:** includes the employment, payroll, and economic output tied to the operational activity of the airport and its related businesses. Examples include airport administration, airline personnel, airline support staff, air traffic control, fixed based operators (FBOs), flight schools, corporate flight departments, cargo-related activities, and employers located on airport property.
- **Capital Improvement Impacts:** includes planned or ongoing public or private capital improvements to airport infrastructure including taxiways, runways, equipment, and hangars.
- **Visitor Spending Impacts:** includes spending by out-of-town visitors who use TOL or TDZ as their point of entry to the community on either commercial airlines or private jets. Examples of impacts include spending on items such as lodging, ground transportation (off-airport), entertainment, and food and beverage.

This report will analyze and estimate four outputs using the IMPLAN model:

- **Employment (Jobs):** the number of employees that have jobs supported by airport or related operations.
- **Labor Income (Payroll):** the annual wages, salaries, and benefits associated with the jobs supported by the airport.
- **Economic Output:** the economic activity generated by the airport and associated activity. Economic output includes spending of businesses such as ground-handling services, food vendors, airport management, operations staff, and

government organizations. Capital expenditures of these businesses and government organizations are included. Visitor purchases are included as off-airport direct spending (visitor purchases made at the airport are included as on-airport economic output).

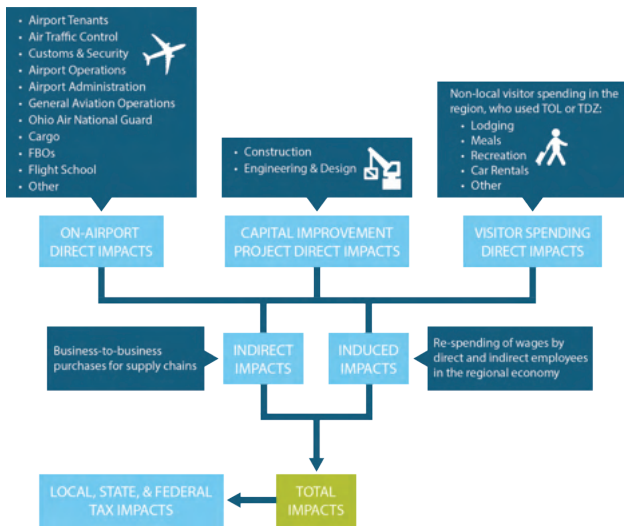
- **Tax revenue:** the estimated local, county and state tax revenue supported by airport and airport-related activities including sales tax, property tax, excise tax, and other taxes. Importantly, economic output includes all value added, payroll, and tax impacts and should not be added to any other metric.

Figure 2 outlines the types of impacts that will be estimated in this study. In addition to the direct employment, payroll, economic output, and tax-revenue produced by on-airport, capital infrastructure, and visitor spending impacts at TOL and TDZ, the airport also supports significant indirect and induced impacts as the dollars spent as a direct result of the airport and airport-related businesses are recirculated in the local economy through intermediate purchases or the spending of employee wages. These recirculated dollars, known generally as multiplier effects, will be reported in two main categories in this analysis:

- **Indirect impacts** occur when businesses spend their revenue on business expenses such as payroll or equipment. For example, if an FBO purchases fuel from a local distributor (the direct output), and the distributor purchases new equipment such as hoses, that additional purchase is an indirect impact. Additionally, if a local hotel (where visitors from a flight stay in the region) purchases food and drink for its bar, those expenses are indirect economic output.
- **Induced impacts** occur when employees spend their earnings on good and services in the local economy. For example, if an airport employee spends a portion of their wages on retail, restaurants, or professional services, those are included as

induced impacts.

Figure 2: TOL/TDZ Economic Impact Analysis Framework



Finally, IMPLAN generates an estimate of local, regional, state, and federal tax revenue associated with the economic impact or contribution within the study area. Importantly, the IMPLAN estimates of tax revenue are not based on specific rates within localities but are instead derived from statewide tax revenue data that is then allocated by county and industry. Therefore, the IMPLAN tax estimates are meant to give a general picture of the impact or contribution of an industry on local, regional, and state tax revenues.

Data Included in the Analysis

On-Airport Impacts

To estimate the on-airport impacts of TOL and TDZ, CRD staff worked with officials at the Toledo Lucas County Port Authority (TLCPA) to develop a list of all tenants who operate on TLCPA property at TOL and TDZ. Using this list, CRD distributed an electronic Qualtrics survey to all tenants asking them to identify the number of employees and associated payroll with their on-airport operations. Total payroll numbers were used to estimate employment and

economic output when provided by tenants. In cases where tenants only provided number of full and part time employees, CRD estimated total payroll by using the average annual wage for employees in Lucas County from Chmura JobsEQ for the associated industry multiplied by the number of full-time equivalents (FTE). In cases where tenants did not respond, CRD relied on estimates from a variety of sources including D&B Hoovers to estimate the number of employees and then estimate total payroll using the average annual wage for employees in Lucas County from Chmura JobsEQ for the associated industry multiplied by the number of FTEs.

Capital Improvement Impacts

CRD estimated the economic impact of capital improvement projects at TOL and TDZ using capital expenditure data from 2017-2021 provided by TLCPA. The data contained both airport improvement program (AIP)-funded projects as well as those projects that were non-AIP eligible and being funded solely by TLCPA. Because of the fluctuations in capital spending at airports and the multi-year nature of many projects, CRD used a 5-year average of capital spending at both TOL and TDZ. CRD assigned each project to an IMPLAN industry code based on the nature of the project. For construction projects without design and engineering listed, CRD assumed a 90/10 split.

Table 1: 5-Year Average of Capital Improvement Projects at TOL and TDZ

CAPITAL IMPROVEMENT IMPACTS	FIVE-YEAR AVERAGE OF AIP PROJECTS	FIVE-YEAR AVERAGE OF NON-AIP PROJECTS
TOL	\$3,657,206	\$1,473,910
TDZ	\$390,951	\$221,255

Source: Toledo-Lucas County Port Authority

Commercial Service Visitor Spending Impacts

CRD developed a passenger survey to estimate the amount of money visitors to the Toledo region spend on lodging, food and

beverage, ground transportation, entertainment, and retail. CRD staff and graduate students implemented the survey on December 17, 2021, and January 13, 2022, to a random sample of passengers in the holding areas for both American Airlines and Allegiant while waiting for their flights. A total of 154 passenger surveys were collected with 117 being from local passengers taking their outbound flight and 37 visitors to the region who were taking their inbound or return flight. While air service data was collected from all passengers, visitor spending data was collected from the 37 passengers who were visitors to the region.

The table below highlights the results of the passenger survey. The average visitor using TOL spends \$74.68 per trip on lodging, \$18.51 per trip on entertainment, \$14.89 per trip on off-site rental cars, \$3.49 on taxis or other ride share services, \$84.15 on food and beverage, \$46.70 on retail, and \$7.81 on fuel. This results in a total spend of \$250.23 per trip per passenger.

Table 2: Average Visitor Spending Per Passenger Per Trip at TOL

VISITOR SPENDING IMPACTS	LODGING	ENTERTAINMENT	RENTAL CAR	TAXI/UBER	FOOD/BEVERAGE	RETAIL	FUEL	TOTAL
IN DOLLARS	\$74.68	\$18.51	\$14.89	\$3.49	\$84.15	\$46.70	\$7.81	\$250.23
PERCENTAGE	29.84%	7.40%	5.95%	1.40%	33.63%	18.66%	3.12%	

Source: CRD Passenger Survey

To estimate the annual number of visitors who use TOL, CRD used the total number of enplanements for calendar year 2021 provided by TLCPA (79,944) multiplied by the estimated percentage of visitors derived from Airline Data Inc. (35%) to arrive at the number of estimated annual visitors who use TOL (27,980). Next, CRD multiplied the total number of visitors (27,980) by the estimated visitor spending for each category to arrive at the total visitor spending in each category.

Table 3: 2021 Estimated Commercial Service Visitor Spending by Category at TOL

VISITOR SPENDING IMPACTS	LODGING	ENTERTAINMENT	RENTAL CAR	TAXI/UBER	FOOD/BEVERAGE	RETAIL	FUEL	TOTAL
PER PASSANGER PER TRIP	\$74.68	\$18.51	\$14.89	\$3.49	\$84.15	\$46.70	\$7.81	\$250.23
TOTAL VISITOR SPENDING	\$2,089,600	\$517,935	\$416,729	\$97,634	\$2,354,521	\$1,306,744	\$218,485	\$7,001,649

Source: CRD Passenger Survey

Finally, CRD took the broad categories of visitor spending and sectorized each into IMPLAN categories using the percentage of spending that takes place throughout the economy. For example, for lodging, IMPLAN has two industry codes that cover most lodging: 507 Hotels and motels, including casino hotels and 508 Other Accommodation. To allocate the \$2,089,600 in annual visitor spending on lodging between these two categories, CRD used the percentage of total spending in the Toledo MSA on these two industries provided by IMPLAN. According to IMPLAN, 72.93% of spending occurred in industry code 507 while 27.07% of spending occurred in industry sector 508. CRD then multiplied the total lodging amount by these percentages to derive the total direct spending in each industry to input into the IMPLAN model. A similar procedure was used for retail spending, entertainment spending, and food and beverage spending.

General Aviation Visitor Spending Impacts

To estimate visitor spending associated with passengers who use general aviation (GA) at either TOL or TDZ, CRD used a procedure like that used by CDM Smith in the 2014 Ohio Focus Study. Specifically, CRD first identified the 2021 GA itinerant operations for both TOL and TDZ. Next, to estimate itinerant arrivals, CRD multiplied the GA itinerant operations by 50% to isolate itinerant arrivals. Like the CDM Smith study, CRD multiplied GA itinerant arrivals by 33% to estimate true transient arrivals, or those from outside of the Toledo MSA. Additionally, CRD used the 3.6 visitors per arrival estimate used by CDM Smith to estimate total GA visitors. Finally, to estimate total GA visitor spending, CRD inflated the 2014 visitor spending per person per trip for GA visitors used by CDM Smith of \$115 to 2021 dollars (\$144). CRD then allocated the visitor spending of GA passengers using the same percentages identified in the survey of commercial passengers.

Table 4: General Aviation Visitors at TOL and TDZ

VISITOR SPENDING IMPACTS	TOL	TDZ
GA ITINERANT OPERATIONS (2021)	15,398	12,500
GA ITINERANT ARRIVALS	7,699	6,250
TRUE TRANSIENT ARRIVALS	2,541	2,063
VISITORS PER ARRIVAL	3.6	3.6
TOTAL GA VISITORS	9,146	7,425

Source: FAA TAF and Ohio Focus Study-CDM Smith (2014)

Eugene F. Kranz Toledo Express Airport

Introduction

The Eugene F. Kranz Toledo Express Airport (TOL) is a vital public asset that serves as an economic engine for Northwest Ohio. TOL is more than an airport-it is a vital economic asset that supports a diverse array of economic activity in the region. Owned by the City of Toledo and operated by the Toledo Lucas County Port Authority (TLCPA), TOL connects Northwest Ohio to the air transportation network by providing commercial air service on American Airlines and Allegiant Air and general aviation services, supports the national defense mission by serving as home to the 180th Fighter Wing of the Ohio Air National Guard, serves as a vital cargo hub that connects goods to the region’s robust advanced manufacturing industry, and is home to a diverse set of employers that generate significant employment, payroll, and economic output in Northwest Ohio.

TOL is classified by the Federal Aviation Administration (FAA) as a non-hub airport with 79,944 enplanements in 2021. The airport covers 2,345 acres and has a 10,600 X 150 ft. primary runway and a 5,599 X 150 ft. secondary runway. The passenger terminal has a total of nine gates, TSA security, and two baggage carousels. The airport is home to 61 based aircraft including 27 single engine aircraft, 21 military aircraft, 14 multi engine aircraft, 17 jet aircraft, and three helicopters¹. The airport has a robust network of fixed-based operators (FBOs), hangars and cargo facilities to support general aviation and cargo operations.

Total Impacts



TOL is a vital employment and economic driver in Northwest Ohio. In 2021, TOL supported a total of 2,938 jobs, \$172.3 million in payroll, and \$581.5 million in economic output. Activities at TOL directly supported 2,140 jobs, over \$129 million in payroll and \$458.6 million in economic output in the Toledo region. Indirect impacts from business-to-business purchases supported an additional 204 jobs, \$13.1 million in payroll, and \$34 million in economic output. Spending of wages by employees at TOL supported another 594 jobs, approximately \$30 million in payroll and over \$88.8 million in economic output.

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INDUCED	594	\$29,969,089	\$88,867,835
TOTAL	2,938	\$172,343,529	\$581,527,822

Source: CRD Calculations Using IMPLAN

¹ FAA Airport Master Record for TOL (Form 5010). Updated 4/21/2022

In addition to employment, TOL generates significant tax revenues across northwest Ohio. In 2021, TOL generated over \$2.75 million in municipal tax revenue, \$2.36 million in municipal special district tax revenue, \$1.12 million in county tax revenue, and \$6.42 million in state tax revenue.

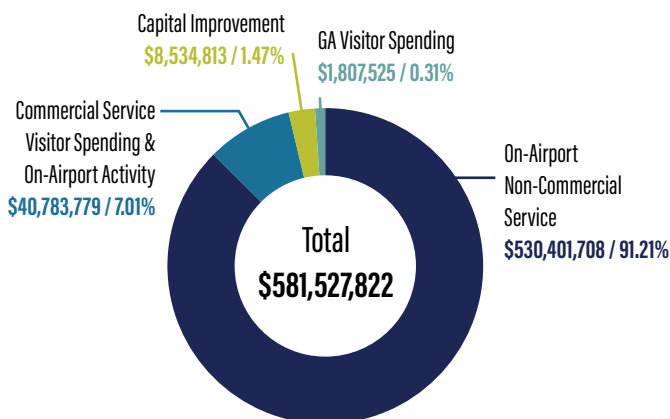
Table 6: Overall Tax Impacts of Eugene F. Kranz Toledo Express Airport (TOL)

TAX	SUB COUNTY GENERAL	SPECIAL DISTRICTS	COUNTY	STATE
DIRECT	\$1,880,152	\$560,335	\$234,961	\$2,901,777
INDIRECT	\$207,070	\$320,231	\$155,883	\$714,540
INDUCED	\$671,048	\$1,485,387	\$735,675	\$2,811,467
TOTAL	\$2,758,269	\$2,365,953	\$1,126,519	\$6,427,784

Source: CRD Calculations Using IMPLAN

Figure 3 highlights the composition of the total economic impact of TOL in 2021. On-airport businesses not related to commercial air service contributed over \$530 million, or 91.21% of the total economic impact at TOL. Commercial air service-related visitor spending and on-airport employment contributed over \$40 million, or around 7% of the total economic impact at TOL. Impacts related to capital improvements contributed an additional \$8.5 million or 1.47% while general aviation visitor spending contributed an additional \$1.8 million, or 0.31%.

Figure 3: Composition of TOL Economic Impact



Source: CRD Calculations. Numbers may not sum due to rounding.

On-Airport Impacts

On-Airport activities includes the employment, payroll, and economic output tied to the operational activity of the airport and its related businesses. Examples include airport administration, airline personnel, airline support staff, air traffic control, fixed based operators (FBOs), flight schools, corporate flight departments, cargo-related activities, and employers located on airport property.

On-airport activities at TOL supported a total of 2,772 jobs, \$165 million in payroll, and \$561.5 million in economic output. On airport activities at TOL directly supported 2,026 jobs, over \$124.7 million in payroll and \$446.7 million in economic output in the Toledo region. Indirect impacts from business-to-business purchases supported an additional 177 jobs, \$11.6 million in payroll, and \$29.7 million in economic output. Spending of wages by on-airport employees at TOL supported another 569 jobs, approximately \$28.6 million in payroll and over \$85 million in economic output.

Table 7: On-Airport Impacts of Eugene F. Kranz Toledo Express Airport (TOL)

ON-AIRPORT	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	2,026	\$124,762,089	\$446,776,111
INDIRECT	177	\$11,606,872	\$29,728,805
INDUCED	569	\$28,688,857	\$85,071,720
TOTAL	2,772	\$165,057,818	\$561,576,636

Source: CRD Calculations Using IMPLAN

In addition to employment, on-airport activity at TOL generates significant tax revenues across northwest Ohio. In 2021, on-airport activities at TOL generated over \$2.63 million in municipal tax revenue, \$2.12 million in municipal special district tax revenue, \$1 million in county tax revenue, and \$5.93 million in state tax revenue.

Table 8: On-Airport Tax Impacts of Eugene F. Kranz Toledo Express Airport (TOL)

ON-AIRPORT TAX	SUB COUNTY GENERAL	SPECIAL DISTRICTS	COUNTY	STATE
DIRECT	\$1,817,454	\$467,732	\$189,991	\$2,686,652
INDIRECT	\$171,130	\$236,380	\$114,315	\$557,809
INDUCED	\$642,387	\$1,421,954	\$704,259	\$2,691,399
TOTAL	\$2,630,971	\$2,126,066	\$1,008,565	\$5,935,860

Source: CRD Calculations Using IMPLAN



Commercial-Service Visitor Spending Impacts



Commercial-service visitor spending includes spending by out-of-town visitors who use TOL as their point of entry to the community on commercial airlines such as American Airlines and Allegiant Air. Examples of impacts include spending on items such as lodging, ground transportation (off-airport), entertainment, and food and beverage.

Commercial-service visitor spending generated at TOL supported a total of 101 jobs, \$3.65 million in payroll, and \$9.6 million in economic output. Commercial-service visitor spending directly supported 76 jobs, over \$2.3 million in payroll and \$5.7 million in economic output in the Toledo region. Indirect impacts from business-to-business purchases supported an additional 12 jobs, ~\$700,000 in payroll, and \$1.9 million in economic output. Induced impacts because of the spending of wages by TOL employees supported another 13 jobs, over \$600,000 in payroll and approximately \$1.9 million in economic output.

Table 9: Commercial Service Visitor Spending Impacts at TOL

COMMERCIAL SERVICE SPENDING	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	76	\$2,316,196	\$5,787,061
INDIRECT	12	\$697,676	\$1,926,447
INDUCED	13	\$639,195	\$1,895,340
TOTAL	101	\$3,653,067	\$9,608,848

Source: CRD Calculations Using IMPLAN

In addition to employment, commercial-service visitor spending at TOL generates significant tax revenues across northwest Ohio. In 2021, commercial-service visitor spending at TOL generated over \$87,000 in municipal tax revenue, \$220,000 in municipal special district tax revenue, \$109,000 in county tax revenue, and \$404,000 in state tax revenue.

Table 10: Commercial Service Visitor Spending Tax Impacts at TOL

COMMERCIAL SERVICE SPENDING TAX	SUB COUNTY GENERAL	SPECIAL DISTRICTS	COUNTY	STATE
DIRECT	\$61,846	\$169,739	\$84,558	\$302,845
INDIRECT	\$11,696	\$19,335	\$9,449	\$41,588
INDUCED	\$14,310	\$31,672	\$15,686	\$59,950
TOTAL	\$87,852	\$220,746	\$109,693	\$404,383

Source: CRD Calculations Using IMPLAN

General Aviation Visitor Spending Impacts



General aviation (GA) visitor spending includes spending by out-of-town visitors who use TOL as their point of entry to the community on private aircraft and use one of the airport's FBOs. Examples of impacts include spending on items such as lodging, ground transportation (off-airport), entertainment, and food and beverage.

GA visitor spending generated at TOL supported a total of 14 jobs, over \$687,000 in payroll, and \$1.8 million in economic output. GA visitor spending directly supported 14 jobs, over \$435,000 in payroll and over \$1 million in economic output in the Toledo region. Indirect impacts from business-to-business purchases supported an additional 2 jobs, ~\$131,000 in payroll, and over \$362,000 in economic output. Induced impacts because of the spending of wages by TOL employees supported another 2 jobs, over \$120,000 in payroll and approximately \$356,000 in economic output.

Table 11: General Aviation Visitor Spending Impact at TOL

GA VISITOR SPENDING	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	14	\$435,701	\$1,088,607
INDIRECT	2	\$131,240	\$362,385
INDUCED	2	\$120,239	\$356,533
TOTAL	19	\$687,180	\$1,807,525

Source: CRD Calculations Using IMPLAN

In addition to employment, general aviation visitor spending at TOL generates significant tax revenues across northwest Ohio. In 2021, general aviation visitor spending at TOL generated over \$16,000 in municipal tax revenue, \$41,000 in municipal special district tax revenue, \$20,000 in county tax revenue, and \$76,000 in state tax revenue.

Table 12: General Aviation Visitor Spending Tax Impact at TOL

GA VISITOR SPENDING TAX	SUB COUNTY GENERAL	SPECIAL DISTRICTS	COUNTY	STATE
DIRECT	\$11,634	\$31,930	\$15,906	\$56,968
INDIRECT	\$2,200	\$3,637	\$1,778	\$7,823
INDUCED	\$2,692	\$5,958	\$2,951	\$11,277
TOTAL	\$16,526	\$41,525	\$20,635	\$76,068

Source: CRD Calculations Using IMPLAN

Capital Improvement Impacts

Capital Improvement impacts includes planned or ongoing public or private capital improvements to airport infrastructure including taxiways, runways, equipment, and hangars.

Capital improvement spending at TOL supported a total of 46 annual jobs, over \$2.9 million in payroll, and \$8.5 million in economic output. Capital improvement spending directly supported 23 jobs, over \$1.7 million in payroll and approximately \$5 million in economic output in the Toledo region. Indirect impacts from business-to-business purchases supported an additional 12 jobs,

~\$724,000 in payroll, and over \$2 million in economic output.

Induced impacts because of the spending of wages by TOL employees supported another 10 jobs, over \$520,000 in payroll and approximately \$1.5 million in economic output.

Table 13: Capital Improvement Impacts at TOL

CAPITAL IMPROVEMENT	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	24	\$1,700,360	\$4,966,948
INDIRECT	12	\$724,307	\$2,023,624
INDUCED	10	\$520,798	\$1,544,241
TOTAL	46	\$2,945,464	\$8,534,813

Source: CRD Calculations Using IMPLAN



Toledo Executive Airport



Introduction

Located in Wood County, Toledo Executive Airport (TDZ) provides important aviation capacity to northwest Ohio that results in significant economic impacts to the region. Opened in 1928 as the Transcontinental Airport of Toledo, Incorporated, TDZ was the first airport to serve the Toledo metro area. TDZ is classified by the Federal Aviation Administration (FAA) as a local general aviation airport that serves corporate aviation, premium air freight services, law enforcement, flight training, and privately owned aircraft.

The airport covers 450 acres and has a 5,829 X 100 ft. primary runway and a 3,799 X 75ft. secondary runway. The airport is home to 43 based aircraft including 36 single engine aircraft, 6 multi engine aircraft, and 1 jet aircraft. According to the FAA, in 2021, the airport had over 90,000 total operations. The airport is served by Crow Executive Air, Inc., which serves as the fixed-based operator (FBO) providing fuel and maintenance services.

Total Impacts

In 2021, TDZ supported a total of 44 jobs, \$3.04 million in payroll, and \$6.68 million in economic output. Activities at TDZ directly supported 26 jobs, over \$2.06 million in payroll and \$3.93 million in economic output in the Toledo region. Indirect impacts from

business-to-business purchases supported an additional 7 jobs, \$443,000 in payroll, and \$1.15 million in economic output. Spending of wages by employees at TDZ supported another 11 jobs, approximately \$541,000 in payroll and over \$1.6 million in economic output.



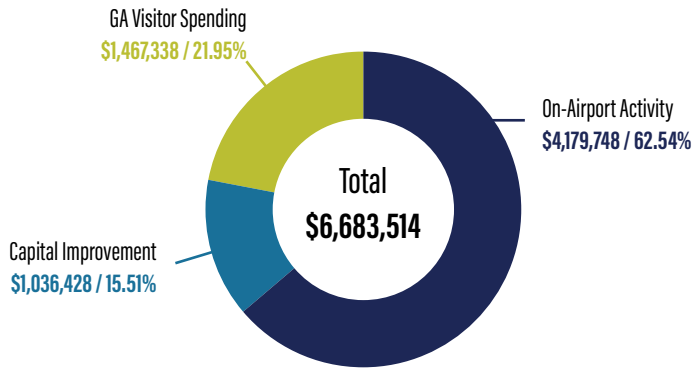
Table 14: Overall Economic Impact of Toledo Executive Airport (TDZ)

OVERALL	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	26	\$2,058,655	\$3,926,126
INDIRECT	7	\$443,244	\$1,152,378
INDUCED	11	\$541,351	\$1,605,009
TOTAL	44	\$3,043,251	\$6,683,513

Source: CRD Calculations Using IMPLAN

Figure 4 highlights the composition of the total economic impact of TDZ in 2021. On-airport businesses contributed over \$4 million, or 62.54% of the total impact. Impacts related to capital improvements contributed an additional \$1 million or 15.51% while general aviation visitor spending contributed an additional \$1.46 million, or 21.95%.

Figure 4: Composition of TDZ Economic Impact



Source: CRD Calculations. Numbers may not sum due to rounding.

In addition to employment, TDZ generates significant tax revenues across northwest Ohio. In 2021, TDZ generated over \$59,000 million in municipal tax revenue, \$132,000 in municipal special district tax revenue, \$65,000 in county tax revenue, and \$255,000 in state tax revenue.

Table 15: Overall Tax Impact of Toledo Executive Airport (TDZ)

TAX	SUB COUNTY GENERAL	SPECIAL DISTRICTS	COUNTY	STATE
DIRECT	\$38,257	\$88,286	\$43,679	\$170,510
INDIRECT	\$8,630	\$17,250	\$8,499	\$34,219
INDUCED	\$12,113	\$26,800	\$13,273	\$50,735
TOTAL	\$59,000	\$132,336	\$65,451	\$255,464

Source: CRD Calculations Using IMPLAN

On-Airport Impacts

On-Airport activities includes the employment, payroll, and economic output tied to the operational activity of the airport and its related businesses. Examples include airport administration, airline personnel, airline support staff, air traffic control, fixed based operators (FBOs), flight schools, corporate flight departments, cargo-related activities, and employers located on airport property.



On-airport activities at TDZ supported a total of 23 jobs, \$2.12 million in payroll, and \$4.18 million in economic output. On airport activities at TDZ directly supported 11 jobs, over \$1.49 million in payroll and \$2.4 million in economic output in the Toledo region. Indirect impacts from business-to-business purchases supported an additional 4 jobs, \$249,000 in payroll, and \$615,000 in economic output. Spending of wages by on-airport employees at TDZ supported another 8 jobs, approximately \$379,000 in payroll and over \$1.12 million in economic output.

Table 16: On-Airport Economic Impacts of Toledo Executive Airport (TDZ)

ON-AIRPORT	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	11	\$1,492,893	\$2,439,196
INDIRECT	4	\$249,846	\$615,320
INDUCED	8	\$379,548	\$1,125,233
TOTAL	23	\$2,122,286	\$4,179,748

Source: CRD Calculations Using IMPLAN

In addition to employment, on-airport activity at TDZ generates significant tax revenues across northwest Ohio. In 2021, on-airport activities at TDZ generated over \$42,000 in municipal tax revenue, \$101,000 in municipal special district tax revenue, \$50,000 in county tax revenue, and \$192,000 in state tax revenue.

Table 17: On-Airport Tax Impacts of Toledo Executive Airport (TDZ)

ON-AIRPORT TAX	SUB COUNTY GENERAL	SPECIAL DISTRICTS	COUNTY	STATE
DIRECT	\$30,137	\$75,785	\$37,595	\$142,018
INDIRECT	\$4,239	\$7,154	\$3,497	\$15,248
INDUCED	\$8,490	\$18,783	\$9,302	\$35,560
TOTAL	\$42,866	\$101,722	\$50,394	\$192,826

Source: CRD Calculations Using IMPLAN

General Aviation Visitor Impacts



General aviation (GA) visitor spending includes spending by out-of-town visitors who use TDZ as their point of entry to the community on private aircraft and use one of the airport's FBOs. Examples of impacts include spending on items such as lodging, ground transportation (off-airport), entertainment, and food and beverage.

GA visitor spending generated at TDZ supported a total of 12 jobs, over \$557,000 in payroll, and \$1.46 million in economic output. GA visitor spending directly supported 12 jobs, over \$353,000 in payroll and over \$883,000 in economic output in the Toledo region. Indirect impacts from business-to-business purchases supported an additional 2 jobs, ~\$106,000 in payroll, and over \$294,000 in economic output. Induced impacts because of the spending of wages by TDZ employees supported another 2 jobs, over \$97,000 in payroll and approximately \$289,000 in economic output.

Table 18: General Aviation Visitor Spending Impacts at Toledo Executive Airport (TDZ)

GA VISITOR SPENDING	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	12	\$353,699	\$883,724
INDIRECT	2	\$106,540	\$294,182
INDUCED	2	\$97,610	\$289,432
TOTAL	16	\$557,849	\$1,467,338

Source: CRD Calculations Using IMPLAN

In addition to employment, general aviation visitor spending at TDZ generates significant tax revenues across northwest Ohio. In 2021, general aviation visitor spending at TDZ generated over \$13,000 in municipal tax revenue, \$33,000 in municipal special district tax revenue, \$16,000 in county tax revenue, and \$61,000 in state tax revenue.

Table 19: General Aviation Visitor Spending Tax Impacts at Toledo Executive Airport (TDZ)

GA VISITOR SPENDING TAX	SUB COUNTY GENERAL	SPECIAL DISTRICTS	COUNTY	STATE
DIRECT	\$9,444	\$25,920	\$12,913	\$46,246
INDIRECT	\$1,786	\$2,953	\$1,443	\$6,351
INDUCED	\$2,185	\$4,837	\$2,395	\$9,155
TOTAL	\$13,415	\$33,709	\$16,751	\$61,752

Source: CRD Calculations Using IMPLAN

Capital Improvement Impacts

Capital Improvement impacts includes planned or ongoing public or private capital improvements to airport infrastructure including taxiways, runways, equipment, and hangars.

Capital improvement spending at TDZ supported a total of 6 annual jobs, over \$363,000 in payroll, and \$1.03 million in economic output. Capital improvement spending directly supported 3 jobs, over \$212,000 in payroll and approximately \$603,000 in economic output

in the Toledo region. Indirect impacts from business-to-business purchases supported an additional 1 job, ~\$86,000 in payroll, and over \$242,000 in economic output. Induced impacts because of the spending of wages by TDZ employees supported another 1 job, over \$64,000 in payroll and approximately \$190,000 in economic output.



Table 20: Capital Improvement Impacts at Toledo Executive Airport (TDZ)

CAPITAL IMPROVEMENT	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	3	\$212,063	\$603,206
INDIRECT	1	\$86,859	\$242,877
INDUCED	1	\$64,194	\$190,345
TOTAL	5	\$363,116	\$1,036,428

Source: CRD Calculations Using IMPLAN

The Economic Impact of Air Passenger Leakage from Toledo Region to Detroit Metropolitan Wayne County Airport (DTW)

Introduction

Each year, the Toledo region loses significant economic and fiscal impacts as people from the area drive to Detroit Metropolitan Wayne County Airport (DTW) for flights. According to a 2018 leakage study from Ailevon Pacific Aviation Consulting (APAC), a total of 498 people per day, or 181,770 people per year leave the Toledo primary and secondary catchment areas to fly from DTW. In addition to the inconvenience and lost time driving to DTW, the money spent on parking, concessions, and retail while at DTW is money that is being transferred from the economy of northwest Ohio to the Detroit metro area and the State of Michigan. This section quantifies the economic and tax impacts of air service leakage to northwest Ohio.

Figure 5: Daily and Annual Leakage from Toledo Primary Catchment Area to DTW



Source: Ailevon Pacific Aviation Consulting (2018)

Methodology

To estimate the amount of money spent by the average passenger who travels from the Toledo region to DTW, CRD used a variety of data sources. First, CRD used data from the Airport Experience News (AXN) Factbook from 2019 on the amount spent by passengers

on food & beverage, specialty retail, and news & gifts at DTW. As the table below illustrates, each passenger who uses DTW spends an average of \$6.88 on food & beverage, \$1.88 on specialty retail, and \$1.87 on news & gifts. When we multiply these numbers by the 181,770 people who leak to DTW from the Toledo region each year, we see lost sales of over \$1.9 million per year. Next, to estimate the economic impact of lost parking revenue, CRD used data provided by the Toledo Lucas County Port Authority to determine the amount of parking revenue generated by each enplaned passenger at TOL. Each passenger who flies from TOL generates \$9.16 in parking revenue. Using the annual leakage number of 181,770, this results in lost parking revenue of over \$1.6 million per year at TOL.

Table 21: Estimated Terminal and Parking Spending by Toledo Region Residents at DTW

TERMINAL SPENDING BY DTW CUSTOMERS (2019)	REVENUE PER ENPLANED PASSENGER	TOTAL LOST REVENUE
FOOD & BEVERAGE	\$6.88	\$1,250,578
SPECIALTY RETAIL	\$1.88	\$341,728
NEWS & GIFTS	\$1.87	\$339,910
TOL PARKING	REVENUE PER ENPLANED PASSENGER	TOTAL LOST REVENUE
TOL PARKING	\$9.16	\$1,665,013

Source: Airport Experience News (AXN) Factbook (2019), Toledo-Lucas County Port Authority, Ailevon Pacific Aviation Consulting

CRD used the IMPLAN model for Ohio for 2020 estimate the indirect and induced economic impacts of leakage at DTW. In addition, CRD used the IMPLAN model for Ohio for 2020 to estimate the tax impacts of the lost economic impact from the Toledo region. All results are presented in 2022 dollars. Finally, CRD also estimated the lost passenger facility charge (PFC) revenue from the number of passengers who leak to DTW. This \$4 per passenger charge is included in airline ticket prices and is money that goes to the airport for maintenance, capital improvements, and other safety enhancements. Importantly, this estimate of the economic impact of leakage only includes tangible economic impacts such as parking and spending on concessions and omits items such as cost of time considerations and additional environmental impacts related to longer driving times to DTW.

Economic Impact of Leakage to DTW

As the table indicates, over \$3.2 million in direct economic output to northwest Ohio is lost each year as residents of the region drive to Michigan to fly from DTW. This \$3.2 million in direct economic output includes \$1.65 million in payroll, representing 55 jobs that are not realized in the region. In addition, lost business to business purchases cost the Toledo region another \$960,000 in economic impact including \$339,000 in payroll, representing 6 jobs. Lost spending from employee wages results in another \$1.2 million in lost economic output, including \$432 in payroll, representing 9 jobs. In sum, leakage from northwest Ohio to DTW results in a loss of \$5.4 million in economic output, or \$30.10 per passenger, \$2.4 million in payroll, and 70 jobs.

Table 22: Estimated Economic Impact of Leakage to DTW

LEAKAGE IMPACT BY ECONOMIC INDICATORS	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	55	\$1,659,848	\$3,226,216
INDIRECT	6	\$339,406	\$964,119
INDUCED	9	\$432,336	\$1,281,820
TOTAL	70	\$2,431,589	\$5,472,155

Source: CRD Calculations Using IMPLAN

Tax Impact of Leakage to DTW

Each year, municipalities in the Toledo region lose ~\$40,000 in tax revenue while special districts lose ~\$73,000. Counties in the Toledo region lose another \$35,000 in tax revenue while the State of Ohio loses over \$152,000 in tax revenue due to leakage. Importantly, TOL loses over \$727,000 in passenger facility charges (PFCs) to DTW, which is money that could be used to enhance the terminal, runways, facilities, etc. at TOL.

Table 23: Estimated Tax Impact of Leakage to DTW

LEAKAGE IMPACT BY ECONOMIC INDICATORS	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	55	\$1,659,848	\$3,226,216
INDIRECT	6	\$339,406	\$964,119
INDUCED	9	\$432,336	\$1,281,820
TOTAL	70	\$2,431,589	\$5,472,155
ANNUAL LOST PASSENGER FACILITY CHARGES		\$727,080	

Source: CRD Calculations Using IMPLAN

The Economic Impact of New Air Service at Eugene F. Kranz Toledo Express Airport (TOL)



Each new commercial airline flight provides additional marginal benefits to the community through the added employment at the airport to service the flights as well as additional visitor spending in the region. The economic impact of new air service depends upon several factors including the frequency of the service, the size of the aircraft serving the flight, the percentage of travelers who are true visitors to the region, and the number of new employees hired by the airline to service the new flight. This analysis examines the economic impact generated a 4x weekly flight on an ultra-low-cost carrier (ULCC) and 2x daily service on a network carrier at TOL.

New 2x Daily Service on a Network Carrier at TOL

To estimate the economic and tax impacts associated with new twice daily air service on a network carrier at Toledo Express Airport, CRD assumed a twice daily flight on a CRJ-700 aircraft with 68 seats representing 952 weekly seats. The analysis assumes a 75% load factor and uses a visitor percentage of 45%, which was derived from the passenger survey of TOL's existing network carrier service. This results in a total annual number of visitors of 16,708. To estimate the economic impact of visitor spending related to new

air service, CRD then multiplied the number of visitors by the average visitor spending numbers derived from the passenger survey. CRD also estimated the number of new payroll associated with the new flight by taking the number of new enplanements compared to TOL's current enplanements and prorating the current payroll for TSA and ground handling services to estimate the marginal new payroll.

Table 24: Key Assumptions for 2x Daily Service on a Network Carrier at TOL

KEY ASSUMPTIONS	
FREQUENCY	2x Daily
AIRCRAFT SEATS	68
WEEKLY SEATS	952
ANTICIPATED LF	75%
ESTIMATED ANNUAL ENPLANEMENTS	37,128
VISITOR PERCENTAGE	45%
TOTAL VISITORS	16,708
NEW MARGINAL TSA PAYROLL	\$439,040
NEW MARGINAL GROUND HANDLING PAYROLL	\$1,904,143

Source: Toledo-Lucas County Port Authority, CRD Calculations

New twice daily service on a network carrier would support an additional 115 employees, over \$7 million in payroll, and over \$13 million in economic output. The new flight would directly support 79 new employees, \$5.1 million in payroll, and \$7.6 million in

economic output. Business to business purchases support an additional 11 employees, \$680,000 in payroll, and \$1.7 million in value added. The spending of wages by employees supports an additional 25 employees, \$1.2 million in payroll, and \$3.7 million in economic output.

Table 25: Economic Impact of New Network Carrier Service at TOL

ECONOMIC IMPACTS	EMPLOYMENT	LABOR INCOME	OUTPUT
DIRECT	79	\$5,145,415	\$7,683,117
INDIRECT	11	\$680,412	\$1,721,793
INDUCED	25	\$1,260,286	\$3,736,646
TOTAL	115	\$7,086,113	\$13,321,556

Source: CRD Calculations Using IMPLAN

New network carrier service at TOL would generate additional tax revenues for local and state government. New twice daily service on a network carrier would generate over \$105,000 in tax revenue for cities and municipalities, \$179,000 in tax revenue for special districts, \$87,000 in county tax revenue, and over \$393,000 in new state tax revenue per year.

Table 26: Tax Impact of New Network Carrier Service at TOL

TAX RESULTS	SUB COUNTY GENERAL	SPECIAL DISTRICTS	COUNTY	STATE
DIRECT	\$67,235	\$101,832	\$49,369	\$240,106
INDIRECT	\$10,425	\$15,214	\$7,380	\$34,837
INDUCED	\$28,203	\$62,405	\$30,907	\$118,137
TOTAL	\$105,863	\$179,451	\$87,656	\$393,080

Source: CRD Calculations Using IMPLAN

New 4x Weekly Service on an Ultra-Low-Cost Carrier at TOL

To estimate the economic and tax impacts associated with new twice daily air service on a network carrier at Toledo Express Airport, CRD assumed a twice daily flight on a CRJ-700 aircraft with

68 seats representing 952 weekly seats. The analysis assumes a 75% load factor and uses a visitor percentage of 45%, which was derived from the passenger survey of TOL's existing network carrier service. This results in a total annual number of visitors of 16,708. To estimate the economic impact of visitor spending related to new air service, CRD then multiplied the number of visitors by the average visitor spending numbers derived from the passenger survey. CRD also estimated the number of new payroll associated with the new flight by taking the number of new enplanements compared to TOL's current enplanements and prorating the current payroll for TSA and ground handling services to estimate the marginal new payroll.

Table 27: Key Assumptions for 4x Weekly Service on a Ultra-Low-Cost Carrier at TOL

KEY ASSUMPTIONS	
FREQUENCY	4x Weekly
AIRCRAFT SEATS	177
WEEKLY SEATS	708
ANTICIPATED LF	90%
ESTIMATED ANNUAL ENPLANEMENTS	33,134
VISITOR PERCENTAGE	20%
TOTAL VISITORS	6,627
NEW MARGINAL TSA PAYROLL	\$391,815
NEW MARGINAL GROUND HANDLING PAYROLL	\$1,699,328

Source: Toledo-Lucas County Port Authority, CRD Calculations

Four flights a week on an ultra-low-cost carrier (ULCC) would support an additional 73 employees, over \$5.2 million in payroll, and over \$9 million in economic output. The new flight would directly support 48 new employees, \$3.9 million in payroll, and \$5.3 million in economic output. Business to business purchases support an

additional 6 employees, \$400,000 in payroll, and approximately \$1 million in economic output. The spending of wages by employees supports an additional 19 employees, \$935,000 in payroll, and \$2.7 million in economic output.

Table 28: Economic Impact of New Ultra-Low-Cost Carrier Service at TOL

ECONOMIC IMPACTS	EMPLOYMENT	LABOR INCOME	OUTPUT
DIRECT	48	\$3,906,249	\$5,304,076
INDIRECT	6	\$400,677	\$966,267
INDUCED	19	\$935,492	\$2,773,606
TOTAL	73	\$5,242,418	\$9,043,949

Source: CRD Calculations Using IMPLAN

New ultra-low-cost carrier service at TOL would generate additional tax revenues for local and state government. New twice daily service on a network carrier would generate over \$68,000 in tax revenue for cities and municipalities, \$94,000 in tax revenue for special districts, over \$45,000 in county tax revenue, and over \$231,000 in new state tax revenue per year.

Table 29: Tax Impact of New Ultra-Low-Cost Carrier Service at TOL

TAX RESULTS	SUB COUNTY GENERAL	SPECIAL DISTRICTS	COUNTY	STATE
DIRECT	\$41,694	\$40,627	\$19,025	\$124,622
INDIRECT	\$5,841	\$7,853	\$3,789	\$18,778
INDUCED	\$20,933	\$46,316	\$22,939	\$87,681
TOTAL	\$68,467	\$94,797	\$45,753	\$231,082

Source: CRD Calculations Using IMPLAN



Conclusions

Eugene F. Kranz Toledo Express Airport (TOL) and Toledo Executive Airport (TDZ) are vital public assets that serve as economic engines for northwest Ohio while also connecting residents of the region to the state, nation, and world. This section outlines some of the key findings of the economic impact analysis for TOL and TDZ as well as the new flight and leakage analyses.

Key Conclusions for Eugene F. Kranz Toledo Express Airport

- TOL serves as a hub of economic activity in northwest Ohio by supporting manufacturing, military, air cargo, aviation training and education, commercial service aviation, and general aviation operations.
- TOL's impact on the economy of northwest Ohio is significant and is primarily driven by the presence of a diverse set of employers and activities including the 180th Ohio Air National Guard Fighter Wing, Tronair, and commercial and general aviation activities.
- In 2021, TOL supported over 2,900 jobs and over \$581 million in economic output in the Toledo Region while TDZ supported an additional 44 jobs and over \$6.6 million in economic output.
- On-airport non-commercial air service-related activity represents the largest component of economic output at TOL, representing \$530 million (91.21%) of the total impact due to a significant increase in cargo activity (483% increase over CY 2020), the presence of the Ohio Air National Guard, and large-scale employers such as Tronair.

- Commercial air service-related visitor spending and employment contributes over \$40.7 million (7.01%) to TOL's total economic impact.

Key Conclusions for Toledo Executive Airport

- Located in Wood County, Toledo Executive Airport (TDZ) provides important aviation capacity to northwest Ohio that results in significant economic impacts to the region.
- In 2021, TDZ supported a total of 44 jobs, \$3.04 million in payroll, and \$6.68 million in economic output.
- On-airport impacts comprise the largest component of economic output at TDZ representing \$4.1 million (62.54%) of the total impact.

Key Conclusions from DTW Passenger Leakage Analysis

- According to a 2018 leakage study from Ailevon Pacific Aviation Consulting (APAC), a total of 498 people per day, or 181,770 people per year leave the Toledo primary and secondary catchment areas to fly from DTW
- Residents of the Toledo Region who drive to DTW for flights spend a total of \$3.2 million in the terminal and parking at DTW.
- \$3.2 million in direct spending by Toledo region residents at DTW results in a \$5.4 million annual economic impact to the State of Michigan.

- This leakage results in a loss of \$727,000 in passenger facility charges, which is money that could be used to enhance the terminal, runways, facilities, etc. at TOL.

Key Conclusions from the New Flight at TOL Analysis

- New twice daily service on a network carrier would support an additional 115 employees, over \$7 million in payroll, and over \$13 million in economic output.

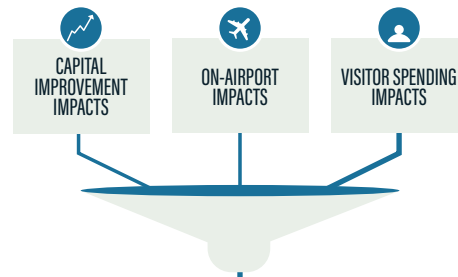
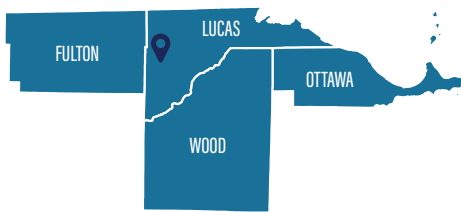
- New service with four flights a week on an ultra-low-cost carrier (ULCC) would support an additional 73 employees, over \$5.2 million in payroll, and over \$9 million in economic output.

Appendix A: Infographics



2021 ECONOMIC IMPACT ANALYSIS




Economic Impacts of EUGENE F. KRANZ TOLEDO EXPRESS AIRPORT (TOL)



OVERALL	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	2,140	\$129,214,345	\$458,618,726
INDIRECT	204	\$13,160,095	\$34,041,261
INDUCED	594	\$29,969,089	\$88,867,835
TOTAL	2,938	\$172,343,529	\$581,527,822




TAX	SUB COUNTY GENERAL	SPECIAL DISTRICTS	COUNTY	STATE
DIRECT	\$1,880,152	\$560,335	\$234,961	\$2,901,777
INDIRECT	\$207,070	\$320,231	\$155,883	\$714,540
INDUCED	\$671,048	\$1,485,387	\$735,675	\$2,811,467
TOTAL	\$2,758,269	\$2,365,953	\$1,126,519	\$6,427,784

ON-AIRPORT IMPACTS




ON-AIRPORT	 EMPLOYMENT	 PAYROLL	 ECONOMIC OUTPUT
	DIRECT	2,026	\$124,762,089
INDIRECT	177	\$11,606,872	\$29,728,805
INDUCED	569	\$28,688,857	\$85,071,720
TOTAL	2,772	\$165,057,818	\$561,576,636






CAPITAL IMPROVEMENT IMPACTS

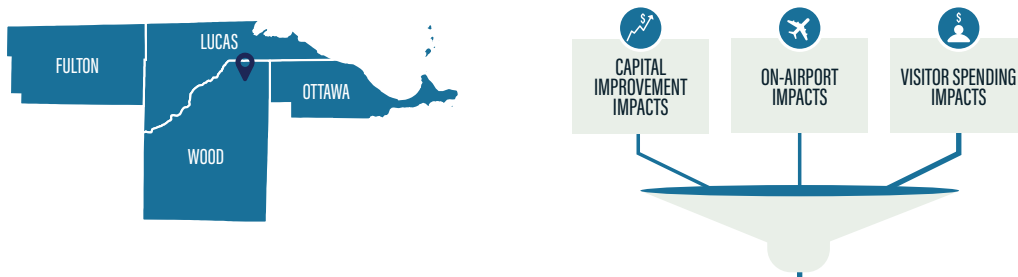
CAPITAL IMPROVEMENT	 EMPLOYMENT	 PAYROLL	 ECONOMIC OUTPUT
	DIRECT	24	\$1,700,360
INDIRECT	12	\$724,307	\$2,023,624
INDUCED	10	\$520,798	\$1,544,241
TOTAL	46	\$2,945,464	\$8,534,813

VISITOR SPENDING IMPACTS

COMMERCIAL SERVICE SPENDING	 EMPLOYMENT	 PAYROLL	 ECONOMIC OUTPUT
	DIRECT	76	\$2,316,196
INDIRECT	12	\$697,676	\$1,926,447
INDUCED	13	\$639,195	\$1,895,340
TOTAL	101	\$3,653,067	\$9,608,848

GA VISITOR SPENDING	 EMPLOYMENT	 PAYROLL	 ECONOMIC OUTPUT
	DIRECT	14	\$435,701
INDIRECT	2	\$131,240	\$362,385
INDUCED	2	\$120,239	\$356,533
TOTAL	19	\$687,180	\$1,807,525




Economic Impacts of TOLEDO EXECUTIVE AIRPORT (TDZ)



OVERALL	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
DIRECT	26	\$2,058,655	\$3,926,126
INDIRECT	7	\$443,244	\$1,152,378
INDUCED	11	\$541,351	\$1,605,009
TOTAL	44	\$3,043,251	\$6,683,513




TAX	SUB COUNTY GENERAL	SPECIAL DISTRICTS	COUNTY	STATE
DIRECT	\$38,257	\$88,286	\$43,679	\$170,510
INDIRECT	\$8,630	\$17,250	\$8,499	\$34,219
INDUCED	\$12,113	\$26,800	\$13,273	\$50,735
TOTAL	\$59,000	\$132,336	\$65,451	\$255,464

ON-AIRPORT IMPACTS




ON-AIRPORT	 EMPLOYMENT	 PAYROLL	 ECONOMIC OUTPUT
DIRECT	11	\$1,492,893	\$2,439,196
INDIRECT	4	\$249,846	\$615,320
INDUCED	8	\$379,548	\$1,125,233
TOTAL	23	\$2,122,286	\$4,179,748



CAPITAL IMPROVEMENT IMPACTS

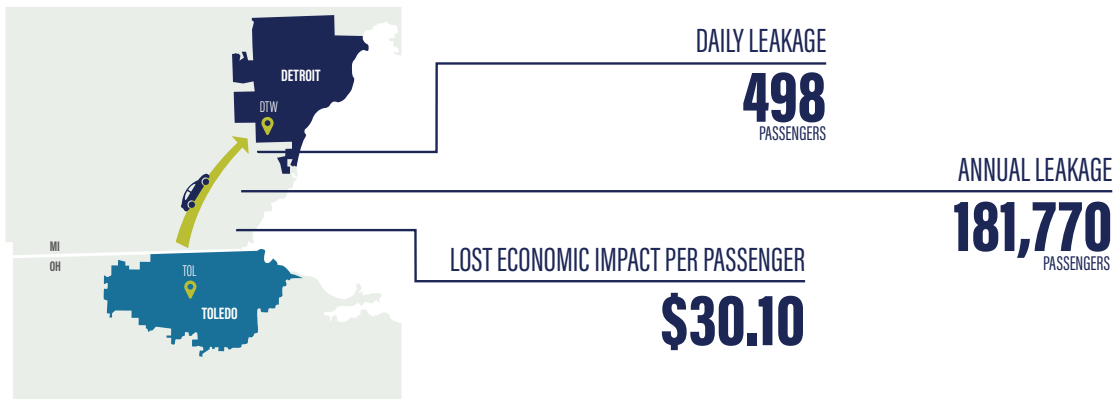
CAPITAL IMPROVEMENT	 EMPLOYMENT	 PAYROLL	 ECONOMIC OUTPUT
DIRECT	3	\$212,063	\$603,206
INDIRECT	1	\$86,859	\$242,877
INDUCED	1	\$64,194	\$190,345
TOTAL	5	\$363,116	\$1,036,428

VISITOR SPENDING IMPACTS

GA VISITOR SPENDING	 EMPLOYMENT	 PAYROLL	 ECONOMIC OUTPUT
DIRECT	12	\$353,699	\$883,724
INDIRECT	2	\$106,540	\$294,182
INDUCED	2	\$97,610	\$289,432
TOTAL	16	\$557,849	\$1,467,338



Economic Impacts of LEAKAGE TO DETROIT METRO AIRPORT (DTW)



LOST PARKING REVENUE

LEAKAGE IMPACT BY ECONOMIC INDICATORS	EMPLOYMENT	PAYROLL	ECONOMIC OUTPUT
	DIRECT	55	\$1,659,848
INDIRECT	6	\$339,406	\$964,119
INDUCED	9	\$432,336	\$1,281,820
TOTAL	70	\$2,431,589	\$5,472,155



LOST SPECIALTY
 RETAIL REVENUE



LOST FOOD &
 BEVERAGE REVENUE

TAX LEAKAGE RESULTS	SUB COUNTY GENERAL	SPECIAL DISTRICTS	COUNTY	STATE
	DIRECT	\$24,426	\$43,539	\$21,308
INDIRECT	\$5,432	\$8,000	\$3,887	\$18,056
INDUCED	\$9,674	\$21,405	\$10,601	\$40,522
TOTAL	\$39,532	\$72,944	\$35,796	\$152,659
ANNUAL LOST PASSENGER FACILITY CHARGES			\$727,080	










LOST NEWS &
 GIFT REVENUE

Economic Impact of **NEW 2x DAILY SERVICE ON A NETWORK CARRIER**

KEY ASSUMPTIONS	
FREQUENCY	2x Daily
AIRCRAFT SEATS	68
WEEKLY SEATS	952
ANTICIPATED LF	75%
ESTIMATED ANNUAL ENPLANEMENTS	37,128
VISITOR PERCENTAGE	45%
TOTAL VISITORS	16,708






ECONOMIC IMPACTS	 EMPLOYMENT	 LABOR INCOME	 OUTPUT
	DIRECT	79	\$5,145,415
INDIRECT	11	\$680,412	\$1,721,793
INDUCED	25	\$1,260,286	\$3,736,646
TOTAL	115	\$7,086,113	\$13,321,556





TAX RESULTS	 SUB COUNTY GENERAL	 SPECIAL DISTRICTS	 COUNTY	 STATE
	DIRECT	\$67,235	\$101,832	\$49,369
INDIRECT	\$10,425	\$15,214	\$7,380	\$34,837
INDUCED	\$28,203	\$62,405	\$30,907	\$118,137
TOTAL	\$105,863	\$179,451	\$87,656	\$393,080

Economic Impact of **NEW 4x WEEKLY SERVICE ON AN ULTRA-LOW COST CARRIER**

KEY ASSUMPTIONS	
FREQUENCY	4x Weekly
AIRCRAFT SEATS	177
WEEKLY SEATS	708
ANTICIPATED LF	90%
ESTIMATED ANNUAL ENPLANEMENTS	33,134
VISITOR PERCENTAGE	20%
TOTAL VISITORS	6,627



ECONOMIC IMPACTS	 EMPLOYMENT	 LABOR INCOME	 OUTPUT
	DIRECT	48	\$3,906,249
INDIRECT	6	\$400,677	\$966,267
INDUCED	19	\$935,492	\$2,773,606
TOTAL	73	\$5,242,418	\$9,043,949

TAX RESULTS	 SUB COUNTY GENERAL	 SPECIAL DISTRICTS	 COUNTY	 STATE
	DIRECT	\$41,694	\$40,627	\$19,025
INDIRECT	\$5,841	\$7,853	\$3,789	\$18,778
INDUCED	\$20,933	\$46,316	\$22,939	\$87,681
TOTAL	\$68,467	\$94,797	\$45,753	\$231,082

Appendix B: Eugene F. Kranz Toledo Express Airport Passenger Survey



Eugene F. Kranz Toledo Express Airport Passenger Survey

The survey is intended to gain an understanding of where our passengers are coming from and to where they are traveling. This survey includes questions to assess the amount of economic activity visiting passengers contribute to the Toledo region economy. The survey will take less than 5 minutes to complete. Your answers to these questions will be anonymous and will remain confidential. Thank you very much for your time.

Q1: Are you taking your outbound (leaving home) flight today?

Yes No

Q2: Are you taking your inbound (returning home) flight today?

Yes No

Q3: What is the primary purpose of travel on your trip today?

Business Leisure Visiting friends and family
 Second home Military Other

Q4: Where do you live (primary residence)?

State	
Zip Code	
Country (if outside of U.S.)	

Q5: What airline are you flying today?

Allegiant Airlines American Airlines

Survey Continues on Next Page

Q6: Where are you flying to on your flight from Eugene F. Kranz Toledo Express Airport?

- Chicago (ORD) Orlando Sanford (SFB)
 Punta Gorda (PGD) St. Pete-Clearwater (PIE)

Q7: What is your final airport destination?

Q8: What are the factors that lead you to choose to fly from TOL rather than DTW? (Select all that apply)

- Proximity to home/destination Price Timing of flight
 Non-stop destinations Ease of terminal/security experience
 Other (please specify: _____)

Q9: What are the factors that would lead you to choose to fly from DTW rather than TOL? (Select all that apply)

- Proximity to home/destination Price Timing of flight
 Non-stop destinations Ease of terminal/security experience
 Other (please specify: _____)

Q10: How much of a premium would you be willing to pay to fly from TOL rather than DTW? (Amounts are roundtrip)

- \$0 \$1 to \$50 \$51 to \$100 \$101 to \$150
 \$151 to \$200 More than \$200

If you are on your outbound (leaving home) flight, thank you for your time. If you are taking your inbound (returning home) flight, please complete Questions 11-18.

Q11: How many nights did you spend in the area? _____

Q12: What percentage of your time did you spend in the area? _____

Survey Continues on Next Page

Q13: How many people are in your party? _____

Q14: What kind of overnight accommodation did you stay in while in the region?

_____ Hotel/Motel/Resort _____ Private Home _____ Airbnb _____ Other

Q15: Did you rent a car at the airport?

_____ Yes _____ No

If Q15 is yes, skip Q16 and Q17

Q16: How did you get from the airport to your destination and back to the airport?

Q17: What was the total cost for both the trip to and from the airport?

Q18: How much did you spend off-airport on the following during your stay?

(If answering on behalf of a family or couple, please provide estimates for the entire party's spending)

Hotel/Lodging/Airbnb	\$
Entertainment/Amusement Parks	\$
Rental Car if Rented Outside the Airport	\$
Taxi/Uber	\$
Food/Beverage	\$
Retail Purchases	\$
Fuel	\$
Other (Please specify)	\$

Thank you very much for your time! We hope you enjoyed your stay in the region and have a safe trip!

Appendix C: Airport Tenant Survey

Eugene F. Kranz Toledo Express Airport Tenant Survey

Thank you for participating in the Eugene F. Kranz Toledo Express Airport Tenant Survey. The information provided in the survey will be used to estimate the economic impact of the airport to the Toledo region. Below are a series of questions related to employment at your business or office. Please be as accurate as possible in your responses. Importantly, all responses will be kept strictly confidential and only aggregate totals for industries will be published in the final report.

Q1. Tenant Background

Name of Business or Organization	
Address/Location	
Primary Contact (Name)	
Phone Number	
Email	

Q2. Employment

How many people does your organization employ or contract with at Eugene F. Kranz Toledo Express Airport?

Type of Employee	Number of Employees
Full Time (30 hours per week or more)	
Part Time (Less than 30 hours per week)	
Independent Contractor (Full or Part Time)	
Total	

Q3. Future Employment

If TOL were to add an additional two round trip flights with a total of an additional 100 passengers per day to its schedule, how many additional employees would you anticipate hiring?

Type of Employee	Number of Employees
Full Time (30 hours per week or more)	
Part Time (Less than 30 hours per week)	
Independent Contractor (Full or Part Time)	
Total	

Q4. Payroll

What is your organization's annual payroll at the airport, including payments to contract employees?

Total Payroll (2021)	
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