

MINNEAPOLIS-ST. PAUL INTERNATIONAL AIRPORT

Economic Impact of Its Operations 2016



Executive Summary

The Metropolitan Airports Commission engaged InterVISTAS Consulting Inc. (InterVISTAS) to conduct an economic impact study to account for the operations of the Minneapolis-St. Paul International Airport (MSP) for the calendar year 2016. This study serves as an update to the economic impact report prepared in 2012, and provides a current snapshot of the airport's economic contribution to the greater Minneapolis-St. Paul area.

The aviation sector is a major economic generator, and airports play a critical role within the industry by facilitating the movement of people, goods, and services throughout the nation and world. The industry facilitates employment and economic development in the broader economy through a number of key mechanisms including tourism, investment, trade of goods and services, and productivity.

Overview of Economic Impact Concepts

Economic impact is a measure of the spending and employment associated with a sector of the economy, a specific project, or a change in government policy or regulation.

Economic impact can be measured along several dimensions. The most common are:

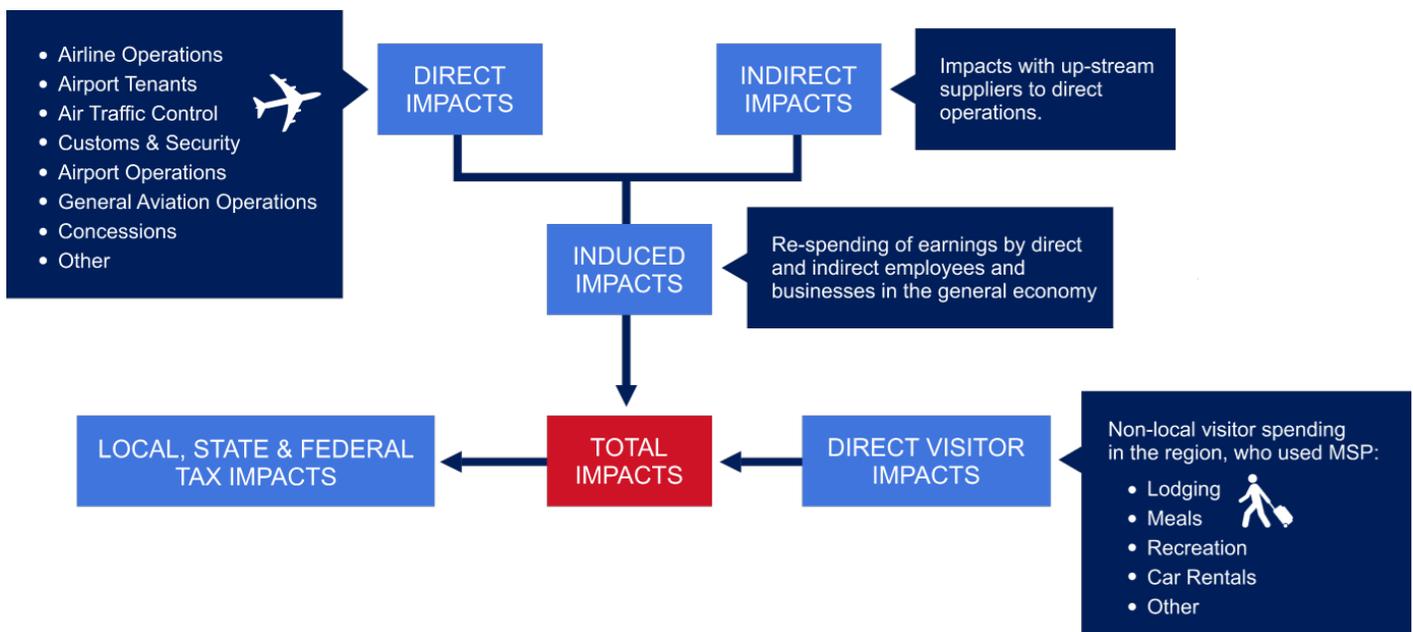
1. **Employment** - person years of employment supported (expressed in terms of “full time equivalents” or FTEs).¹ Because many jobs may be only part-time or seasonal, the number of jobs is greater than the number of person years of employment. Hours worked in part-time and seasonal employment are translated into FTEs.
2. **Earnings** – includes wages, salaries, and benefits associated with employment tied to the airport.
3. **Economic output** - the dollar value of industrial output produced. Sometimes referred to as “economic activity,” it reflects the spending (e.g., capital improvement plus revenue) by firms, organizations, and individuals. In the case of organizations that do not generate revenue (e.g., government-provided air traffic control services), annual operating expenses are counted.
4. **Gross Domestic Product (GDP)**. Sometimes referred to as Value Added, this is a measure of the money value of final goods and services produced as a result of economic activity. This measure is net of the value of intermediate goods and services used up to produce the final goods and services.

¹ One person year is equivalent to 1,800 hours of work. Person years are the same as FTEs.

The three major components of economic impact are classified as direct, indirect, and induced impacts. **Figure ES-1** provides a graphical overview of economic impact at airports.

- **Direct impacts** account for the economic activity of the aviation sector itself. In the case of an airport, all of those people who work in an aviation-related capacity either on-site or off-site would be considered direct employment (e.g., airline ticket or gate agents, ground handling, air traffic controllers, etc.).
- **Indirect impacts** arise because of the direct impacts. For an airport, indirect impacts originate from off-site firms that supply goods or services to airport users. An example would be food wholesalers that supply food for catering on flights.
- **Induced impacts** are those created by the spending of wages, salaries, and profits earned in the course of the direct and indirect economic activities. For instance, if an airline maintenance employee re-models his/her home, the renovation would support activity in the home construction industry.
- **Visitor spending impacts.** Another related economic impact that arises from the airport's operations flows from visitors to a region who arrive and depart via the airport rather than by other means (e.g., auto). The hospitality industry in particular benefits from visitors who spend money on lodging, meals, entertainment, car rentals, and retail. Direct employment associated with those industries is counted as part of the economic impacts of the airport.
- **Total impacts** are the sum of direct, indirect, induced, and visitor spending impacts.

**Figure ES-1:
Economic Impact Overview – Airports**



Methodology. InterVISTAS conducted this study during the first half of 2017 based on operations and employment at the airport during calendar year 2016. To calculate the direct effects, the study team surveyed all employers associated with economic activity at MSP (e.g., airlines, government agencies, and ground handling firms) to determine the total number of individuals employed in directly-related occupations, as well as the total amount of earnings (wages) paid to those individuals. This included firms located both on-site at the airport and those located off-site.

The team estimated the impact of spending by visitors to the region who arrived via the airport (as distinct from those who may have driven to the area). First, the team developed estimates of the average amount of money spent by visitors to the region by conducting an in-terminal survey of passengers at MSP. This survey was conducted in the spring of 2017. This survey generated estimates of spending for both business and leisure travelers that are statistically reliable at a 95% confidence interval. These estimates were then applied to data on MSP's passenger traffic figures to deduce the total impact of visitor spending in the region. See **Appendix I** for a more detailed description of the study's methodology.

Economic Impact of Ongoing Operations

The economic impact of Minneapolis-St. Paul International Airport's ongoing operations extends from the airport property itself throughout the entire metropolitan region.

Direct economic impact measures the impact factors directly associated with the airport. This includes employment of all tenants located at Minneapolis-St. Paul International Airport. The *direct* impacts of MSP in 2016 are estimated to be **21,200 direct jobs** (equivalent to **18,700 direct FTEs** or person years of employment), earning approximately **\$1.3 billion in direct wages**. Direct employment generates **\$3.9 billion in direct GDP** and **\$7.1 billion in direct economic output** annually.

Table ES-1 summarizes the residency of employees directly associated with MSP. Over half of the 21,200 employees directly associated with the operations of the airport live in Hennepin and Ramsey counties. Roughly 28% of the total direct employees are residents of St. Paul and Minneapolis (13% in St. Paul and 15% in Minneapolis). Additionally, roughly 10% of the employees associated with the airport reside in Dakota County. Overall, the seven-county region is home to roughly 94% of the total employees associated with the airport.

Ongoing Economic Impacts of MSP

Annual Direct Impacts:

- 21,200 jobs
- 18,700 full-time equivalents
- \$1.3 billion in wages
- \$3.9 billion in gross domestic product (GDP)
- \$7.1 billion in economic output

**Table ES-1:
Residency of Direct Employees at MSP, 2016**

Jurisdiction	Direct Jobs	% of Direct Jobs
Hennepin County	11,200	53%
(City of Minneapolis only)	(3,200)	(15%)
Ramsey County	5,300	25%
(City of St. Paul only)	(2,700)	(13%)
Dakota County	2,000	10%
Washington County	400	2%
Scott County	400	2%
Anoka County	600	3%
Carver County	100	1%
Other Minnesota*	900	4%
Other U.S.**	300	1%
Total Employment	21,200	100%

Note: Totals may not sum due to rounding.

Indirect economic impacts are those that are attributable to firms and organizations that supply goods and/or services to those directly involved in the airport and its operations. All of these firms are located off airport property, elsewhere in the metropolitan region. In 2016, the indirect impacts associated with MSP's operations included **13,100 indirect** FTEs or person years of employment, earning approximately **\$0.8** billion in wages.

The extent of the airport's economic footprint then reverberates throughout the region as employees in firms directly and indirectly associated with MSP spend their wages and salaries and generate another wave of economic activity ("induced impacts"). The induced impacts resulting from ongoing MSP operations include an estimated **16,500 induced** FTEs with an associated **\$0.7** billion in wages.

The *total economic impact* of MSP's operations on the region's economy is calculated by summing the *direct*, *indirect* and *induced* impacts. **Table ES-2** summarizes the economic impact of MSP's operations on the seven-county metropolitan region in 2016. Altogether, in 2016, the economic impacts of MSP include a *total* of **48,300** FTEs in the Minneapolis-St. Paul regional economy. *Total regional* income of all employees amounts to **\$2.8** billion in wages. Furthermore, MSP airport operations contribute an

estimated \$7.2 billion and \$13.1 billion in *total* GDP and *total* economic output, respectively, to the regional economy.

Table ES-2:
Total Economic Impact of Minneapolis-St. Paul International Airport Operations, 2016

Impact	Employment		Wages (\$ Billions)	GDP (\$ Billions)	Output (\$ Billions)
	Jobs	FTEs			
Direct	21,200	18,700	1.3	3.9	7.1
Indirect	14,800	13,100	0.8	1.9	3.5
Induced	18,600	16,500	0.7	1.4	2.5
Total	54,500	48,300	2.8	7.2	13.1

Note: Employment figures (jobs and FTEs) are rounded to the nearest hundred. Totals may not sum due to rounding.

Economic Impact of Airport-Related Visitor Spending in the Region

Individuals who visit the region via MSP support additional economic impacts by spending their travel dollars locally. The economic impact of visitor spending depends on the total number of “true visitors,” the amount they spend, the length of stay, and the distribution of their spending across different categories – mostly in the hospitality sector. Spending on hotels, restaurants, retail, and entertainment supports jobs and additional spending in the region.

Data from the U.S. Department of Transportation (DOT) and Sabre MIDT indicate that in 2016, the total number of visitors to the region that arrived and departed via MSP approached 5.2 million. Those visiting from abroad spent on average about \$172 per day; while domestic US visitors spent on average approximately \$110 per day. Those averages include the effects of a sizeable portion of travelers who stay with friends and family during their visits, and thus tend to spend less. The direct economic impact of non-local visitor spending is shown in **Table ES-3**.

Table ES-3:
Direct Economic Impact of Minneapolis-St. Paul International Airport Visitor Spending, 2016

Impact	Employment		Wages (\$ Billions)	GDP (\$ Billions)	Output (\$ Billions)
	Jobs	FTEs			
Direct	30,900	28,200	0.8	1.4	2.5

One-Time Economic Impact of Capital Improvements

An additional direct impact arose from capital improvement that occurred at the airport in 2016. The economic effects of an airport’s capital development are considered separate from an airport’s ongoing operations because capital spending can vary significantly over time and on a project-by-project basis.

Both the MAC and private developers made investments in the airport’s infrastructure in 2016. The MAC’s contributions included \$119 million in projects that will clear the site for construction of a new parking ramp at Terminal 1, a new skyway that will connect Concourse C on Terminal 1 to a new on-site hotel, and improvements to the Concourse C/Concourse A rotunda space. The private developer responsible for hotel construction on airport land will contribute an estimated \$3 million, bringing the total capital spend figure to \$121.6 million. This capital spending supports 700 *direct* FTEs of employment along with \$47.2 million in *direct* earnings and \$75.9 million in *direct* value added, as shown in **Table ES-4**.

Table ES-4:
Total Economic Impact of Minneapolis-St. Paul International Airport’s Capital Improvements, 2016

Impact	Employment		Wages (\$ Millions)	GDP (\$ Millions)	Output (\$ Millions)
	Jobs	FTEs			
Direct	800	700	50	60	120
Indirect	200	200	10	20	50
Induced	500	500	20	30	70
Total	1,500	1,300	80	120	240

Note: Employment figures (jobs and FTEs) are rounded to the nearest hundred. Totals may not sum due to rounding.

MSP’s Total Economic Impact on the Region

The sum of the impacts of the airport’s ongoing operations and direct visitor spending constitute MSP’s total economic impact in the seven-county region. **Table ES-5** summarizes these impacts.

Table ES-5:
Combined Economic Impacts of MSP Operations, Visitor Spending & Capital Improvements, 2016

Impact	Employment		Wages (\$ Billions)	GDP (\$ Billions)	Output (\$ Billions)
	Jobs	FTEs			
Total Direct	52,800	47,600	2.1	5.4	9.8
Total Indirect	15,000	13,300	0.9	1.9	3.5
Total Induced	19,100	16,900	0.7	1.4	2.6
Grand Total	86,900	77,800	3.7	8.8	15.9

Note: Employment figures (jobs and FTEs) are rounded to the nearest hundred. Totals may not sum due to rounding. Only direct visitor spending impacts are included to mitigate potential double counting.

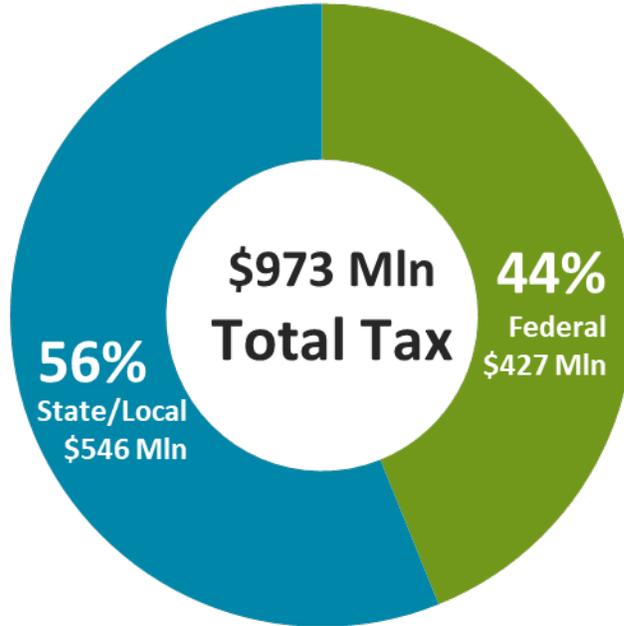
It is important to recall that the grand total impacts should be considered somewhat conservative in that the *indirect and induced* impacts associated with visitor spending are *excluded*, due to possible double-counting with the airline industry.

Annual Tax Impacts of Ongoing Operations

In addition, ongoing operations at MSP contribute to government revenue including those received by federal, state, and local governments. Total taxes paid on an annual basis, by airport employers and employees as well as passengers, are estimated at nearly \$973 million per year.

The majority of taxes accrue to the State of Minnesota and local governments at 56% overall, while the federal government receives 44% of the tax revenue generated by the airport. See **Figure ES-2**.

Figure ES-2:
Annual Estimated Tax Revenues of MSP by Level of Government



Annual Tax Impact of MSP

Total Tax Contribution:

- \$973 million

Federal Government:

- \$427 million (44% of total)

State and Local Government:

- \$546 million (56% of total)

Comparison Against 2012 Results

The total economic impact of MSP in 2016 is higher relative to 2012. Employee FTEs from total ongoing operations (onsite, visitor spending and capital improvements impacts) rose over **14%**, from over **76,300** to **86,900**, between 2012 and 2016. **Figure ES-6** summarizes employment, earnings, GDP and output growth between 2012 and 2016.

Table ES-6: Comparison of 2012 vs. 2016 Results

Impact Measurement	2012	2016	% Change (2012 vs. 2016)
Total Onsite Impacts			
Employment (Jobs)	50,300	54,500	+8%
Employment (FTEs)	44,600	48,300	+8%
Earnings (\$ Billions)	2.4	2.8	+18%
GDP (\$ Billions)	4.5	7.2	+61%
Output (\$ Billions)	8.0	13.1	+64%
Visitor Spending (Direct Impacts Only)			
Employment (Jobs)	24,500	30,900	+26%
Employment (FTEs)	21,700	28,200	+30%
Earnings (\$ Billions)	0.5	0.8	+51%
GDP (\$ Billions)	1.1	1.4	+31%
Output (\$ Billions)	1.9	2.5	+33%
Capital Spending			
Employment (Jobs)	1,540	1,500	-3%
Employment (FTEs)	1,370	1,300	-5%
Earnings (\$ Billions)	0.07	0.08	14%
GDP (\$ Billions)	0.11	0.12	9%
Output (\$ Billions)	0.22	0.24	9%

Impact Measurement	2012	2016	% Change (2012 vs. 2016)
Total Impacts (Onsite, Visitor Spending, and Capital Spending)			
Employment (Jobs)	76,340	86,900	14%
Employment (FTEs)	67,670	77,800	15%
Earnings (\$ Billions)	3.0	3.7	24%
GDP (\$ Billions)	5.7	8.8	53%
Output (\$ Billions)	10.1	15.9	57%

Source: InterVISTAS Analysis

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1 Introduction and Background

The Metropolitan Airports Commission engaged InterVISTAS Consulting Inc. (InterVISTAS) to conduct an economic impact study to account for the operations of the Minneapolis-St. Paul International Airport (MSP) for the calendar year 2016. This study updates the economic impact report prepared in 2012 and provides a current snapshot of the airport's economic contribution to the greater Minneapolis-St. Paul area.

The aviation sector is a major economic generator, and airports play a critical role within the industry by facilitating the movement of people, goods, and services throughout the nation and world. The industry facilitates employment and economic development in the broader economy through a number of key mechanisms including tourism, investment, trade of goods and services, and productivity.

1.1 The Greater Minneapolis-St. Paul Region

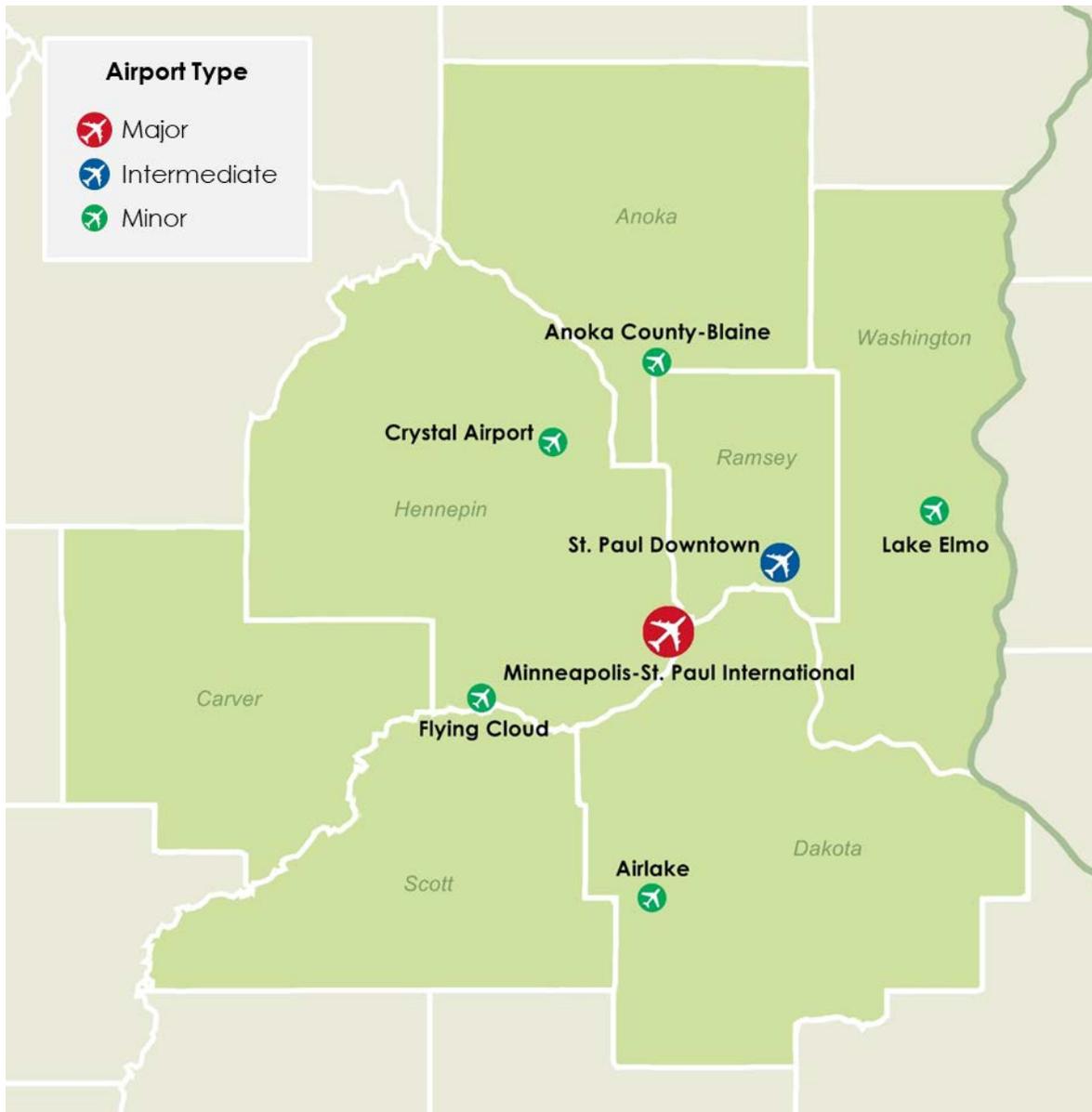
One of the great metropolitan regions in the United States, Minneapolis, Saint Paul, and the neighboring communities, collectively referred to as the Twin Cities, is renowned for its exceptional quality of life. The area boasts a vibrant culture, tremendous recreational opportunities, beautiful natural surroundings, and a thriving diverse economy.

According to data from the U.S. Bureau of Economic Analysis, as of 2015, the metropolitan area included a population of over 3.5 million. The region's population enjoys one of the highest per capita incomes in the nation (over \$55,000). Total employment in the region exceeds 2.4 million jobs. The population is also recognized for being among the most highly educated in the nation.

The diverse and growing regional economy features agriculture, food processing, computing, printing and publishing, large- and small-scale manufacturing, health care, arts and entertainment as well as medical instruments, education, and finance. The area is home to 17 Fortune 500 companies, including five Fortune 100 companies: UnitedHealth Group, Target, Best Buy, CHS, and 3M. The region also supports a large number of colleges and universities including the University of Minnesota and the University of St. Thomas. The area also hosts teams in five different major league professional sports: the Minnesota Twins, Minnesota Vikings, Minnesota Timberwolves, Minnesota Wild, and Minnesota United FC. St. Paul is the capital of Minnesota and is home to the Minnesota State Capitol, governor's mansion, and most buildings in the state government.

The Metropolitan Airports Commission operates one of the largest aviation systems in the United States, consisting of the Minneapolis-St. Paul International Airport and six reliever airports in the metropolitan area. See **Figure 1-1** for a map of all the Metropolitan Airports Commission's airport locations in the Minneapolis-St. Paul (Twin Cities) metropolitan area. This official metropolitan statistical area includes 11 counties in Minnesota and two in Wisconsin. The core metropolitan area includes seven counties surrounding the Twin Cities: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington. It is this seven county metro region on which this report focuses. The total population of this area exceeds 3 million and is home to nearly 2.2 million jobs.

Figure 1-1: MAC Airports in the Seven-County Metropolitan Area



Source: InterVISTAS

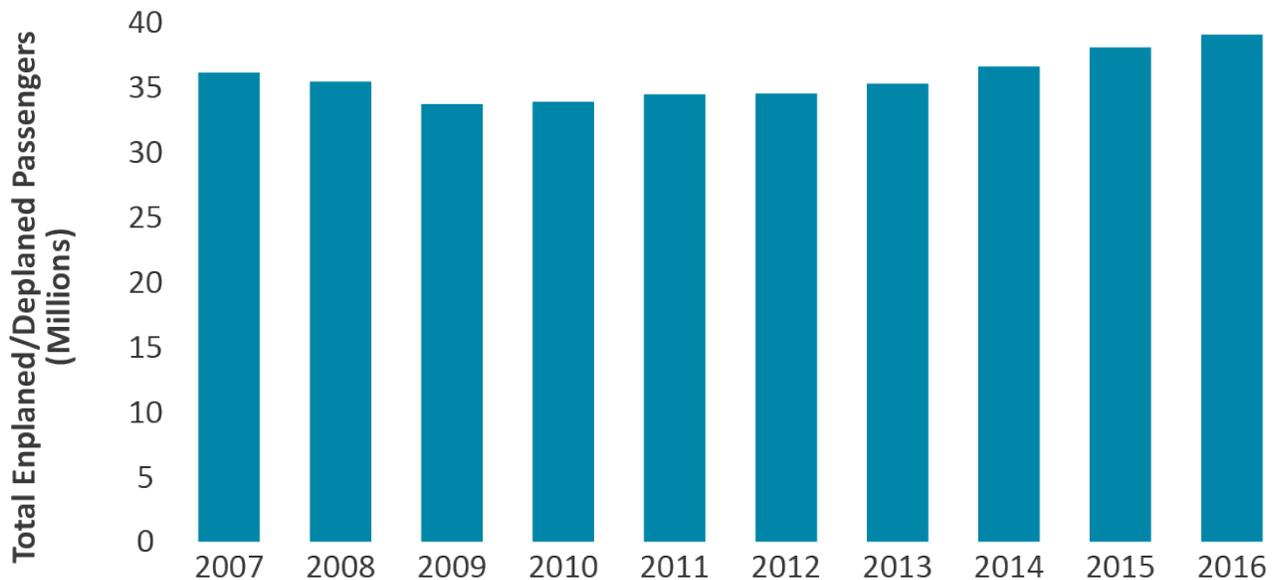
1.2 Minneapolis-St. Paul International Airport

According to the most recent information available from the U.S. Federal Aviation Administration (FAA), MSP is the 16th largest airport in the U.S. based on total passenger traffic in 2016.

The MSP airfield is approximately 3,400 acres in size and consists of two parallel runways, one north-south runway and one crosswind runway. Two of the runways, Runway 4-22 and Runway 12R-30L, are 10,000 feet long or longer. The other two runways are 8,000 feet long or longer. The airport operates two terminals: Terminal-1 Lindbergh (which originally opened to the public in 1962 and now serves passengers on ten different airlines,² most notably Delta Air Lines) and Terminal-2 Humphrey (which was developed under the MSP 2010 Long-Term Comprehensive Plan and now serves passengers on four other airlines including Sun Country Airlines and Southwest Airlines). Passengers can move between the two terminals using a light rail transit system.

Figure 1-2 illustrates the growth in annual passenger traffic at MSP since 2010. Passenger totals include all revenue and non-revenue passengers³ that used traditional major air carrier services, regional air carriers or charter companies. Over 37.5 million passengers travelled through MSP in 2016. This represents the seventh consecutive year of growth for MSP’s total passenger activity. Passenger traffic in 2016 increased by 3% from the prior year and is up 15% since 2010.

Figure 1-2:
Total Enplaned/Deplaned Passengers at MSP, 2010-2016



Source: Metropolitan Airport Commission, *Year End Statistics Reports (2007-2016)*

Note: Total air passenger traffic includes all enplaned & deplaned passengers.

² KLM is the 11th airline that operates at MSP, with service commencement in 2017.

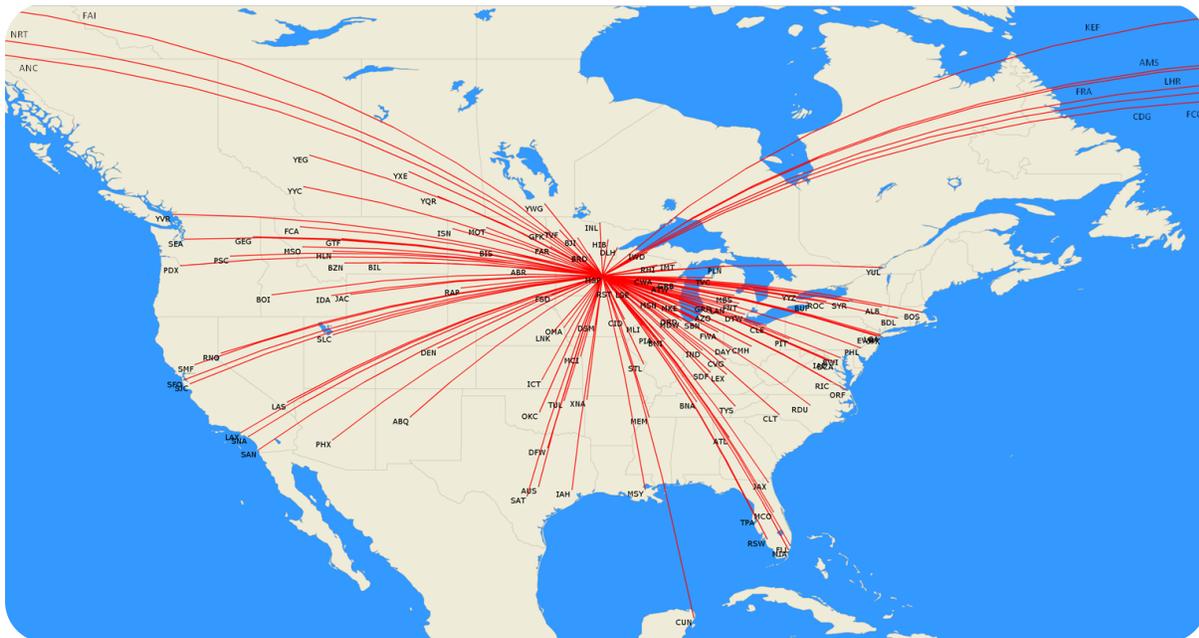
³ In general, “revenue passengers” are those paying for their seats including travelers who using frequent flyer mile awards. “Non-revenue passengers” are those traveling free or on token charges including airline employees, federal air marshals, and others. The complete definitions can be found in the Code of Federal Regulations, 14 C.F.R. section 298.2.

Passenger traffic includes both those who are beginning or ending their trip at MSP (“origin-and-destination” or “O&D” travelers) along with those who are connecting at MSP from another flight that arrived at the airport and onto a continuing flight (“connecting traffic”). For example, a passenger who arrives at MSP on a flight operated by Delta Air Lines from Kansas City and then boards another Delta flight to Amsterdam would be a “connecting passenger.”

According to data from the MAC, over 21 million O&D passengers moved through MSP in 2016, 7.3% more than in 2015. Between 1990 and 2016, the number of O&D passengers rose from 9.5 million to over 21 million (an annual compounded growth rate of 3.1%). From 2000 through 2016, the number of O&D passengers rose from 7.8 million to 10.2 million (a total increase of nearly 30%). Over the same period, the number of passengers who connect at MSP has generally declined. Since the merger of Delta and Northwest in 2008, the average number of connecting passengers at MSP has declined by over 1 million per year (about 15 percent) compared to the 8-year period 2000-2007. In 2016, over 7.8 million passengers connected at MSP.

Airlines operating at MSP throughout 2016 made nonstop scheduled operations to 157 domestic and international destinations, as shown in **Figure 1-3**.

Figure 1-3:
Nonstop Domestic and International Destinations Served from MSP (Summer 2016)

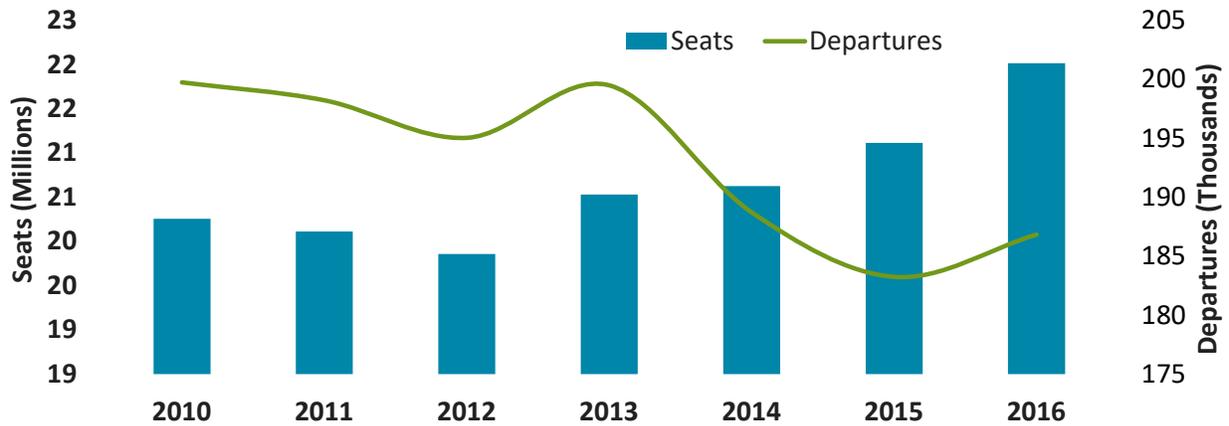


Source: Schedule data accessed via DIIO Mi for July 2016.

Note: Chicago, Tokyo, and Washington DC are only counted once as destinations from MSP, even though there is service available to more than one airport in each respective city from MSP.

Figure 1-4 shows the change in total commercial passenger departures and capacity since 2010. Over the period, total aircraft departures declined by about 4.7%, in part because of rising fuel prices, consolidation in the airline industry, and the economic downturns in 2009-2010. Despite the decrease in operations, however, the total capacity provided has increased by more than 10%. Airlines generally used larger aircraft for their operations at MSP (called “upgauging”); the average number of seats per flight rose from 101 in 2010 to 112 in 2016, an increase of 11%.⁴

Figure 1-4:
Change in Annual Commercial Passenger Departures and Seat Capacity at MSP, 2010-2016



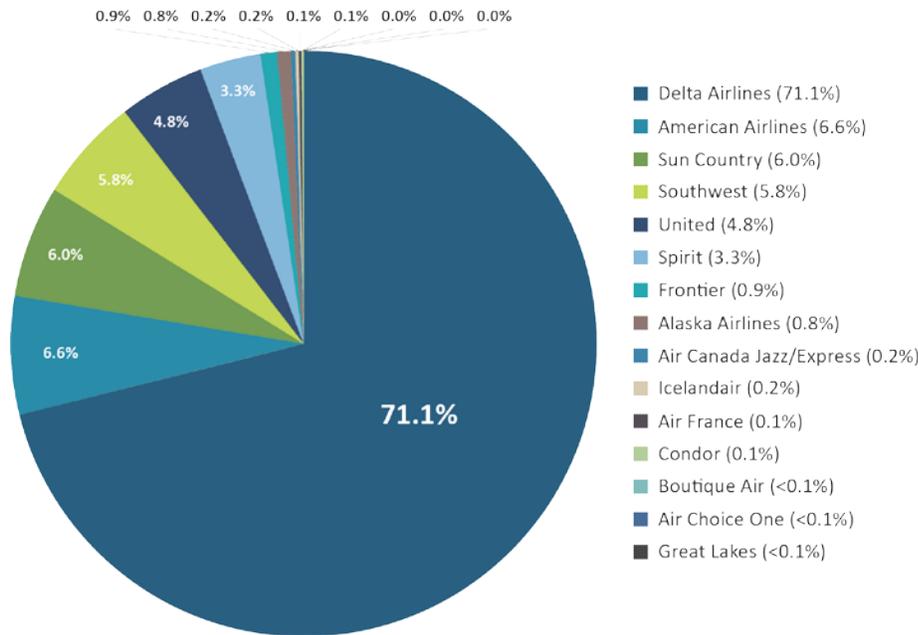
Source: Schedule data accessed via Diio Mi.

Delta Air Lines (Delta) is the largest air carrier at MSP. In 2016, Delta operated an average of 380 flights per day from MSP to over 150 destinations worldwide (123 domestic and 28 international).⁵ **Figure 1-5** shows the 2016 MSP revenue passenger market share by airline. Delta’s market share of MSP passengers in 2016 was over 71%, representing a 5% decline since 2012. American Airlines now holds a distant second to Delta, after more than doubling its market share at MSP since 2012 (from 3% in 2012 to nearly 7% in 2016), slightly surpassing Eagan-based Sun Country Airlines (6%). The growth of American’s market share is attributable to its merger with US Airways in Dec 2013,

⁴ U.S. Bureau of Transportation Statistics T-100 data for the 12 months ending the 3rd quarter of each year, as provided via Diio MI. Data for the full year 2016 was not available at the time of this report’s preparation.

⁵ 2016 schedule data for Delta as a marketing carrier accessed via Diio MI.

**Figure 1-5:
MSP Revenue Passenger Market Share by Airline**



Source: MSP Airport Statistics

In March 2016, total direct non-stop scheduled services from MSP amounted to nearly 430,000 seats per week (a traditional industry measure of capacity), up from 389,500 seats in March 2012, or an increase of 10%.⁶ **Table 1-1** shows the change in available non-stop seat capacity from March 2012 against March 2016 by country of destination.

In July 2016, total direct non-stop scheduled services from MSP included over 481,000 seats per week. These scheduled services included direct non-stop flights from MSP to 132 domestic and international locations.⁷ Since 2012, the capacity of total scheduled services at MSP increased by 11%. **Table 1-2** shows the change in available non-stop seat capacity from July 2012 against July 2016 by country of destination. Similar weeks in July were chosen for comparison purposes, as July is a popular month for seasonal travel at MSP.

Comparing the two tables allows insight into how the airlines serving MSP adjust their operations to serve different passenger demand at different times of the year. In March, MSP has a large number of departures for sunny, warm Mexican, Caribbean, and Central American destinations. In the summer, those operations drop, and are replaced by departures to European markets.

⁶ Schedule data accessed via Diio Mi for the month of March, 2016.

⁷ Schedule data accessed via Diio Mi for the month of July, 2016.

Table 1-1: Direct Non-stop Scheduled Flights Departing MSP – March 2012 vs. March 2016

Destination Country	Mar 2012		Mar 2016		Diff		Percent Diff	
	Ops/Week	Seats	Ops/Week	Seats	Ops/Week	Seats	Ops/Week	Seats
United States	3,506	353,246	3,272	384,334	(234)	31,088	-6.7%	8.8%
Canada	186	11,572	144	10,252	(42)	(1,320)	-22.6%	-11.4%
Mexico	86	13,707	116	19,303	30	5,596	34.9%	40.8%
Japan	7	1,883	7	1,638	0	(245)	0.0%	-13.0%
France	7	1,526	5	1,130	(2)	(396)	-28.6%	-26.0%
Netherlands	14	3,612	14	4,102	0	490	0.0%	13.6%
United Kingdom	7	1,722	7	1,722	0	0	0.0%	0.0%
Subtotal - Europe	28	6,860	26	6,954	(2)	94	-7.1%	1.4%
Bahamas	0	0	6	858	6	858	nm	nm
Cayman Islands	1	151	1	150	0	(1)	0.0%	-0.7%
Costa Rica	2	322	9	1,484	7	1,162	350.0%	360.9%
Dominican Republic	4	748	15	2,520	11	1,772	275.0%	236.9%
Jamaica	5	852	11	1,750	6	898	120.0%	105.4%
Sint Maarten	1	162	2	306	1	144	100.0%	88.9%
Subtotal - Caribbean and Central America	13	2,235	44	7,068	31	4,833	238.5%	216.2%
Total	3,826	389,503	3,609	429,549	(217)	40,046	-5.7%	10.3%

Source: Weekly schedules via Diio Mi. Week of Mar 7-13, 2012 and Week of Mar 7-13, 2017. Notes: nm = not meaningful.

Table 1-2: Direct Non-stop Scheduled Flights Departing MSP – July 2012 vs. July 2016

Destination Country	Jul 2012		Jul 2016		Diff		Percent Diff	
	Ops/Week	Seats	Ops/Week	Seats	Ops/Week	Seats	Ops/Week	Seats
United States	3,955	406,834	3,795	446,864	(160)	40,030	-4.0%	9.8%
Canada	204	14,771	166	14,915	(38)	144	-18.6%	1.0%
Mexico	0	0	4	632	4	632	nm	nm
Japan	7	1,883	7	2,037	0	154	0.0%	8.2%
France	7	1,687	14	3,966	7	2,279	100.0%	135.1%
Germany	0	0	3	777	3	777	nm	nm
Iceland	7	1,281	14	2,875	7	1,594	100.0%	124.4%
Italy	0	0	7	1,722	7	1,722	nm	nm
Netherlands	21	5,299	21	5,682	0	383	0.0%	7.2%
United Kingdom	7	1,722	7	1,722	0	0	0.0%	0.0%
Subtotal - Europe	42	9,989	66	16,744	24	6,755	57.1%	67.6%
Total	4,208	433,477	4,038	481,192	(170)	47,715	-4.0%	11.0%

Source: Weekly schedules via Diio Mi. Week of Jul 11-17, 2012 and Week of Jul 11-17, 2017. Notes: nm = not meaningful.

1.2.1 Capital Improvements at MSP

Some of the direct economic impact of the airport arises from capital improvement at the airport. The economic effects of an airport's capital development are considered separate from an airport's ongoing operations because the capital spending can vary significantly over time on a project-by-project basis.

Both the MAC and private developers made significant investments in the airport's infrastructure in 2016. The MAC's contributions included \$119 million in projects that will clear the site for construction of a new parking ramp at Terminal 1, a new skyway that will connect Concourse C on Terminal 1 to a new on-site hotel and improvements to the Concourse C/Concourse A rotunda space. In 2016, the private developer responsible for hotel construction on airport land contributed an estimated \$3 million, bringing the total capital spend figure to nearly \$122 million. This spending supports 700 *direct* FTEs of employment along with \$47 million in *direct* earnings and \$60 million in *direct* value added. This project – and its economic impacts – will continue in 2017.

1.3 Economic Impact Defined

Economic impact is a measure of the spending and employment associated with a sector of the economy, a specific project, or a change in government policy or regulation.

Economic impact is most commonly measured along several dimensions. The most common are:

1. **Employment** - person years of employment supported (expressed in terms of "full time equivalents" or FTEs). Because many jobs may be only part-time or seasonal, the number of jobs is greater than the number of person years of employment. Hours worked in part-time and seasonal employment are translated into FTEs.
2. **Earnings** – includes wages, salaries, and benefits associated with employment tied to the airport.
3. **Economic output** - the dollar value of industrial output produced. Sometimes referred to as "economic activity," it reflects the spending (e.g., capital improvement plus revenue) by firms, organizations, and individuals. In the case of organizations that do not generate revenue (e.g., government-provided air traffic control services), annual operating expenses are counted.
4. **Gross Domestic Product (GDP)**. Sometimes referred to as Value Added, this is a measure of the money value of final goods and services produced as a result of economic activity. This measure is net of the value of intermediate goods and services used up to produce the final goods and services.

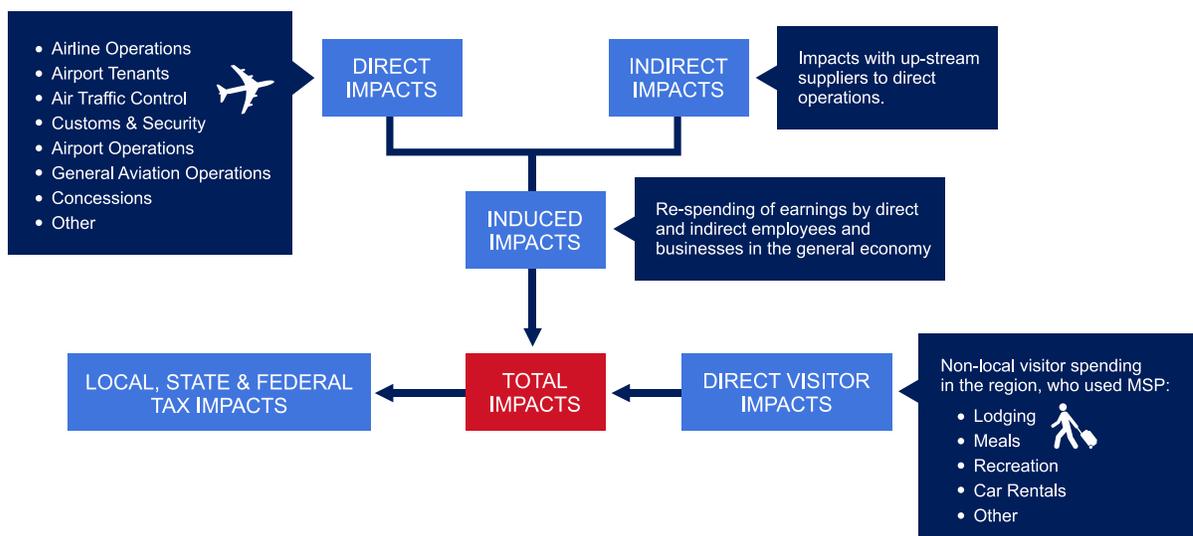
The three major components of economic impact are classified as direct, indirect, and induced impacts. These classifications are used as a base for the estimation of total economic impact of an airport. Each of these three components requires different tools of analysis. Employment impact analysis determines the economic impact in terms of jobs created and salaries and wages paid out. In the case of the airport, the direct, indirect, induced, and total number of person years of employment created at the airport is examined to produce a snapshot of airport operations. See **Figure 1-6**.

- **Direct** impacts account for the economic activity of the aviation sector itself. Direct employment impacts are measured by counting those individuals who work in this particular sector of the

economy. In the case of an airport, all of those people who work in an aviation-related capacity either on-site or off-site would be considered direct employment (e.g., airline ticket or gate agents, airline crew based at Minneapolis-St. Paul, ground handling, cleaning, maintenance, airport authority staff members, etc.).

- **Indirect impacts** are the “upstream” impacts that arise because of the direct impacts. For an airport, indirect impacts originate from off-site firms that serve airport users. Indirect employment includes the portion of employment in supplier industries which are dependent on sales to the air transport sector. An example would be food wholesalers that supply food for catering on flights. Another example would be building suppliers that sell materials used for the construction of capital improvements at the airport (e.g., a new terminal or parking structure).
- **Induced impacts** are economic impacts created by the spending of wages, salaries, and profits earned in the course of the direct and indirect economic activities. Induced employment is employment generated from expenditures by individuals employed indirectly or directly. For instance, if an airline maintenance firm employee decides to re-model his/her home, this would result in additional (induced) employment hours in the general economy. The home renovation project would support hours of induced employment in the construction industry, the construction materials industry, etc.
- **Visitor spending impacts.** Another related economic impact that arises from the airport’s operations flows from visitors to a region who arrive and depart via the airport rather than by other means (e.g., auto). The hospitality industry in particular benefits greatly from these visitors, who spend money on lodging, meals, entertainment, car rentals, and retail. Direct employment associated with those industries is counted as part of the economic impacts of the airport. The economic impacts associated with visitor spending are separately identified in this report. Some economic impact studies may incorporate these impacts into “indirect impacts,” but the project team accounts for them separately for technical economic reasons.
- **Total impacts** are the sum of direct, indirect, induced, and visitor spending impacts.

Figure 1-6: Economic Impact Overview - Airports



2 Economic Impact of MSP's Ongoing Operations

SUMMARY

- Annual operations at MSP support 21,200 direct jobs, 18,700 direct FTEs, and \$1.3 billion in direct wages.
- Indirect employment impacts of MSP include 13,100 indirect FTEs and \$0.8 billion in indirect wages across the state.
- Induced employment impacts of MSP include 16,500 induced FTEs and \$0.7 billion in induced wages across the state.
- Total employment impacts of MSP include 48,300 FTEs and \$2.8 billion in wages across the state.

2.1 Direct Impact of MSP's Operations

This section describes the employment, in terms of both jobs and FTEs or person years of employment, and estimated payroll attributable to employers directly related to ongoing operations at Minneapolis-St. Paul International Airport.

This section also examines the direct employment due to ongoing operations at MSP in more detail. FTEs or person years of employment are broken down by:

- Full-time versus part-time and seasonal employment;
- Employment by business type; and
- Employment by residency.

Through its business and commercial activities and operations, MSP contributes directly to employment and the economy in the greater Minneapolis-St. Paul region. It also acts as an economic catalyst, facilitating the growth of regional businesses and industrial sectors. Every arrival of a flight at MSP generates employment hours for individuals with jobs involved in handling passengers, their baggage, cargo and the aircraft. This employment includes customer service, airline crew, ground handling, cleaning, maintenance functions, etc. It also includes some overhead labor (e.g., clerical and administrative staff) and the associated employment of ground transportation firms and accommodation providers that service passengers of the airport. The direct impacts are the employment generated largely within the aviation sector associated with the operating and servicing of air services.

Direct employment related to ongoing operations at MSP amounts to 21,200 direct jobs. After adjusting for part-time and seasonal employment, the 21,200 jobs equate to 18,700 FTEs or person years of direct employment.

Direct employment at MSP and related firms receive an estimated \$1.3 billion in wages, providing an average of \$67,900 per FTE. This compares to the average state wage of \$51,330 per FTE, per annum and the average national wage of \$49,630 per FTE, per annum.⁸ Direct employment figures are summarized in **Table 2-1** for employment, wages, GDP, and output.

In addition to employment and wages, the airport directly contributes a total of \$3.9 billion to state GDP and over \$7.1 billion in direct economic output.

Table 2-1:
Direct Employment and Income at Minneapolis-St. Paul International Airport, 2016

Impact	Employment		Wages	GDP	Output
	Jobs	FTEs	(\$ Billions)	(\$ Billions)	(\$ Billions)
	Direct	21,200	18,700	1.3	3.9

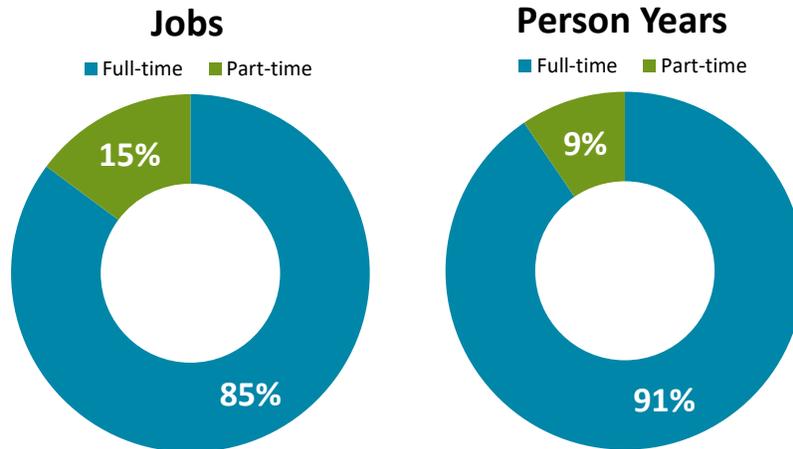
Note: Employment figures (jobs and FTEs) are rounded to the nearest hundred.

2.1.1 Direct Full-Time, Part-Time, Seasonal and Contract Employment

A total of 21,200 direct jobs or 18,700 FTEs are attributable to MSP's operations and other airport related businesses. Based on information provided by the survey of employers, 96% of the jobs are permanent jobs while seasonal employment represented 4% of jobs. Approximately 85% of all direct jobs are full-time positions. This demonstrates that MSP and its related businesses are a source of stable, year-round employment, as shown in **Figure 2-1**.

⁸ U.S. Department of Labor, Bureau of Labor Statistics

**Figure 2-1:
Full-Time Versus Part-Time Employment at Minneapolis-St. Paul International Airport, 2016**



2.1.2 Direct Employment by Business Type

MSP is a source of a wide variety of job categories, with different positions spread across the airport. A significant proportion of this employment is attributed to firms and employees supporting MSP air service operations. The various business types associated with MSP can be grouped into the following categories:

- **Commercial Airlines & Air Carriers** includes all of the employment related to commercial service and other air carrier operations. This includes all staff employed by the airlines, such as ticket agents, gate agents, and based crew. This category accounts for 9,650 jobs (46%) of direct employment.
- **Aviation Support Services** includes employment related to ground handling, aircraft maintenance, fixed base operators and fueling companies. Employment related to aviation support services represents 2,380 jobs (11% of direct employment) at MSP.
- **Food & Retail** employment accounts for employees associated with airport retail outlets, sit-down and fast food restaurants, and catering. This category of business type sums to 2,550 jobs, representing 12% of direct employment.
- **Building Maintenance & Janitorial Work** includes all employment associated with the maintenance and care of buildings on MSP land. This includes cleaning, janitorial, and maintenance staff, which account for approximately 1,050 jobs or 5% of total jobs at the airport.
- **Government Enterprises** account for employment related to government agencies and departments operating at MSP. Examples of this employment include MAC, FAA, and TSA staff. This category accounts for roughly 1,630 jobs, or 8% of total onsite employment at the airport.

- **Courier** includes the employment associated with the major freight forwarding firms situated at MSP. Combined, they account for approximately 970 jobs, or nearly 5% of total employment.
- **Car Rental** accounts for all of the car rental firms associated with MSP. The employment amongst these firms sums to almost 970 jobs, nearly 5% of the total jobs at the airport.
- **Ground Transportation**, such as taxi, limo, uber account for an estimated 1,330 jobs, or 6% of the total direct jobs at MSP.
- **Accommodations** employment that is estimated to handle overnight airline crew stays and connecting passengers that need to overnight, account for nearly 670 jobs or approximately 3% of MSP's total direct jobs.

A breakdown of direct employment at MSP by business type is illustrated in **Figure 2-2**.

Figure 2-2: Direct Employment by Business Type at MSP, 2016



2.2 Residency of Direct Employees

Over half of the 21,200 employees directly associated with the operations of the airport live in Hennepin and Ramsey counties. Roughly 28% of the total direct employees are residents of St. Paul and Minneapolis (13% in St. Paul and 15% in Minneapolis). Additionally, roughly 10% of the employees associated with the airport reside in Dakota County. Overall, the seven-county region is home to roughly 94% of the total employees associated with the airport. **Table 2-2** provides a breakdown of direct employment at MSP by residence of employee.

Table 2-2: Residency of Direct Employees at MSP, 2016

Jurisdiction	Direct Jobs	% of Direct Jobs
Hennepin County	11,200	53%
(City of Minneapolis only)	(3,200)	(15%)
Ramsey County	5,300	25%
(City of St. Paul only)	(2,700)	(13%)
Dakota County	2,000	10%
Washington County	400	2%
Scott County	400	2%
Anoka County	600	3%
Carver County	100	1%
Other Minnesota*	900	4%
Other U.S.**	300	1%
Total Employment	21,200	100%

Source: Survey of employers by InterVISTAS.

2.3 Indirect and Induced Economic Impacts

The previous sections discussed how direct employment related to ongoing operations at MSP was measured. The employment impact of the airport does not end there, however, as other sectors of the economy are dependent on these employers' businesses. Indirect employment is generated by suppliers to the businesses directly related to the airport. In addition, there may be impacts to the state-wide economy when direct (and indirect) employees spend their wages. These employment effects are referred to as induced employment. Total employment impacts therefore equal the sum of direct, indirect, and induced effects.

The indirect and induced effects have been calculated using the U.S. Bureau of Economic Analysis's Regional Input-Output Modeling System (RIMS II).⁹

2.3.1 Indirect Impacts

Indirect impacts are generated by industries that provide or supply goods or services to firms located onsite at MSP. Based on the analysis of the employer survey results and the application of economic multipliers, it is estimated that 13,100 *indirect* FTEs were associated with ongoing operations at MSP in 2016. This suggests that 13,100 FTEs were indirectly generated in industries that supplied the businesses at the airport. The labor income associated with the indirect employment was estimated at \$0.8 billion annually. The *indirect* GDP contribution was \$1.9 billion alongside an *indirect* economic output of \$3.5 billion on an annual basis.

2.3.2 Induced Impacts

Induced impacts are produced because of expenditures by individuals employed directly and indirectly by airport businesses. It represents the demand for goods and services generated by wage earnings from direct economic activity at the airport. *Induced* employment attributable to MSP is estimated at 16,500 FTEs, which is associated with *induced* labor earnings totaling \$0.7 billion. The *induced* GDP contribution sums to \$1.4 billion, with an economic output of \$2.5 billion.

2.4 Total Economic Impact of the Airport's Ongoing Operations

Ongoing MSP operations, including induced and indirect effects, support 54,500 total jobs (equivalent to 48,300 FTEs), and \$2.8 billion in wages across the state. Including multiplier effects, operations at the airport support \$7.2 billion in total GDP and \$13.1 in total economic output contributions, as shown in **Table 2-3**.

⁹ The U.S. Bureau of Economic Analysis's Regional Input-Output Modeling System (RIMSII) is a regional economic tool that measures the total economic impact of a region (<https://www.bea.gov/regional/rims/rimsii/>). The model measures demand shocks on employment, earnings, value added, and total gross output, and is based on 2007 national benchmark input-output data and 2015 regional data.

**Table 2-3:
Annual Total Ongoing Economic Impact of Minneapolis-St. Paul International Airport Operations, 2016**

Impact	Employment		Wages (\$ Billions)	GDP (\$ Billions)	Output (\$ Billions)
	Jobs	FTEs			
Direct	21,200	18,700	1.3	3.9	7.1
Indirect	14,800	13,100	0.8	1.9	3.5
Induced	18,600	16,500	0.7	1.4	2.5
Total	54,500	48,300	2.8	7.2	13.1

Note: Employment figures (jobs and FTEs) are rounded to the nearest hundred. Totals may not sum due to rounding.

3 Other Economic Impacts Associated with MSP

SUMMARY

- In 2016, capital improvements by MSP and private developers amounted to roughly \$122 million.
- Capital improvement spending supported 1,300 FTEs of employment along with \$80 million in earnings and \$120 million in value added.
- Spending by visitors arriving via MSP amounted to \$2.5 billion and supported 30,900 direct jobs, \$0.8 billion in direct earnings and \$1.4 billion in direct GDP.

3.1 Economic Impacts of Capital Improvements

In addition to the employment and other economic impacts of ongoing operations from the MSP business community, there are also economic impacts associated with the airport's capital expenditures. The capital expenditures include spending on construction, equipment, and raw and finished materials, all of which support employment, GDP, and economic output.

A part of the direct impact arose from capital improvement that occurred at the airport in 2016. The economic effects of an airport's capital development are considered separate from an airport's ongoing operations because the capital spending can vary significantly over time on a project-by-project basis.

Both the MAC and private developers made significant investments in the airport's infrastructure in 2016. The MAC's contributions included \$119 million in projects that will clear the site for construction of a new parking ramp at Terminal 1, a new skyway that will connect Concourse C on Terminal 1 to a new on-site hotel, and improvements to the Concourse C/Concourse A rotunda space.

Construction on an airport hotel began in 2016 and is expected to be completed in mid-2018. The total project value is estimated to be \$70-\$80 million. The private developer contributed approximately \$3 million to the project in 2016, which is included in the impacts estimate of capital spending. The hotel is slated to open for business during summer 2018.



This spending supported 1,300 FTEs of total employment along with \$80 million in earnings and \$120 million in value added. The total economic impact of the airport's 2016 capital expenditures is summarized in **Table 3-1**.

Table 3-1: Total Economic Impact of Minneapolis-St. Paul's Capital Improvements in 2016

Impact	Employment		Wages (\$ Millions)	GDP (\$ Millions)	Output (\$ Millions)
	Jobs	FTEs			
Direct	800	700	50	60	120
Indirect	200	200	10	20	50
Induced	500	500	20	30	70
Total	1,500	1,300	80	120	240

Note: Employment figures (jobs and FTEs) are rounded to the nearest hundred. Totals may not sum due to rounding. Results are presented in 2016 dollars.

Between 2007 and 2016, the Metropolitan Airports Commission invested nearly \$1.2 billion in capital improvements at Minneapolis-St. Paul International, with nearly \$450 million more budgeted for 2017. Like operations at Minneapolis-St. Paul International Airport, capital expenditures there provide a variable but sizeable and ongoing stream of jobs and economic output for the seven county Twin Cities metropolitan area.

3.2 Impact of Spending by Visitors Who Use MSP

MSP is the primary gateway to the Minneapolis-St. Paul region and millions of visiting passengers arrive and depart from the airport annually. While MSP welcomed approximately 37.5 million passengers in 2016, only a portion of these travelers can be considered true visitors to the region.¹⁰ These visitors spend money locally on accommodation, transportation, food, entertainment, and retail which generates considerable economic impacts in the region. The impacts of travelers who access the region via MSP are incremental to the onsite and capital spending economic impacts.

Data from the U.S. Department of Transportation (DOT) and Sabre MIDT indicate that in 2016, the total number of visitors to the region that arrived and departed via MSP exceeded 5 million. Those visiting from abroad spent on average about \$172 per day, while domestic US visitors would spend on average approximately \$110 per day. Those averages include the effects of a sizeable portion of travelers who stay with friends and family during their visits, and thus tend to spend less.

¹⁰ InterVISTAS recognizes that connecting passengers spend money in or near the airport, yet this spend is already captured via the airport tenant employment survey. Counting connecting passenger spending would result in double-counting.

3.2.1 Visitor Spending Analysis

To estimate the economic impact of domestic and international visitor spending in the region, InterVISTAS commissioned an in-terminal survey of passengers at MSP. This in-terminal passenger survey was conducted in the late spring of 2017. The in-terminal survey results were analyzed to determine the average expenditure per non-local visitor category. The survey – which produced estimates statistically reliable at a 95% confidence interval – obtained information on the length of stay and amount spent by different categories of travelers:

- domestic passengers whose primary purpose of traveling was leisure,
- domestic passengers whose primary purpose of traveling was business,
- international passengers whose primary purpose of traveling was leisure, and
- international passengers whose primary purpose of traveling was business.

Spending was further analyzed in terms of different spending categories (e.g., accommodations, meals, ground transportation/rental cars, retail). See **Appendix III** for further detail on the survey methodology and analysis conducted. **Table 3-2** summarizes the trip characteristics of visitors based on the in-terminal survey.

Table 3-2:
Trip Characteristics of Non-Local Visitors to MSP, 2016

Category of Visitor	Average (Mean) Night Stay	Average (Mean) Expenditure per Visitor (\$)	Average (Mean) Expenditure per Visitor per Night (\$)
Domestic			
Business	3	559	206
Leisure	5	457	93
Domestic Total	4	451	110
International			
Business	4	978	263
Leisure	4	272	63
International Total	4	680	172

Source: In-terminal visitor spending survey conducted in spring 2017.

International visitors tended to spend more than domestic visitors, yet generally stayed the same number of nights. Domestic visitors spent roughly \$451 per trip and stayed four nights on average. International visitors spent approximately \$680 per trip and also stayed for four nights on average.

The estimate of average (mean) expenditure per visitor was then applied to the 2016 MSP passenger traffic figures to estimate total visitor spending. Approximately 5.2 million of the 37.5 million total passengers that came through MSP in 2016 can be classified as non-local visitors to the region based on U.S. DOT and Sabre MIDT data. See **Appendix III** for information on how the number of non-local visitors was estimated.

Using data obtained from the in-terminal survey and passenger traffic statistics at MSP, it is estimated that the total spending of visitors arriving via MSP is \$2.5 billion per annum. **Table 3-3** summarizes the non-local visitor passenger breakdown for MSP in 2016.

Table 3-3:
Characteristics of Domestic and International Visitors to MSP, 2016

Category of Visitor	Number of Visitors (Millions)	Average (Mean) Expenditure per Visitor (\$)	Total Expenditure (\$ Billions)
Domestic	4.6	451	2.1
International	0.5	680	0.4
Total*	5.2	476	2.5

Note: Total average (mean) expenditure per visitor is calculated by dividing total visitor expenditure amount (sum of domestic and international total visitor spending) by the total number of visitors that passed through MSP in 2016. Figures may not sum to totals due to rounding.

As elsewhere in this study, the project team believes these estimates to be somewhat conservative. The survey asked visitors to report the amount that they spent in the Minneapolis-St. Paul area. To the extent that visitors also spent money elsewhere in the state but outside of the immediate metropolitan area, the effects of that spending were not captured.

3.2.2 Average Visitor Expenditure by Category

By applying the average visitor spending data from the in-terminal survey to the total number of visitors, the study team estimated that the visitor spending of those who traveled through MSP amounted to roughly \$2.5 billion a year. The distribution of this visitor expenditure by category is summarized in **Table 3-4**.

Table 3-4: Average Non-Local Visitor Expenditure per Year by Spending Category

Spending Category	Average Expenditure (\$ Millions)	Percentage of Total*
Lodging	1,010	41%
Food & Beverage	690	28%
Transportation	340	14%
Gifts & Souvenirs	300	12%
Entertainment	70	3%
Other	50	2%
Total Average Expenditure	2,470	100%

Note: * Percentages may not add to 100 due to rounding.

3.2.3 Direct Economic Impact of Visitor Spending

The U.S. BEA's employment impact multipliers are used to estimate the direct employment generated by each dollar of visitor spending, as well as earnings and GDP. Based on multiplier analysis, the direct visitor spending impacts of MSP in 2016 included 30,900 direct jobs in the Minneapolis-St. Paul region, representing 28,200 direct person years of employment.

The direct economic impacts of non-local visitors who used air travel through MSP and spent money in the region are summarized in **Table 3-5**.

**Table 3-5:
Direct Annual Visitor Spending Impacts of Ongoing Operations at MSP, 2016**

Impact	Employment		Wages (\$ Billions)	GDP (\$ Billions)	Output (\$ Billions)
	Jobs	FTEs			
Direct	30,900	28,200	0.8	1.4	2.5

Note: Employment figures (jobs and FTEs) are rounded to the nearest hundred. Totals may not sum due to rounding.

3.2.4 Indirect and Induced Visitor Spending Impacts

The indirect visitor spending impacts are based on employment generated in industries that supply and provide services to the tourism industry, and the induced impacts of visitor spending are based on employment generated from the expenditures of individuals employed directly or indirectly by the tourism industry. The indirect and induced visitor spending impacts are not estimated in this study because these would include the aviation-related impacts, which have already been accounted for.

When measuring the economic impacts of airport operations, the multiplier effects of visitor spending will contain impacts in aviation, which has already been measured as a direct effect of the airport. As well, the indirect and induced effects of visitor spending include some of the indirect and induced effects of aviation. As a result, this study does not estimate indirect and induced impacts generated from visitor spending (which include impacts of other supplier industries) to avoid double-counting. This methodology has been applied to ensure the estimates cannot be classified as inflated or misleading. To ensure the credibility of this study, the estimates reported are conservative.

4 Tax Revenues Generated by MSP's Operations

SUMMARY

- MSP is an important generator of tax revenues, with approximately \$973 million paid by employers and employees to all levels of government.
- The federal government accrued 44% of taxes collected, estimated to be \$427 million.
- The Minnesota State government, along with local governments, received an estimated \$546 million in tax revenues (56% of total).

4.1 Tax Revenue Impacts

This section documents the current contribution to government revenues resulting from operations at MSP and associated economic activity.¹¹ The tax impacts on federal, state, and local government were generated from the IMPLAN model.

Revenue contributions are divided into the following groupings, based on the origins of the resulting impacts:

- **Taxes Related to Employee Compensation.** This category includes the federal, state, and local impacts of Social Insurance taxes paid by employers and employees at MSP. It contains the tax impacts generated by retirement plans, temporary disability insurance, and workers' compensation payments. These taxes contribute largely to federal government streams; however, smaller contributions are made to state and local governments as well.
- **Taxes Related to Household Income.** This category contains the personal tax impacts generated by households related to MSP. The federal impacts include all applicable personal income tax payments. The state and local impacts contain personal income tax payments, fines and fee charges, motor vehicles licensing fees, property taxes, and other applicable taxes. The federal government receives over two-thirds of the tax impacts in this category, while state and local governments share the remaining third.

¹¹ Taxation impacts are based on 2016 tax rates.

- **Other Taxes and Fees.** These relate to a taxes and fees that are paid by corporations to the local, state and federal levels of government.

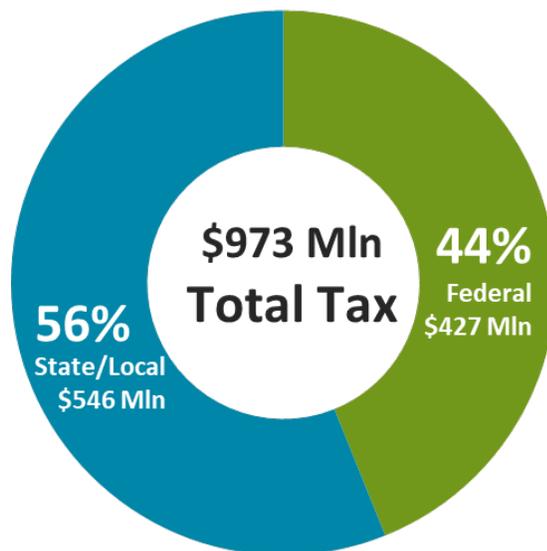
4.2 Tax Contributions by Level of Government

Ongoing economic activity at MSP generates tax revenue for all levels of government. In 2016, total tax contributions related to *direct* employment to all levels of government were approximately \$973 million.

Figure 4-1 provides a breakdown of tax impacts by level of government.

- The federal government received roughly \$427 million (44% of total tax revenue impacts). A large portion of that total is attributable to social insurance taxes (45%), with the remainder split among personal income taxes (30%), taxes on production and imports (15%), and corporate profits taxes (10%).
- The Minnesota State government and other local governments received approximately \$546 million (56% of total tax revenue impacts). The vast majority of this total comes from taxes on production and imports (88%), while the remainder stems from personal taxes (10%), corporate profits taxes (1%), and social insurance taxes (1%).

Figure 4-1:
Annual Estimated Tax Revenues of Minneapolis-St. Paul International Airport by Level of Government



4.3 Summary of Tax Contributions by Taxpayer

Ongoing economic activity at Minneapolis-St. Paul International Airport generates tax revenue through a number of different channels, as summarized in **Table 4-1** below.

Table 4-1:
Annual Estimated Tax Contributions at Minneapolis-St. Paul International Airport (\$ millions)

Category	Federal	State and Local	Total
Taxes Related to Employee Compensation	\$191.7	\$2.8	\$194.6
Taxes Related to Households	\$129.4	\$56.2	\$185.7
Other Taxes and Fees	\$105.90	\$486.70	\$592.60
Total	\$427.1	\$545.8	\$972.9

Note: Totals may not sum due to rounding.

5 Comparison of 2016 and 2012 Economic Impacts

The total economic impact of MSP in 2016 is higher relative to 2012. Employee FTEs from total ongoing operations (onsite and visitor spending impacts) rose over **14%**, from over **76,300** to **86,900**, between 2012 and 2016. **Table 5-1** summarizes employment, earnings, GDP, and output growth between 2012 and 2016.

Table 5-1: Comparison of 2012 vs. 2016 Results

Impact Measurement	2012	2016	% Change (2012 vs. 2016)
Total Onsite Impacts			
Employment (Jobs)	50,300	54,500	+8%
Employment (FTEs)	44,600	48,300	+8%
Earnings (\$ Billions)	2.4	2.8	+18%
GDP (\$ Billions)	4.5	7.2	+61%
Output (\$ Billions)	8.0	13.1	+64%
Visitor Spending (Direct Impacts Only)			
Employment (Jobs)	24,500	30,900	+26%
Employment (FTEs)	21,700	28,200	+30%
Earnings (\$ Billions)	0.5	0.8	+51%
GDP (\$ Billions)	1.1	1.4	+31%
Output (\$ Billions)	1.9	2.5	+33%
Capital Spending			
Employment (Jobs)	1,540	1,500	-3%
Employment (FTEs)	1,370	1,300	-5%
Earnings (\$ Billions)	0.07	0.08	14%
GDP (\$ Billions)	0.11	0.12	9%
Output (\$ Billions)	0.22	0.24	9%

Impact Measurement	2012	2016	% Change (2012 vs. 2016)
Total Ongoing Impacts (Onsite, Visitor Spending and Capital Spending)			
Employment (Jobs)	76,340	86,900	14%
Employment (FTEs)	67,670	77,800	15%
Earnings (\$ Billions)	3.0	3.7	24%
GDP (\$ Billions)	5.7	8.8	53%
Output (\$ Billions)	10.1	15.9	57%

6 Summary of Economic Impact Results

6.1 Economic Impacts

The ongoing operations at MSP support a total of over 54,000 jobs (48,300 FTEs or person years of employment) in the state, including multiplier impacts. Of this total employment figure, 21,200 (18,700 FTEs) are attributable to *direct* employment. As jobs related to the airport extend far beyond its boundaries, the bottom line total also includes nearly 15,000 addition indirect jobs (13,100 FTEs) and over 18,000 induced jobs (16,500 FTEs).

The *direct* employment associated with annual ongoing operations at MSP grew slightly to 18,700 FTEs in 2016 from 17,500 FTEs in 2012 (an increase of 7%).

The statewide economy benefits significantly from the day-to-day operations of MSP. Annually, the airport contributes an estimated total of \$7.2 billion in GDP, alongside an estimated \$13.1 billion in economic output. All impacts relating to employment, wages, GDP, and output are illustrated in **Table 6-1**.

Table 6-1:
Total Economic Impacts of Minneapolis-St. Paul International Airport Operations in 2016

Impact	Employment		Wages	GDP	Output
	Jobs	FTEs	(\$ Billions)	(\$ Billions)	(\$ Billions)
Direct	21,200	18,700	1.3	3.9	7.1
Indirect	14,800	13,100	0.8	1.9	3.5
Induced	18,600	16,500	0.7	1.4	2.5
Total	54,500	48,300	2.8	7.2	13.1

Note: Employment figures (jobs and FTEs) are rounded to the nearest hundred. Totals may not sum due to rounding.

There are also economic impacts associated with the airport's spending on capital improvements. The MAC's investment roughly \$122 million generated another 800 direct jobs and \$50 million in direct earnings. The total economic impact of the airport's 2016 capital improvements is summarized in **Table 6-2**.

Table 6-2:
Total Economic Impact of Minneapolis-St. Paul's Spending on Capital Improvements in 2016

Impact	Employment		Wages (\$ Millions)	GDP (\$ Millions)	Output (\$ Millions)
	Jobs	FTEs			
Direct	800	700	50	60	120
Indirect	200	200	10	20	50
Induced	500	500	20	30	70
Total	1,500	1,300	80	120	240

Note: Employment figures (jobs and FTEs) are rounded to the nearest hundred. Totals may not sum due to rounding.

The total economic impact associated with MSP operations, visitor spending, and capital spending in 2016 approached 87,000 jobs, with wages and earnings of \$3.7 billion. The total contribution to the region's GDP was approximately \$8.8 billion, with a total economic output of nearly \$16 billion, as shown in Table 6-3.

Table 6-3:
Combined Economic Impacts of MSP Operations, Visitor Spending, and Capital Improvement Spending, 2016

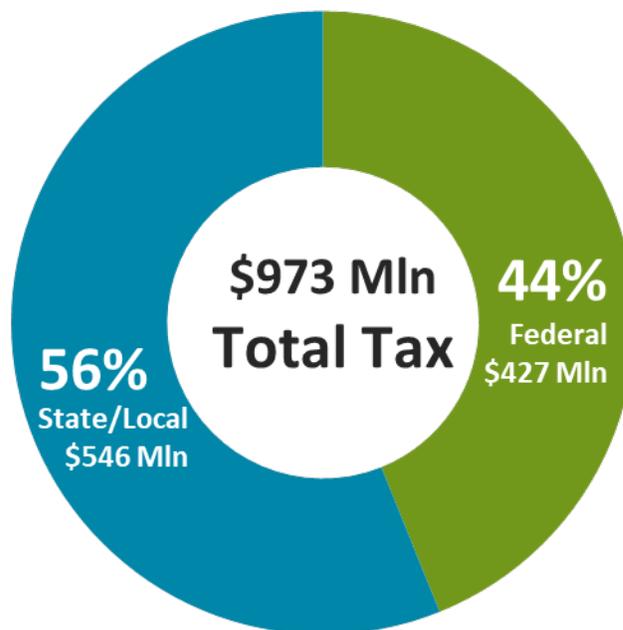
Impact	Employment		Wages (\$ Billions)	GDP (\$ Billions)	Output (\$ Billions)
	Jobs	FTEs			
Total Direct	52,800	47,600	2.1	5.4	9.8
Total Indirect	15,000	13,300	0.9	1.9	3.5
Total Induced	19,100	16,900	0.7	1.4	2.6
Grand Total	86,900	77,800	3.7	8.8	15.9

Note: Employment figures (jobs and FTEs) are rounded to the nearest hundred. Totals may not sum due to rounding.

6.2 Tax Revenue Impacts

MSP generates considerable tax revenues across all levels of government. On an annual basis, an estimated \$973 million in tax is contributed by airport employers, employees, and passengers. Over half of that amount (56%) flowed to state and local governments, with the remaining 44% going to the federal government. See **Figure 6-1**.

Figure 6-1:
Annual Estimated Tax Revenues of Minneapolis-St. Paul International Airport by Level of Government



Appendix I: Methodology

Overview

InterVISTAS conducted this economic impact study during the first half of 2017. The study is based on employment data collected from survey respondents for calendar year 2016.

To calculate the direct employment impacts, the study team surveyed all the employers associated with the operation of MSP (e.g., airlines, ground handling firms, caterers, etc.) to determine the number of individuals employed in directly related occupations, as well as the amount of wages paid out to those individuals. The firms surveyed as part of this study are located both on the airport site (on-site) and off airport property (off-site). The employment survey was used to classify the total employment and average wages paid out by business type. In turn, this data was used to calculate the associated tax impacts (government revenue) generated by the airport's operations.

InterVISTAS estimated the indirect and induced effects using the RIMS II model, which is based on 2007 national benchmark input-output data and 2015 regional data. The previous study conducted in 2012 also used the RIMS II model, with multipliers derived from 2002 benchmark input-output data and 2010 regional data.

To derive estimates of the impact of non-local domestic and international visitors arriving and departing from MSP, InterVISTAS commissioned an on-site in-terminal survey during the spring of 2017.

Wherever possible, the results of this study were validated and measured against recognized and reliable external sources.

Estimating Current Economic Impact

Direct employment related to ongoing operations at MSP is measured first. Employment figures are generally more understandable by the public than more abstract measures, such as economic output or GDP. Employment figures also have the advantage of being a more accurate measure, both because firms are more likely to provide data on employment rather than information on revenues, earnings, and other monetary amounts, and because there is less chance of double counting economic activity.

The study team then assessed the indirect and induced (or "multiplier") employment supported by MSP's operations, as well as economic activity in terms of economic output and GDP using economic multipliers. The tax revenues generated annually by operations at MSP are also estimated.

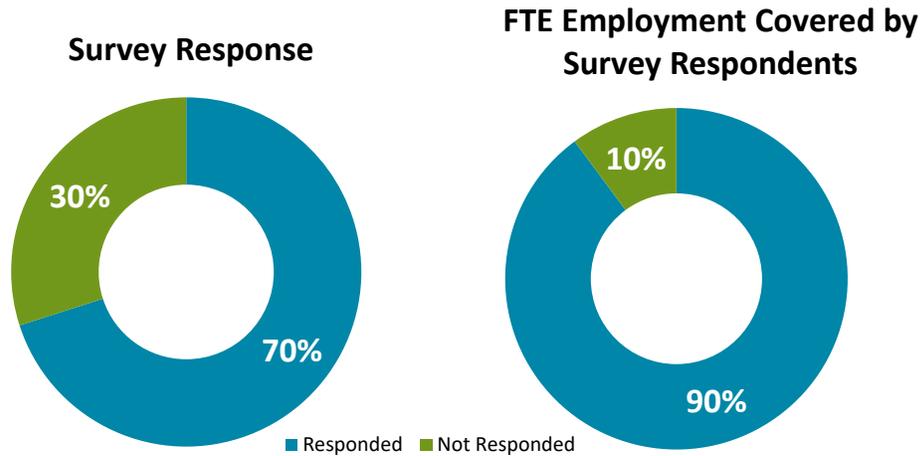
Surveying Direct Employment

To quantify the total amount of employment attributable to ongoing MSP operations, the project team began by surveying the tenants and related businesses economically linked to the airport. The surveyed firms include on-site airport tenants (e.g. airlines, governmental agencies, concessionaires), off-site firms associated with airport operations (e.g., courier companies), and hotels in the surrounding region. Additional detail on the survey methodology, along with a copy of the general employment survey provided to airport tenants, is in **Appendix II**. The team followed up with firms and organizations that had not responded to the emailed survey via telephone and email follow-ups to encourage them to submit information. The follow-up efforts focused on the larger organizations (measured by the number of badges that the MAC had issued to the organization's employees that permitted those individuals to have

access to the airport property.) In total, 70% of the businesses and organizations contacted responded to the survey, representing nearly 90% of total person years of employment covered by the survey. A summary is provided in **Figure I-1**. In total, 99 survey responses were received from MSP on-site tenants, which amount to a 71% response rate for this employment category.

The employment information for firms that provide ground transportation (e.g., taxis, shuttles, limo, and transportation network companies such as Uber or Lyft) was collected and analyzed in a slightly different manner than the other employment types. An employment estimate for associated ground transportation firms was calculated based on data collected by the Metropolitan Airports Commission and provided to InterVISTAS. See **Appendix II** for a description of how the employment impacts for ground transportation firms were determined.

Figure I-1: Onsite & Accommodation Response Rate (Employers and Person Years)



Inferring Employment

For non-responding firms, the project estimated the amount of employment by company using a proven and accepted methodology. First, the team reviewed data from the MAC on the number of badges issued to employees of firms working on airport property. The team also referenced the survey results of similar firms and examined information from other credible external sources like the U.S. Bureau of Labor Statistics.

There may be firms located off-airport that were not surveyed because their relationships to airport-related industries were not known. An estimate of employment for these non-surveyed firms was not provided because there was no basis for an assessment. If there were any omissions, it is expected that the volume of missed employment would be minimal.

Estimating Indirect and Induced Impacts with Economic Multipliers

Measurement of indirect and induced economic activity is difficult. While it may be possible to conduct a survey of downstream employers, the survey would need to cover thousands of firms in order to completely cover indirect employment. For induced employment, the entire economy would need to be scrutinized. In addition to the time and financial resources needed to conduct such surveys, the quality of responses would be suspect.

As an alternative to costly and inaccurate surveys, indirect and induced effects are typically measured using *economic multipliers*. Multipliers are derived from models of the general economy. They come in a variety of forms and differ greatly in definition and application.

InterVISTAS purchased the multipliers used for this study from the U.S. Bureau of Economic Analysis (BEA). Those multipliers are based on BEA's most recent Regional Input-Output Modeling System (RIMS II). RIMS II is based on a highly detailed accounting of national and regional economic structures or relationships. The model tracks how the goods and services produced by one industry are used by other industries and final users. RIMS II adjusts these national relationships to account for regional supply conditions. This version of the RIMS II model is based on 2007 national benchmark input-output data and 2015 regional data. The previous study conducted in 2012 also used the RIMS II model, with multipliers derived from 2002 benchmark input-output data and 2010 regional data.

The specific multipliers selected for this study effectively model the economy of the seven-county core metro area -- Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties. This region -- rather than other potential geographic areas, such as the entire State of Minnesota -- was selected based on the concentration of airport- and airline-related employers in the area, the economic relationship among those firms and organizations, and the residency of the vast majority of employees.

In addition, the use of multiplier analysis is limited by a number of factors including:

- the accuracy of the structure and parameters of the underlying model;
- the level of unemployment in the economy;
- the assumption of constant returns to scale in production;
- the assumption that the economy's structure is static over time; and
- the assumption that there are no displacement effects.

Study Time Frame

The employment survey was conducted between March and June 2017 and the results reflect employment for calendar year 2016.

Jobs versus Person Years of Employment

Traditionally, employment is measured by the number of jobs. However, when part-time and/or seasonal workers are used, this can be a misleading measure resulting in an overstatement of economic impact. Whenever possible, employment impacts are measured both in terms of the number of jobs and the number person-years of employment, often referred to as “full-time equivalents” (or FTEs).¹² We convert hours worked by part-time and/or seasonal employees into FTEs.

In-Terminal Survey of Travelers

To generate estimates of the spending done by visitors to the region who arrived via air, the project team commissioned a survey of passengers who were departing. The survey screened out those passengers who either lived in the region and were departing on the first leg of their journey along with those passengers who were connecting at MSP. That is, the survey gathered data only from “true visitors” to the region -- those individuals who were departing from MSP after having spent time in the area for business or personal reasons. The spending estimates were then applied to the 2016 MSP passenger traffic data, in order to determine the economic impact of non-local visitor spending on the regional economy surrounding MSP. The spending estimates per category of non-local visitors are statistically reliable to a 95% confidence interval.

Additional information on the survey and the estimate of visitor spending is included in **Appendix III**.

¹² One person year is equivalent to 1,800 hours of work. Person years are the same as FTEs.

Appendix II: Survey of Employment

Identification of the Survey Population

A total of 197 onsite and accommodation firms received employment surveys for the MSP economic impact study. These firms included airport tenants and hotels directly related to or dependent on the airport. The Metropolitan Airports Commission provided a list of on-site airport tenants, while InterVISTAS identified off-site employers and hotels closely tied to airport operations using phone and online directories.

Table II-1: Total Number of Firms Surveyed

Type of Employee	# of Firms Surveyed	Number of Responding Firms	Response Rate
On-Site MSP Tenants	140	99	71%
Accommodations	57	39	68%
Total*	197	138	70%

Questionnaire Design

The basic questionnaire was designed to obtain information and to be as clear and easy to understand as possible for respondent firms. The survey was provided to employers at the airport. Three other surveys were developed for off-site employers, hotel employment, and ground transportation employment. The basic questionnaire provided to airport tenants contained questions in the following areas:

General Information

- Name of firm, address
- Contact person's name and title
- Phone and fax numbers
- Email and website address
- Type of business

Total Employment Numbers

- Total employees (as of June 2016)
- Total payroll excluding benefits
- Number of on-site employees
- Number of off-site employees

Part-time and Full-time Employment

- Full-time permanent employees
- Part-time permanent employees
- Full-time seasonal employees
- Part-time seasonal employees
- Average hours and weeks for part-time and seasonal employees

Employment by Trade

- A selection of job trades was provided to categorize employment

Outsourcing and Contracting Out

- Number of individuals on contract
- Number and names of firms on contract

A copy of one of the surveys is shown below.

Conducting the Survey

The survey was mailed out electronically by InterVISTAS. Following the initial electronic mail-out of the surveys and throughout the following weeks, non-responding firms were contacted by telephone to follow up on the completion of the survey. Firms were encouraged to return the survey and new copies were offered if the originals were lost. The replacement surveys were emailed once again. Some survey responses were collected via a telephone interview with firms.

Estimating Ground Transportation Impacts

The employment information for ground transportation firms was collected and analyzed in a slightly different manner than the other employment types. Ground transportation firms include taxi, shuttle, limousine service providers, and transportation network companies (TNCs, such as Uber or Lyft) that operate to and from MSP. An employment estimate for associated ground transportation firms was calculated based on information collected by the MAC and provided to InterVISTAS.

MAC Landside Operations provided comprehensive information for all vehicle types including taxis, buses, limousines, regional/hotel/off-site parking shuttles, and private (i.e., corporate) vehicles. The information provided included:

- Average number of trips to and from MSP per year (round-trip)
- Average number of driver hours per trip (round-trip)
- Number of drivers involved in transporting passengers to and from MSP (estimate based on the number of actively permitted vehicles servicing MSP)
- Estimated cost per departure

The data provided by the MAC covers “MSP permitted” vehicles only. According to MAC staff, approximately another 5% of firms offer ground transportation services as “non-permitted” operators.

Total jobs and total person years figures for both MSP permitted and non-permitted taxis and non-taxi operators were calculated based on the data provided to InterVISTAS by the MAC. To calculate the person years of employment associated with ground transportation, the number of trips per year for each transportation category was multiplied by the average driver hours per trip. That figure was then converted into equivalent person years of employment. An estimated 1,318 person years are associated with ground transportation operations at MSP.

General Employment Survey

----- SENT ON BEHALF OF THE METROPOLITAN AIRPORTS COMMISSION -----

March 2017

To All Members of the Minneapolis-St. Paul International Airport Business Community:

Re: Minneapolis-St. Paul International Airport Economic Impact Study Update

A critical factor in winning community and governmental support for future initiatives that benefit all airport-related businesses is our ability to demonstrate the significant economic impact the Minneapolis-St. Paul International Airport (MSP) has on our community and our state. Much has changed in the industry and at MSP since we conducted our last economic impact study in 2012, so the Metropolitan Airports Commission (MAC) has commissioned a new study to capture the full economic impact of MSP's operations in the most recent calendar year.

The results of the study will be used to raise public awareness of the vital economic and employment contributions of the airport, the airlines and other related businesses. The data will help ensure the public continues to appreciate the many ways the Minneapolis-St. Paul International Airport and associated businesses benefit the metropolitan area.

To that end, the MAC has commissioned InterVISTAS Consulting Inc. (InterVISTAS) to conduct the economic impact study on our behalf. InterVISTAS conducted the 2012 MSP economic impact study and has completed similar economic impact studies for airports in the U.S. and around the world, ranging from Toronto to Singapore.

A key part of the study is a survey of all airport tenants and related businesses – including governmental agencies and private businesses. We ask that you cooperate with the study by participating in this survey about employment.

We appreciate that some of the information requested in the survey may be of a sensitive nature to your firm. Only the aggregate survey totals will be provided in the final report. The published document will not reveal employment figures or other data for any individual firm.

Should you have any questions about the study or this survey, please contact Steve Martin at 202-688-2236 or Doris Mak / Kathryn Tooley at 1-877-717-6246.

Please complete this survey as soon as possible.

Thank you for your cooperation in this important study. I am confident it will benefit all members of the Minneapolis-St. Paul International Airport business community.

Sincerely,

BRIAN D RYKS, A.A.E. | Executive Director/CEO | O: 612-726-8188 |

www.MetroAirports.org

Metropolitan Airports Commission | 6040 28th Avenue South, Minneapolis, MN 55450





**Metropolitan Airports Commission
General Employment Survey**

March 2017

The figures you provide in the following sections are **strictly confidential**. Only aggregate survey totals will be published in the final report.

Please complete this survey as soon as possible.

For the purposes of this study, it is important that the figures you provide are as accurate as possible. However, where it is not possible to provide precise information, we would appreciate estimates rather than no response at all. When answering the questions below regarding your business, please include all related subsidiary businesses.

Name of Company: _____

Address of Company: _____

Contact Person: _____ Phone number: _____

Email: _____

Q1. Principal Business Activity

Please indicate your principal business activity. If you are involved in more than one of the business types below, please choose the one that best describes your business (i.e., contributes the largest proportion of revenues).

Air Carriers

- | | |
|-------------------------------------------------------------|-------------------------------------------------------|
| <input type="checkbox"/> 1. Scheduled Air Passenger Carrier | <input type="checkbox"/> 4. Courier / Integrator |
| <input type="checkbox"/> 2. Charter Air Passenger Carrier | <input type="checkbox"/> 5. General Aviation Operator |
| <input type="checkbox"/> 3. Dedicated Cargo Carrier | <input type="checkbox"/> 6. Other: _____ |

Other Business Types

- | | |
|------------------------------------------------------------------------|----------------------------------------------------------------------|
| <input type="checkbox"/> 7. Airport Operator | <input type="checkbox"/> 16. Aviation Related Manufacturing |
| <input type="checkbox"/> 8. Freight Forwarder, Cargo Agent, etc. | <input type="checkbox"/> 17. Aviation Related Training |
| <input type="checkbox"/> 9. Warehousing | <input type="checkbox"/> 18. In-flight Catering Company |
| <input type="checkbox"/> 10. Customs Broker | <input type="checkbox"/> 19. Security Services |
| <input type="checkbox"/> 11. Aircraft Maintenance, Repair and Overhaul | <input type="checkbox"/> 20. Airport Retail Outlet, Restaurant, etc. |
| <input type="checkbox"/> 12. Airport Ground Handler | <input type="checkbox"/> 21. Government Agency/Department |
| <input type="checkbox"/> 13. Fuelling Company | <input type="checkbox"/> 22. Car Rental |
| <input type="checkbox"/> 14. Fixed Base Operator | <input type="checkbox"/> 23. Taxi, Bus, Limousine, Shuttle |
| <input type="checkbox"/> 15. Aircraft Parts Supplier | <input type="checkbox"/> 24. Hotel |
| | <input type="checkbox"/> 25. Other: _____ |



Q2. Employment at Your Company Related to MSP

Please provide the number of **permanent & seasonal** staff employed by your company in 2016. Please only report employees involved with operations related to Minneapolis-St. Paul International Airport. This should include employees both on-site at Minneapolis-St. Paul International Airport and off-site (**only** where off-site employees are involved with **directly** providing service to Minneapolis-St. Paul International Airport, e.g. catering employees at an off-site location). **Airlines only; for pilots and flight crew, please report their employment figures only if they are based at Minneapolis-St. Paul International Airport.**

Please break down the employment into permanent, seasonal, full-time and part-time. *This should not include employment for work done on contract.*

Location	PERMANENT EMPLOYEES		SEASONAL EMPLOYEES	
	Full-Time	Part-Time	Full-Time	Part-Time
MSP				
Off-site				

Please indicate how many hours per week **part-time employees** worked **on average** in 2016.

	Number of Weeks per Year	Number of Weekly Hours
Part-time Employees		

For **seasonal employees** in general, please indicate how many weeks per year and how many hours per week **seasonal employees** worked **on average** in 2016.

	Number of Weeks per Year	Number of Weekly Hours
Seasonal Employees		

Q3. Payroll and Wages

Please state the total gross payroll paid by your company in 2016 for the employees included in Question 2 above.

This figure should include all full-time, part-time and seasonal employees. If you are unable to estimate payroll for 2016, please provide figures for your last financial period, and indicate which period that was.

Total Payroll (2016):	\$
Financial Period (if not 2016):	

Note: Total payroll includes gross (pre-tax) wages or salaries, including overtime pay, commissions, allowances and bonuses.



**Metropolitan Airports Commission
General Employment Survey**

March 2017

Alternatively, if you are unable to answer this question, please provide an estimate of the average annual wage/salary **per employee** (including overtime pay, commissions, allowances and bonuses), or select one of the options below.

Average Annual Salary/Wage per Employee: \$ _____ per annum.

Or: Estimate of the average annual salary range per employee

- | | |
|----------------------------------------------|----------------------------------------------|
| <input type="checkbox"/> Less than \$20,000 | <input type="checkbox"/> \$60,000 - \$79,999 |
| <input type="checkbox"/> \$20,000 - \$39,999 | <input type="checkbox"/> \$80,000 - \$99,999 |
| <input type="checkbox"/> \$40,000 - \$59,999 | <input type="checkbox"/> \$100,000 or more |

Q4. Employment by Occupation

Please estimate the number of employees included in Question 2 that are in the following occupation categories.

The figures entered below should sum to the same total as Question 2.

Employment by Occupation		Number of Employees
General	Managerial/Supervisory	
	Administrative & Clerical	
	Craft Trades (Electricians, Steam Fitters, etc.)	
Airline & Airline Servicing Trades	Pilots	
	Flight Attendants	
	Aircraft & Vehicle Mechanics	
	Customer Service Agents	
	Aircraft Servicing	
Support Trades	Security Guards	
	Drivers / Delivery / Couriers	
	Call Center / Reservations	
	Food Service Workers	
Retail Trades	Sales / Cashiers	
	Food & Beverage Staff	
Government & Regulatory Trades	Air Traffic Control	
	Law Enforcement Officers	
	Security Agents (e.g. TSA)	
	Aviation Safety/Inspection Officers	
Other (Please specify)		



Q5. Employment by Residency

Please estimate below the number of employees included in Question 2 that reside in the following jurisdictions.

The figures entered below should sum to the same total as Question 2.

Number of Employees

	Number of Employees
City of Minneapolis	
Other Hennepin County	
City of St. Paul	
Other Ramsey County	
Dakota County	
Washington County	
Scott County	
Anoka County	
Carver County	
Other Minnesota	
Outside of Minnesota	

Q6. Outsourcing and Contracting Out

Since we do not want to exclude any employment from the airport, we would like you to briefly comment on whether your firm contracts out any important services.

Individuals on Contract: If you pay some individuals through a contract, as opposed to through payroll, please indicate the number of such employees, how many hours per week worked in 2016, as well as how many weeks worked in 2016, on average.

	Number of Contract Employees	Number of Weeks per Year	Number of Weekly Hours
Contract Employees			



**Metropolitan Airports Commission
General Employment Survey**

March 2017

Firms on Contract: If you outsource or contract out any work to other companies (e.g., cleaning services, IT, ground handling, etc.), please complete the following table, indicating the functions you outsource to third party companies, and provide an estimate of the annual contracted hours of work completed in 2016. Also, please specify the company's name(s) and indicate whether they are located at the airport. This will allow us to avoid any double counting of work performed by other companies which may also be surveyed as a part of this study

Function	Name of Firm	Located On-site? (Check if Yes)	Number of Hours Performed by the Company in 2016
<i>Example: Cleaning services</i>	<i>Spic and Span Cleaners</i>	<input type="checkbox"/>	<i>100 hours per year (2 hours per week)</i>
		<input type="checkbox"/>	
		<input type="checkbox"/>	
		<input type="checkbox"/>	

Q7. Business Related to MSP

Please estimate the proportion of your company's business revenues that is related to activities at the airport. For example, some businesses will derive all their business from airport related activities, while others will do business in other sectors of the economy (e.g., maritime shipping).

Airport	% Related Business Revenue (2016)
MSP	%

Q8. Business Revenue Related to Air Cargo

We would like to be able to document the impact of air cargo services. Please help us by indicating the proportion of your business revenues that is related to servicing air cargo at the airport.

% Business Revenue Related to Air Cargo (2016):	%
-------------------------------------------------	---

Note: The percentage entered should be the same or less than that entered in Question 7.

Q9. Property Taxes Paid

Please indicate the amount of property and/or other state and local taxes paid by your firm in Minnesota 2016.

Total Property Taxes Paid (2016):	\$
Other Taxes Paid – State & Local (2016):	\$

Appendix III: Visitor Spending Analysis

To estimate the economic impact of domestic and international visitor spending in the region, InterVISTAS commissioned a local market research firm, ISG, to conduct an in-terminal survey of passengers at MSP. This in-terminal passenger survey was conducted in the spring of 2017.

Over 750 enplaned (boarding) passengers provided survey responses. The survey included passenger profiling questions on trip purpose (business or leisure), length of stay, party size, and expenditure levels for various categories. The survey also asked respondents to indicate their final destination, which indicated whether the traveler was a domestic or international visitor. The spending estimates for each visitor profile are statistically reliable at a 95% confidence interval. The in-terminal survey data was used to determine the average expenditure per non-local visitor category (e.g., leisure and business). **Table III-1** summarizes the characteristics of visitors based on analysis of the in-terminal survey results.

Table III-1: Trip Characteristics of Non-Local Visitors to MSP

Category of Visitor	Average (Mean) Night Stay	Average (Mean) Expenditure per Visitor (\$)	Average (Mean) Expenditure per Visitor per Night (\$)
Domestic			
Business	3	559	206
Leisure	5	457	93
Domestic Total	4	451	110
International			
Business	4	978	263
Leisure	4	272	63
International Total	4	680	172

Estimating the Number of Non-Local Visitors

In 2016, approximately 37.5 million passengers enplaned and deplaned at MSP. **Table III-2** shows the passenger movements used in this study.

Table III-2: Passenger Movements at MSP in 2016

Source	Enplaned & Deplaned Passengers	% Connecting
Domestic	34,661,015	38%
International	2,856,942	11%
Total*	37,517,957	35%

Note:* International includes trans-border passengers.

Source: Enplanements are sourced from T100 data accessed via DIIO.

From this data and other industry sources, the project team developed estimates of the volume of passengers whose trip originated at another domestic or international airport. Knowing the proportions of passengers that connect at an airport allows conclusions about those that do not connect – those whose trip origins or destinations were MSP (so-called “local” or “O&D” traffic). Using data from the U.S. DOT and other industry sources, the project team estimated the total number of domestic and international passengers for whom MSP was the destination. These are the visitors to the area. InterVISTAS calculated that in 2016, there were 4.6 million domestic visitors to the area that arrived through the airport, and 0.5 million international visitors to the area that arrived via MSP. In total, an estimated 5.2 million visitors came through MSP in 2016.

This non-local visitor passenger figure was used to determine the total economic impact of visitor spending in the region.

Final Results

The estimate of average expenditure per visitor was then applied to MSP passenger traffic figures to estimate the total impact of visitor spending in the region.

The combination of passenger spending profiles (from the in-terminal passenger survey) and the calculation of non-local visitors were used to develop the estimate of total visitor spending for 2016. The final results are provided in **Table III-3**.

Table III-3: Trip Characteristics of Non-Local Visitors to MSP

Category of Visitor	Number of Visitors (Millions)	Average (Mean) Expenditure per Visitor (\$)	Total Expenditure (\$ Billions)
Domestic	4.6	451	2.1
International	0.5	680	0.4
Total*	5.2	476	2.5

Note: Total average (mean) expenditure per visitor is calculated by dividing the total visitor expenditure amount (sum of domestic and international total visitor spending) by the total number of visitors that passed through MSP in 2016. Figures may not sum to totals due to rounding.

Appendix IV: Tax Impact Analysis

Direct employment figures related to the operations of MSP were entered into the IMPLAN model to generate the resulting federal, state, and local government tax impacts. No indirect or induced impacts (multiplier effects) were considered as part of the tax analysis.

Tax revenue contributions are divided into the following groupings:

- **Taxes Related to Employee Compensation.** This category includes the federal, state, and local impacts of Social Insurance taxes paid by employers and employees at Minneapolis-St. Paul International Airport. It contains the tax impacts generated by retirement plans, temporary disability insurance, and workers' compensation payments. These taxes contribute largely to federal government streams; however, smaller contributions are made to state and local governments as well.
- **Taxes Related to Household Income.** This category contains the personal tax impacts generated by households related to the Minneapolis-St. Paul International Airport. The federal impacts include all applicable personal income tax payments. The state and local impacts contain personal income tax payments, fines and fee charges, motor vehicles licensing fees, property taxes, and other applicable taxes. The federal government receives over two-thirds of the tax impacts in this category, while state and local governments share the remaining third.
- **Other Taxes and Fees.** These relate to a taxes and fees that are paid by corporations to the local, state and federal levels of government.

Glossary of Terms

Contract Work: Any work which is done for a company by an individual who is not on the payroll or work done for a company by another company. Generally speaking, firms will contract out work in areas in which they do not have expertise or when there are cost advantages to doing so.

Direct Employment: Direct employment is employment that can be directly attributable to the operations in an industry, firm, etc. It is literally a head count of those people who work in a sector of the economy. In the case of the airport, all of those people who work in an aviation related capacity would be considered direct employment.

Economic Activity: (also Output, Production) The end product of transforming inputs into goods. The end product does not necessarily have to be a tangible good (for example, knowledge), nor does it have to create utility (for example, pollution). Or, more generally, the process of transforming the factors of production into goods and services desired for consumption.

Economic Output: (also Economic Activity, Production) The end product of transforming inputs into goods. The end product does not necessarily have to be a tangible good (for example, knowledge), nor does it have to create utility (for example, pollution). Or, more generally, it is defined as the process of transforming the factors of production into goods and services desired for consumption.

Employment Impact: Employment impact analysis determines the economic impact of employment in terms of jobs created and salaries and wages paid out. In the case of the airport, the direct, indirect, induced and total number of jobs or person years created at the airport is examined to produce a snapshot of airport operations.

Full Time Equivalent (FTE): (also Person Year) One full time equivalent (FTE) year of employment is equivalent to the number of hours that an individual would work on a full-time basis for one year. In this study we have calculated one full time equivalent year to be equivalent to 1,800 hours. Full time equivalent years are useful because part time and seasonal workers do not account for one full time job.

Gross Domestic Product: (GDP, also value-added) A measure of the money value of final goods and services produced as a result of economic activity in the nation. This measure is net of the value of intermediate goods and services used up to produce the final goods and services.

Ground Transportation: Ground Transportation at the airport includes any vehicles which transport passengers from the airport to the cities or from the cities to the airport. This would include taxicab service, limousine service and hotel van service. Transportation network companies such as Uber or Lyft are also included in this category. Valet services as well as skycaps are included in this category.

Indirect Employment: Indirect employment is employment which results because of direct employment. For the airport, it would include that portion of employment in supplier industries which are dependent on sales to the air transport sector. In some cases, contract work would be considered indirect employment.

Induced Employment: Induced employment is employment created because of expenditures by direct and indirect employees.

Multiplier Analysis: Analysis using economic multipliers in which indirect and induced economic impacts is quantified. Essentially, a multiplier number is applied to the "directly traceable economic impact" to produce indirect and total effects (see Multiplier.)

Multiplier: Economic multipliers are used to infer indirect and induced effects from a particular sector of the economy. They come in a variety of forms and differ in definition and application. A multiplier is a number which would be multiplied by direct effects in order to calculate indirect or induced effects. In the case of the airport, as in many other cases, multipliers can lead to illusory results, and thus must be used with great care.

Seasonality: Seasonality results when the supply and demand for a good is directly related to the season in which is consumed. For example, ski resorts experience changes in net income as a result of seasonality. Airports and airport services also experience seasonality as a result of vacation times for families (typically during the summer) and/or temperatures abroad (typically at Christmas time). As a result of seasonality in demand for flights, some air carriers increase frequency of flights to certain areas during the busy season.

Tenant: A firm which pays a lease to a leasing company or to the airport authority directly.

Value-Added: (also GDP) A measure of the money value of final goods and services produced as a result of economic activity in the nation. This measure is net of the value of intermediate goods and services used up to produce the final goods and service



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