Salt Lake City
International Airport

ECONOMIC IMPACT OF
SALT LAKE CITY INTERNATIONAL AIRPORT

JULY 2020

PREPARED FOR

Salt Lake City
International Airport

Salt Lake City
Department of Airports

PREPARED BY

JVIATION®
A WOOLPERT COMPANY

ECONOMIC IMPACT OF SALT LAKE CITY INTERNATIONAL AIRPORT

Prepared for:

Salt Lake City Department of Airports (SLCDA)

July 2020

Prepared by:

Jviation, Inc.

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As required by Paragraph 425.B(4) of FAA Order 5100.38C, *Airport Improvement Program (AIP) Handbook*:

The preparation of this document may have been supported, in part, through the Airport Improvement Program financial assistance from the Federal Aviation Administration as provided under Title 49 U.S.C., Section 47104. The contents do not necessarily reflect the official views or policy of the FAA. Acceptance of this report by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein nor does it indicate that the proposed development is environmentally acceptable or would have justification in accordance with appropriate public laws.

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1. Executive Summary

1.1 Introduction

Salt Lake City International Airport (SLC) is a major asset for Salt Lake City, the State of Utah, and a critical component of the national air transportation network. As a result, it is a major employment center and economic engine for the region. This study, *Economic Impact of Salt Lake City International Airport*, conducted by the Salt Lake City Department of Airports (SCLDA) estimates the airport's economic impacts on the state economy.

Salt Lake City International Airport

1.2 Study Background

In the spring of 2019, SLCDA undertook an effort to estimate the annual economic impact of SLC.[1] This economic impact analysis was funded by SLCDA and performed in parallel with a similar effort conducted for all public airports in Utah, funded separately by the Utah Department of Transportation (UDOT) – Division of Aeronautics. This document details the economic impact estimates developed specifically for SLC. For economic impact estimates related to Utah's other public airports, please reference the UDOT study titled *Utah Statewide Airport Economic Impact Study*. The economic impact results identified for SLC herein are also incorporated into the UDOT study to provide a complete representation of the total estimated economic impact of Utah's public airport system.

An important consideration to keep in mind is that the economic impacts presented in this study reflect a snapshot of conditions that existed at the time data inputs were collected (mid-2019). Aviation is a dynamic industry, one that changes every day. As conditions at the airport changes, it is likely that economic impact estimates developed in this study will also change.

This report presents the results of the study, titled *Economic Impact of Salt Lake City International Airport*. Primary study objectives include:

- Estimate the annual economic impacts that the state economy realizes from the day-to-day operation of SLC.

[1] Data collection and analysis for this study took place before the onset of the COVID-19 pandemic in March of 2020. Results reflect conditions prior to that time.

- Estimate the annual economic impact realized as a result of aviation-related business tenants located at SLC.
- Estimate the annual economic impacts resulting from capital investment at SLC.
- Estimate the economic impacts from spending associated with visitors who arrive on privately-owned general aviation aircraft and on scheduled commercial airline flights at SLC.

A Project Advisory Committee (PAC) provided oversight for the economic impact research project. The PAC represented aviation, transportation, and economic interests in Utah. SLCDA staff, UDOT Aeronautics staff and the Federal Aviation Administration (FAA) were also actively involved in the development and review of research results.

1.3 Summary of Findings

Highlights from SLC's Economic Impact Study include:

- SLC supports an estimated **124,407** total jobs with an associated total annual payroll of approximately **$4.3 billion**.
- SLC supports total annual spending of **$7.2 billion** and total annual economic activity estimated at approximately **$11.5 billion**.

Table 1-1 presents the detailed breakdown of SLC's economic impact estimates by source and measure.

Table 1-1: 2019 Economic Impact of Salt Lake City International Airport – Summary of Findings

Impact Measure	Source	Direct Impacts	Indirect/Induced Impacts	Total Impacts
Employment	Airport Management	485	462	947
	Airport Business Tenants	12,287	15,009	27,296
	Capital Investment	1,559	1,981	3,540
	General Aviation Visitors	197	91	288
	Commercial Visitors	61,084	31,252	92,336
	Total Employment	75,612	48,795	124,407
Payroll	Airport Management	$40,222,700	$61,413,000	$101,635,700
	Airport Business Tenants	$751,526,400	$678,008,500	$1,429,534,900
	Capital Investment	$58,115,200	$48,536,300	$106,651,500
	General Aviation Visitors	$4,990,800	$3,334,000	$8,324,800
	Commercial Visitors	$1,545,730,600	$1,108,444,500	$2,654,175,100
	Total Payroll	$2,400,585,700	$1,899,736,300	$4,300,322,000
Spending	Airport Management	$52,275,500	$79,670,100	$131,945,600
	Airport Business Tenants	$1,317,489,700	$856,924,500	$2,174,414,200
	Capital Investment	$232,605,700	$218,004,500	$450,610,200
	General Aviation Visitors	$5,734,200	$5,434,900	$11,169,100
	Commercial Visitors	$2,305,921,900	$2,089,760,900	$4,395,682,800
	Total Spending	$3,914,027,000	$3,249,794,900	$7,163,821,900
Annual Economic Activity	Airport Management	$92,498,200	$141,083,100	$233,581,300
	Airport Business Tenants	$2,069,016,100	$1,534,933,000	$3,603,949,100
	Capital Investment	$290,720,900	$266,540,800	$557,261,700
	General Aviation Visitors	$10,725,000	$8,768,900	$19,493,900
	Commercial Visitors	$3,851,652,500	$3,198,205,400	$7,049,857,900
	Total Annual Economic Activity	$6,314,612,700	$5,149,531,200	$11,464,143,900

Source: Jviation, IMPLAN

The economic impacts presented in **Table 1-1** demonstrate the value of SLC as a major economic engine for the region and state.

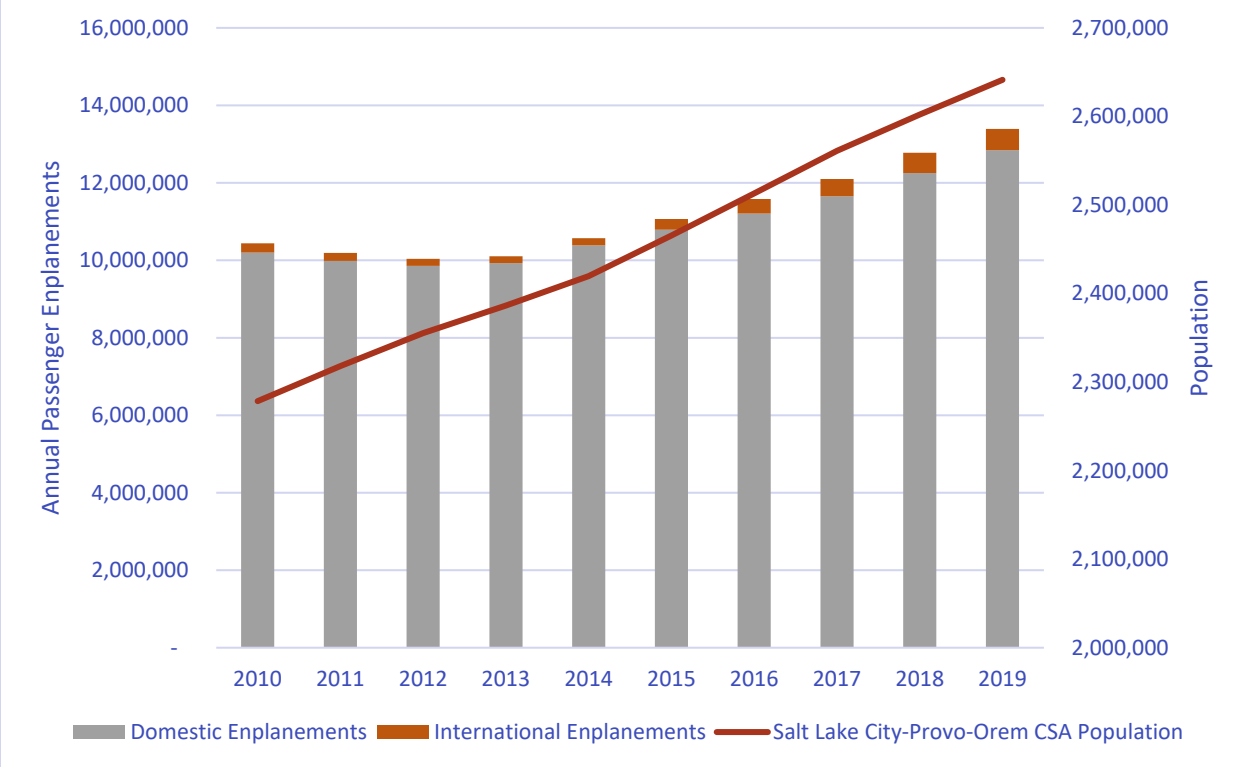
1.4 Airport Trends

SLC is a growing airport that serves a steadily increasing regional population. The Salt Lake City Metropolitan Statistical Area (MSA), comprised of Salt Lake and Tooele Counties, had an estimated population of over 1.2 million people in 2019. This represents an average annual growth rate of 1.3 percent since 2010. The larger, 10-county Salt Lake City-Provo-Orem Consolidated Statistical Area (CSA), which arguably better aligns with SLC's true market/catchment area, grew at a faster rate of 1.7 percent annually over the same timeframe. The larger Salt Lake City-Provo-Orem CSA drives statewide trends since it represents roughly 82 percent of Utah's population of over 3.2 million persons.

Statewide, population growth is also estimated at an average annual growth rate of 1.7 percent over the past decade.[2] Although Utah is the 30th most populous state, the Salt Lake City MSA ranks as the 47th largest MSA in the U.S. and the 53rd fastest growing MSA since 2010. Notably, the Provo-Orem MSA, which is a component of the larger Salt Lake City-Provo-Orem CSA, has been the 11th fastest growing MSA in the U.S. since 2010. [3]

For contrast, **Figure 1-1** illustrates the historic trends over the past decade for SLC's enplanements – both domestic and international – in relation to population growth of the Salt Lake City-Provo-Orem CSA.

Figure 1-1: Salt Lake City International Airport Historic Enplanements and Population



Source: U.S. Census, Kem C. Gardner Policy Institute, SLCDA, Jviation

[2] State and county Population Estimates for Utah: 2019. Kem C. Gardner Policy Institute, University of Utah
[3] Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2018. U.S. Census Bureau

Like population growth, SLC's passenger enplanements have also grown at a significant rate over the past decade. As shown in **Figure 1-1**, enplanement levels reached a record high of nearly 13.4 million in 2019. This represents an average annual growth rate of 2.8 percent since 2010 and 4.8 percent since 2014. A portion of this growth is due to international enplanements, which have grown by 9.8 percent annually since 2010 and a robust 24.2 percent annually since 2014. The share of SLC's international enplanements as a percent of all enplanements has more than doubled from 1.8 percent in 2014 to 4.1 percent in 2019. Domestic enplanements, which still represent the bulk of all enplanements at SLC, have grown at an average annual rate of 2.6 percent since 2010 and 4.3 percent since 2014.[4]

Not only is SLC the largest airport in Utah, it is also one of the busiest in the country. According to Airports Council International – North America (ACI-NA), SLC ranks as the 25th busiest airport in North America and 92nd in the world in terms of total passengers.

[4] Air Traffic Statistics, Salt Lake City International Airport

SLC's stature is primarily due to the presence of Delta Air Lines, which operates its 4th largest hub at the airport. As the largest carrier, Delta makes up over 70 percent of all SLC operations and over 54 percent of all enplanements. Other major carriers include SkyWest, Southwest, American, United, and JetBlue.[5] In total, SLC is served by 10 airlines and their affiliates, with 370 daily departures to 98 cities, including several international destinations such as Amsterdam, London, Toronto, Mexico City, and Paris. SLC is also served by numerous dedicated cargo airlines, including FedEx, UPS, and Southern Air, each contributing to the airport's position as the 34th busiest cargo airport in North America.[6]

[5] https://www.slcairport.com/about-the-airport/airport-overview/fast-facts/
[6] 2018 Airports Council International – North America (ACI-NA) Airport Traffic Report

In addition to its role as a major connecting point for Delta hub traffic, SLC also serves as the gateway to the Salt Lake City region and Utah in general, seeing significant Origin and Destination (O&D) passenger traffic that is both business and leisure related. The airport is only 15 minutes from downtown Salt Lake City by road or light-rail, providing convenient access to downtown venues and attractions. Beyond the city there are many recreational draws, including 10 major ski resorts within an hour's drive of SLC and five prominent national parks across the state.

In 2014, SLC broke ground on a $3.6 billion terminal redevelopment program, which will see an entirely new replacement terminal built alongside its existing one without interrupting operations. Phases one and two are expected to open in late 2020, and all phases are expected to be complete by 2024. The existing terminal, which is currently handling more than twice as many passengers than originally designed, will be demolished.

2. Methodology: Sources and Measurements of Economic Impact

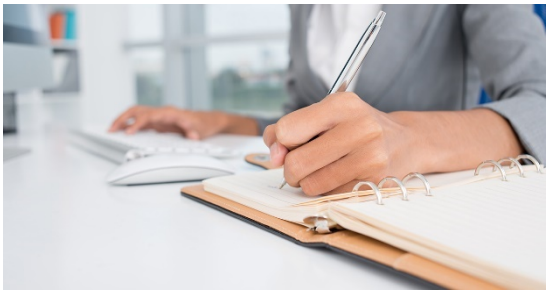
The steps undertaken to estimate SLC's economic impacts follow a FAA-approved methodology and is identical to that employed at the 45 other UDOT study airports evaluated in the companion statewide analysis. However, due to the large scale of SLC, regular coordination and communication with SLCDA staff was undertaken to properly identify direct impacts for each measure and for each source of economic impact. This section details the approach taken to estimate SLC-specific economic impacts.

2.1 Sources of Airport-Specific Economic Impacts

For this analysis of SLC, economic impacts are estimated for various impact sources. Annual economic impacts were estimated for each of the following:

- Airport management
- Aviation-related airport business tenants
- Average annual investment related to capital improvements
- Spending from visitors arriving on general aviation aircraft
- Spending from visitors arriving on commercial airline flights

Descriptions of these five impact sources follow:



- **Airport Management:** SLC is owned by the City of Salt Lake City and is administered by SLCDA, which consists of a wide array of jobs that are associated with daily airport administrative, maintenance, and operational functions. Jobs in the airport management category may be full-time or part-time, and some may be located off-airport.

  For this study, all part-time and seasonal jobs that are less than full-time were converted to full-time equivalent employment (FTE). For example, two part-time employees are equal to one FTE.

- **Airport Business Tenants:** Business tenants are defined as businesses, organizations, or agencies with associated employment that provide aviation-related services or support to airport customers. Examples of airport business tenants include fixed base operators (FBOs), aircraft maintenance providers, commercial airlines, corporate flight departments, concessionaires, military units, aircraft manufacturers, and/or other similar aviation-related businesses. With a few notable exceptions, only aviation-related businesses located "inside the fence" at an airport were included in the business tenant category. Economic impacts for any non-aviation on-airport businesses are not included in this analysis.

- **Capital Investment:** SLC has an ongoing Capital Improvement Program (CIP) that regularly undertakes capital improvement projects for major maintenance, expansion, and/or facility replacement. Projects are often funded with grants from the FAA and/or UDOT. Larger airports such as SLC generate sufficient revenue to fund development projects without federal or state assistance, as is the case with "The New SLC" Airport Redevelopment Program/terminal replacement project. Occasionally, third-party investment is also made by business tenants for things like hangar development, facility upgrades, or equipment purchases. This study considered average annual capital investment over a five-year historic period to estimate the economic impact resulting from capital investment at SLC by both SLCDA and business tenants.

Considering average annual capital investment over a multi-year period helps capture the full economic benefit that the state economy receives from investment in SLC. Unlike the other economic impact sources analyzed in this study, economic impacts in this category (employment, payroll associated with the employment, spending, and annual economic activity) occur only when spending associated with the project is taking place. Once project-related spending is over, economic impacts associated with capital investment are suspended.

The economic conditions reflected in economic impact studies like this one should be considered a "snapshot in time," economic impacts for this category have the propensity to change between reporting periods, perhaps significantly. Economic impacts in the capital investment category are not on-going--they change annually, unless capital investment is constant and at the same level each year. This is seldom the case since the need for capital improvement projects and associated investment changes annually.

To fully report on the economic impact associated with SLC, it is important to consider impacts in the capital investment category.

- **Spending by Visitors Arriving on General Aviation Aircraft:** Although SLC is primarily known as a large commercial service hub airport, it also serves significant levels of general aviation traffic. General

aviation visitors may arrive one person at a time or in larger groups. Some general aviation visitors, especially those who are traveling for business, rely on general aviation because it enables them to shorten the duration of their trip. Other visitors choose general aviation because it enables them to fly directly to a destination not served by scheduled commercial airline flights.

Frequently, general aviation visitors arrive and depart on the same day, limiting their expenditures. Other general aviation visitors stay for one or more days; these overnight general aviation visitors have a greater economic impact on the state economy. Overnight visitors often have expenditures for hotels, meals, retail, entertainment, and local ground transportation; the longer the visitor stays, typically, the greater the amount they spend. Visitor spending helps support employment and associated payroll for service, hospitality, recreational, entertainment, retail, and ground transportation businesses.

The airport's two FBOs provided information to estimate the number of visitors arriving on general aviation aircraft. Airport and FAA data from the National Offload Program (NOP) both provided operational fleet mix (percentage of operations by jet/piston/turboprop aircraft) for the visiting general aviation aircraft. Airport and FBO input helped to identify the typical number of visitors by aircraft type. Surveys completed with the assistance of FBOs provide information on the length of time general aviation visitors stay and the average amount they spend per trip. These same surveys determine the percentage of visitors traveling only for the day versus an overnight trip.

- **Spending by Visitors Arriving on Scheduled Commercial Airlines:** Commercial airports have economic impacts associated with visitors who arrive on scheduled commercial airlines. Data from the United States Department of Transportation (USDOT) provides an estimate of the portion of the airport's annual enplanements that are visitors versus residents. Like general aviation visitors, commercial visitors have spending that supports employment and associated payroll. With help from SLCDA staff, surveys of visitors departing from SLC were conducted. The surveys determine average length of stay and visitor spending patterns. Estimates of annual economic impacts in this category are developed using estimates of annual visitors, visitor spending, and length of stay patterns.

When the annual economic impacts associated with each of these five sources are summed, it helps to tell the story of the extensive economic benefit that the state's economy receives from SLC.

2.2 Measurements of Airport-Specific Economic Impacts

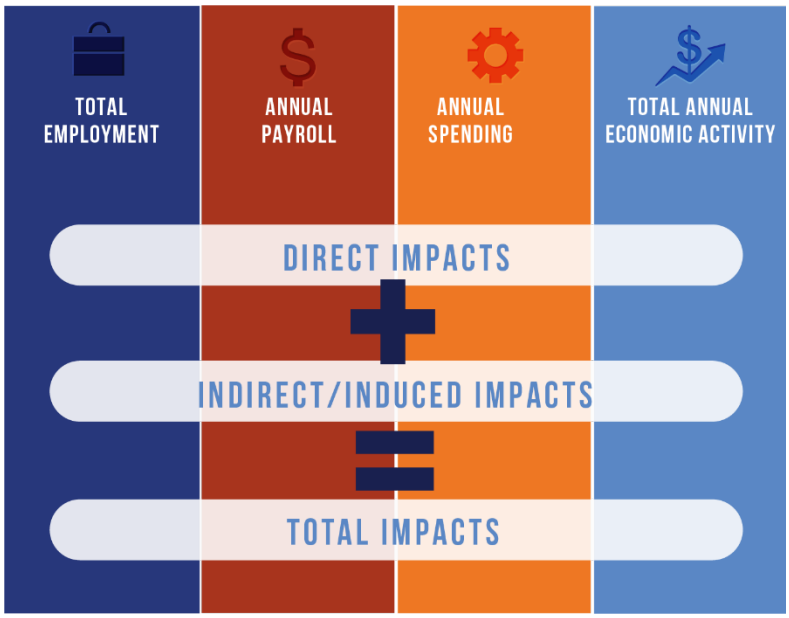
All annual economic impacts are estimated using four measurements: employment, payroll, spending, and annual economic activity. In this study, annual economic activity is the sum of payroll and spending. These two measurements reflect the airport-associated economic impacts that are realized in the state's economy. Each impact measurement is discussed below.

- **Employment** is the most straightforward and the most easily understood measurement of economic impact. In this study, employment is identified for airport management and airport business tenants through surveys and interviews. Spending by visitors who arrive on general aviation aircraft or on scheduled commercial carriers supports other employment. Investment made to implement capital projects supports employment over the duration of the project's planning and construction.
- **Payroll** is associated with all employment supported by airport management, airport business tenants, capital investment, and air visitor spending.
- **Spending** for airport management and airport business tenants equals their annual purchase of goods, materials, and supplies to run the airport or to run their business. Spending for airports and airport business tenants does not include payroll or capital investment. In the visitor-related impact sources, spending is equal to the expenditures that all visitors have for lodging, food, ground transportation, entertainment, and retail, minus the portion of this spending that is payroll-related. In the capital investment category, spending is equal to total investment made to implement projects, minus the estimated cost for labor (payroll).
- **Annual Economic Activity** for each of the economic impact sources is the sum of payroll and spending. It is important to show the total annual economic impact that the state's economy realizes from airports and airport-supported activities.

In this study, economic impacts for SLC are measured in terms of employment, the annual payroll associated with employment, annual spending, and the annual economic activity (expenditures in the payroll and spending measures). Each of these four measurements is used to quantify annual economic impacts from airport management, business tenants, capital investment, and visitor spending.

2.3 Process to Estimate Airport-Specific Economic Impacts

All economic impacts were assigned to the following categories: direct impacts, indirect/induced impacts, and total annual economic impacts. These categories are described below.



- **Direct Impacts:** Direct economic impacts are the start of the economic impact cycle measured in this report. Information concerning direct impacts was collected from SLCDA, SLC business tenants, UDOT, the FAA, USDOT, and/or from SLC's visitors who arrive by air. Since direct impacts can be measured or counted in some way, it is important that these impacts be accurate and credible. Direct impacts are the employment, payroll, spending, and annual economic activity associated with the five sources of economic activity that occur on airports.
- **Indirect/Induced Impacts:** When direct impacts enter state and local economies, they re-circulate or multiply, creating additional waves of economic impact. Impacts in the indirect and induced categories are often referred to as multiplier impacts. For example, when a "direct" airport employee uses his or her payroll to buy groceries, pay for childcare, or take their family pet to a local veterinarian, the direct airport-related payroll is infused into other sectors of the economy, creating indirect/induced economic impacts.

  An econometric input/output model, referred to in this document as IMPLAN, was used to estimate additional indirect and induced impacts. Indirect and induced impacts are experienced in the state economy as a result of the initial direct impacts. Indirect impacts result from industries purchasing from other industries, whereas induced impacts result from the expenditure of new household income associated with direct and indirect impacts. When summed, direct, indirect, and induced impacts equal total annual economic impacts. The IMPLAN model is discussed in detail in section **3.7 Discussion and Measurement of Indirect/Induced Economic Impacts**.

- **Total Economic Impacts:** For this study, total impacts are the sum of direct and indirect/induced impacts for each of the measurements.

3. Direct Economic Impacts

Economic impacts for SLC discussed in this report start with impacts in the direct impact category. The following sections discuss direct economic impacts in the airport management, airport business tenant, capital investment, and both air visitor sources.

All direct economic impacts for SLC start with the daily operation of the airport; activities needed to serve customers and aircraft using the airport; steps the airport takes to maintain, improve, and expand their infrastructure; and spending associated with visitors who arrive via the airport. While not all direct impacts discussed take place on-airport, all direct impacts are linked to SLC and its operations.

3.1 Estimates of Direct Impacts for Airport Management

For this category, SLCDA served as the primary source for identifying direct impacts by providing information to support its direct impacts in the airport management category. Through extensive coordination with SLCDA staff, information was provided on airport management-related employment, payroll, and the airport's annual non-capital and non-payroll spending that support airport operations.

Table 3-1 shows direct full-time equivalent jobs estimated for SLC, as well as the airport's estimated direct annual economic activity, including spending to support airport operations and payroll. Employment shown in **Table 3-1** is the sum of all full-time on- and off-airport jobs, all part-time on- and off-airport jobs (translated into full-time jobs), and all seasonal jobs (translated into full-time jobs), if applicable.

Table 3-1: Direct Airport Management Impacts

Impact Measure	Direct Impacts
Employment	485
Payroll	$40,222,700
Spending	$52,275,500
Annual Economic Activity	$92,498,200

Source: SLCDA

As **Table 3-1** shows, direct total annual economic activity for the airport management source is estimated at $92.5 million.

3.2 Estimates of Direct Impacts for Business Tenants

SLCDA staff provided information for on-airport aviation-related business tenants that provide aviation services or use aviation to conduct business at the airport. For this study, business tenants are defined as revenue-generating companies or public agencies with associated employment doing business on airport property. All business tenants at SLC were contacted on several occasions either by email or by phone to obtain information on:

- The types of services they provide
- Their full-time, part-time, and seasonal employment
- Their annual payroll
- Their annual expenditures to purchase goods, material, and supplies to run their business

Direct outreach to all tenants was a significant effort and excellent response rates were achieved, particularly with the major tenants such as airlines and concessionaires. Among the largest business tenants at SLC are Delta Air Lines, SkyWest Airlines, Transportation Security Administration (TSA), DGS Aviation, Hojeij Branded Foods/Air Terminal Gifts (HBF/ATG), Host, FedEx, Southwest Airlines, Alamo/Enterprise/National, and ISS Facility Service. Included in tenant impacts were several nearby, but off-airport entities, that were counted at the request of SLCDA since they are aviation-related and heavily tied to the airport. These include the Wright Air National Guard Base/151st Air Refueling Wing, Boeing's 787 horizontal stabilizer assembly plant at the northeast corner of the airport, and several off-site parking lots immediately adjacent to the airport. This is not an all-inclusive list of off-airport, aviation-related entities, but those specifically prioritized by airport staff.

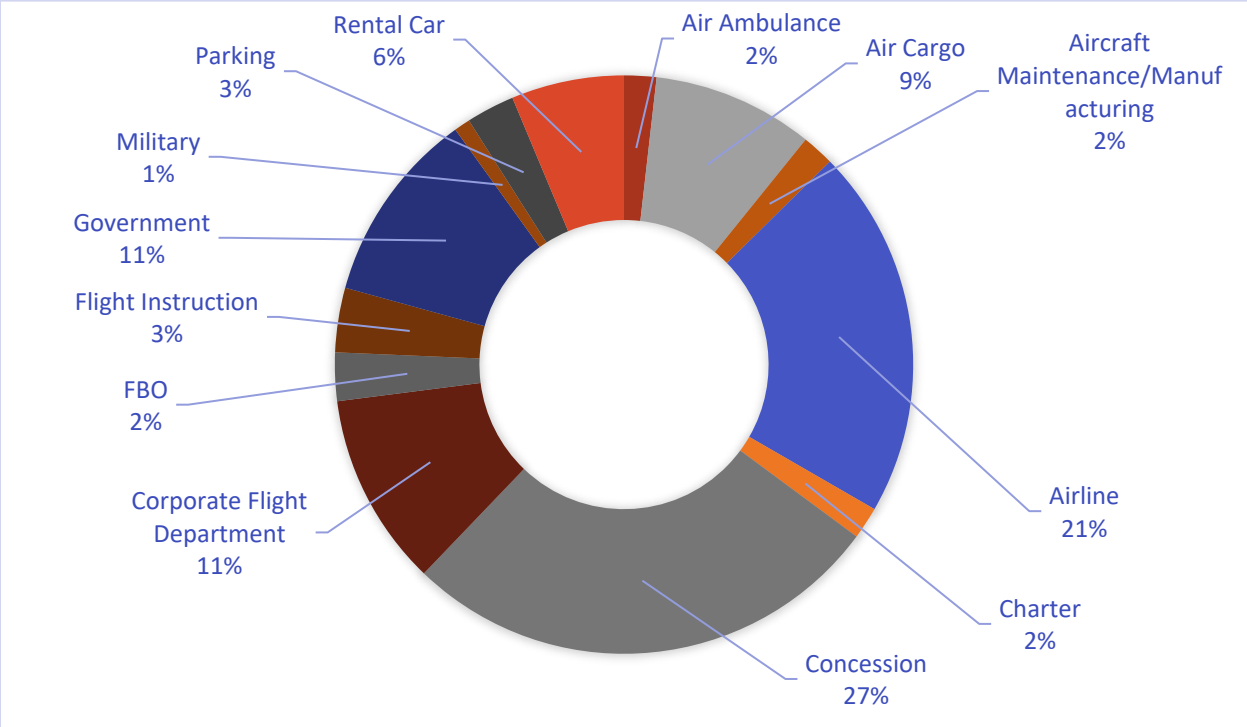
As shown in **Figure 3-1**, data collection efforts show that there are over 100 different on-airport, aviation-related business tenants across 13 tenant service categories. These entities support total direct full-time employment of 12,287. **Figure 3-1** shows the distribution of SLC business tenants by primary service type, while **Figure 3-2** shows the distribution of business tenants employment by service type (relative scale of business tenant types by number of employees).

Table 3-2: Business Tenant Distribution by Type and Employment

Business Tenant Type	Count of Business Tenants by Type	Employment by Business Tenant Type
Air Ambulance	2	32
Air Cargo	10	555
Aircraft Maintenance/Manufacturing	2	588
Airline	23	6,947
Charter	2	7
Concession	30	1,371
Corporate Flight Department	12	55
FBO	3	199
Flight Instruction	4	179
Government	12	746
Military	1	968
Parking	3	156
Rental Car	7	487
Sum	111	12,287

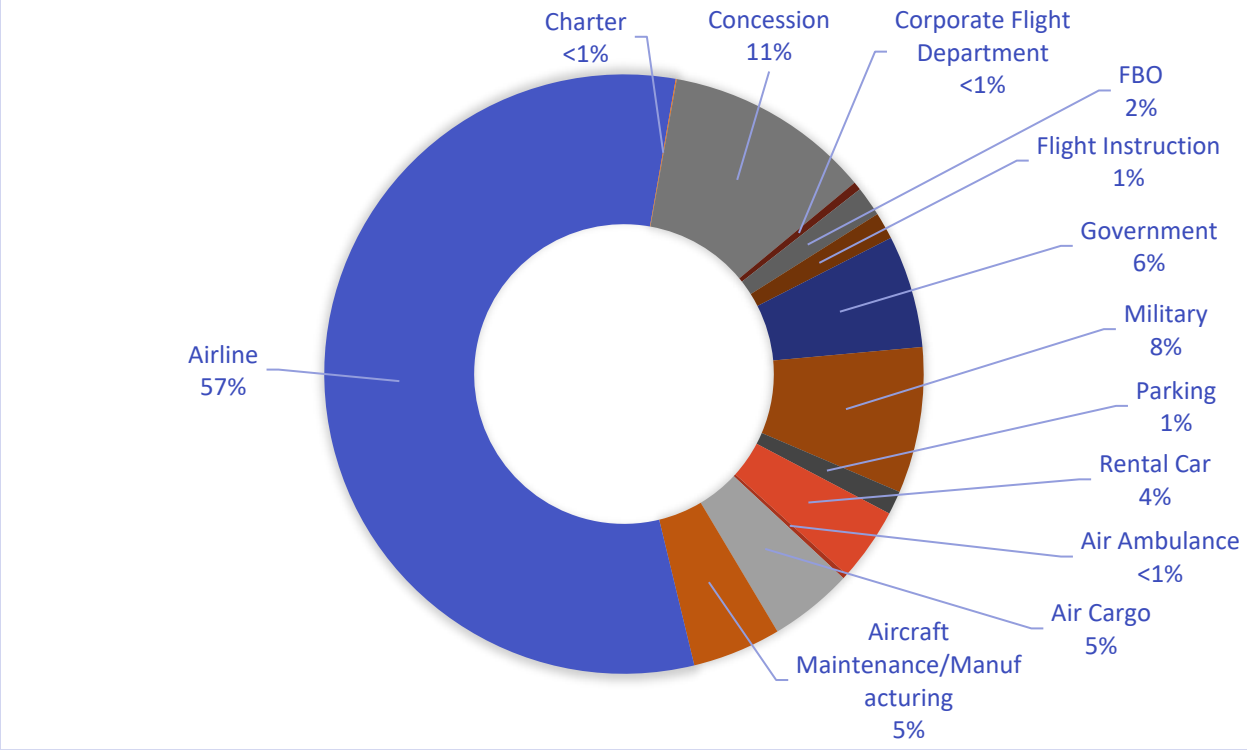
Source: Airport Tenants and SLCDA

Figure 3-1: Distribution of Airport Business Tenants by Service Type



Source: Study Surveys

Figure 3-2: Distribution of Business Tenant Employment by Service Type



Source: Study Surveys

Table 3-3 reflects direct employment, payroll, spending, and annual direct economic activity (payroll plus spending) impacts for all business tenants at SLC. Direct annual tenant economic activity shown in **Table 3-3** does not reflect spending for capital projects, as this spending is accounted for in another impact category. **Table 3-3** provides total direct full-time business-tenant-related employment; part-time and seasonal jobs have been converted to full-time jobs. Direct impacts are used in subsequent analyses to estimate indirect/induced impacts associated with the airport business tenant category.

Table 3-3: Direct Business Tenant Impacts

Impact Measure	Direct Impacts
Employment	12,287
Payroll	$751,526,400
Spending	$1,317,489,700
Annual Economic Activity	$2,069,016,100

Source: Airport Business Tenants and SLCDA

3.3 Estimates of Direct Impacts for Capital Investment

When direct capital investment takes place at an airport, the spending supports employment and payroll over the duration of the project's implementation. An airports' capital investment direct economic impact can change between cycles for measuring economic impact: this is because capital investment spending at an airport typically change from year-to-year.

Direct capital investment impacts are estimated using information supplied by SLCDA, UDOT, and business tenants at the airport. The goal was to capture all capital investment made at SLC regardless of funding source.

Since capital investment changes year-to-year, average annual investment (both public and private) over a five-year historical period is used to estimate direct impacts in this category. Impacts in this category consider only investment that has already been made; it does not include investment planned in the future. In the capital investment impact category, airport-specific average annual capital investment equates to annual economic activity (defined in this study as payroll plus spending). This is because reported investment values reflect both the cost of materials and labor.

Once average annual capital investment is established, information in the IMPLAN model is used to estimate direct employment and direct payroll for this impact category. The model provides information that indicates the portion of the airport's average annual capital investment that is labor-related, versus the portion allocated to purchase goods, materials, and supplies.

Table 3-4 provides average annual direct economic impacts for SLC in the capital investment category. Information presented in **Table 3-4** is based on the following:

- Average annual investment for capital projects over the past five years (direct annual economic activity); this data is from SLCDA, UDOT, and business tenants.
- Direct employment supported by capital investment is based on a five-year average.
- Direct employment is based on ratios of jobs per average annual economic activity from IMPLAN.
- Direct payroll associated with employment in the capital investment category is from IMPLAN.
- Direct spending for goods, material, and supplies to support capital projects is equal to direct annual economic activity minus direct annual payroll.

As reflected in **Table 3-4**, average annual capital investment over the past five years at SLC results in significant impacts. Direct jobs supported by capital investment include those related to planning, consulting, permitting, designing, engineering, and building capital projects.

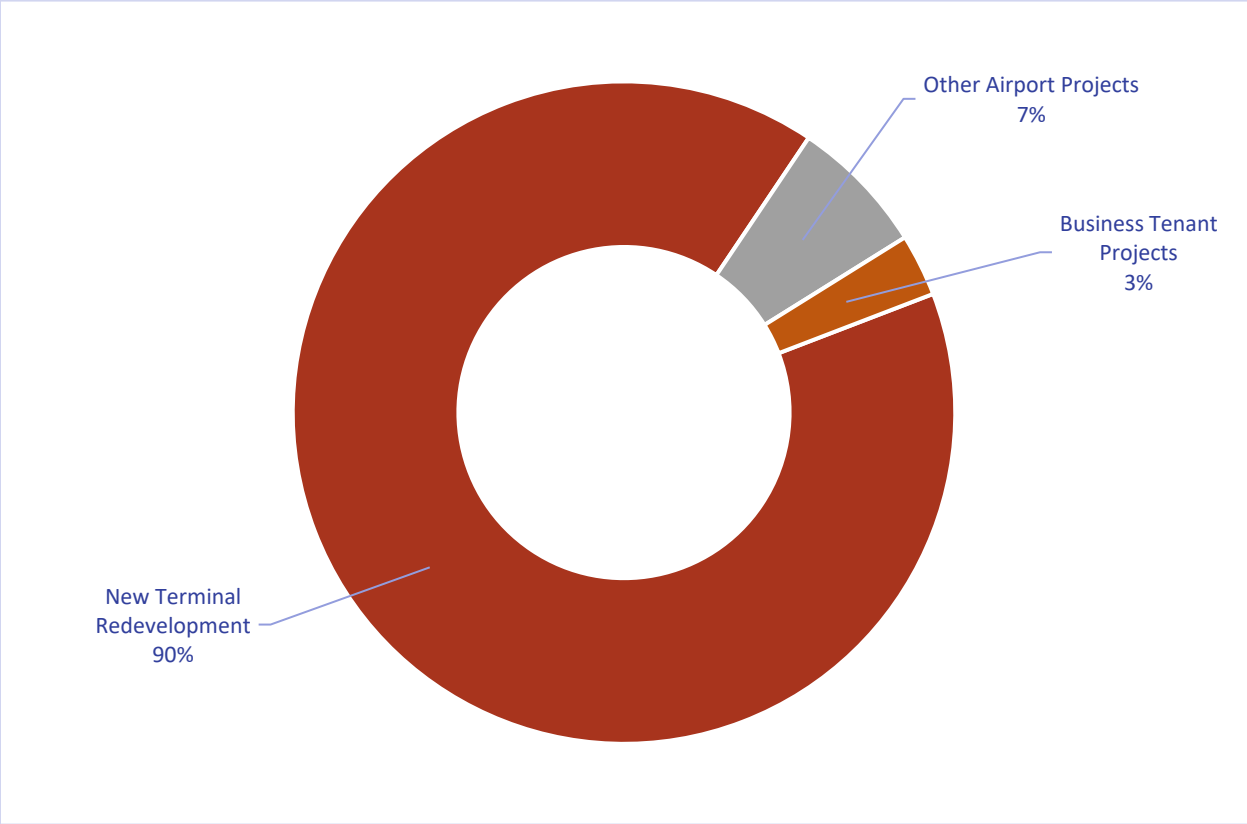
Table 3-4: Direct Impacts from Average Annual Capital Investment

Impact Measure	Direct Impacts
Employment	1,559
Payroll	$58,115,200
Spending	$232,605,700
Annual Economic Activity	$290,720,900

Source: SLCDA, UDOT, Airport Tenants

To better assess the specific impact of the new terminal redevelopment project, the $291 million in direct economic activity (average annual capital investment) was categorized by project type/source. As shown in **Figure 3-3,** 90 percent of the economic impacts associated with direct capital investment impact can be attributed to the new terminal redevelopment project. Other projects administered by SLCDA represent 7 percent of the total, while business tenant, or private/third-party, projects comprise 3 percent of direct capital investment impacts.

Figure 3-3: Distribution of Average Annual Capital Investment Impacts by Project Source



Source: SLCDA and Jviation

3.4 Estimates of Direct Impacts from General Aviation Visitor Spending

Estimates of general aviation visitors are not available from any existing source. Therefore, to estimate general aviation visitors this study considered UDOT, FBO, FAA, and Airport Operations and Pilots Association (AOPA) information to develop visitor estimates. Annual general aviation itinerant arrivals for SLC is derived from FAA's 5010 Form. Since SLC has an air traffic control tower, tower data is the source for itinerant general aviation operations. SLC's two FBOs (TAC Air and Atlantic Aviation) provided estimates of the number of general aviation visiting aircraft arrivals that the airport accommodates during an average week. The FBOs also provided an estimate for the fleet mix of their weekly visiting general aviation aircraft (single-engine, multi-engine, and jet). Lastly, the FBOs also estimated the typical number of visitors that arrive on each type of visiting aircraft. The study team and UDOT benchmarked these estimates.

It is important to note that transient (visiting) arrivals are only a portion of an airport's total annual general aviation itinerant arrivals. The other portion of the airport's itinerant arrivals is attributed to aircraft based at the airport, which are not considered in general aviation visitor estimates.

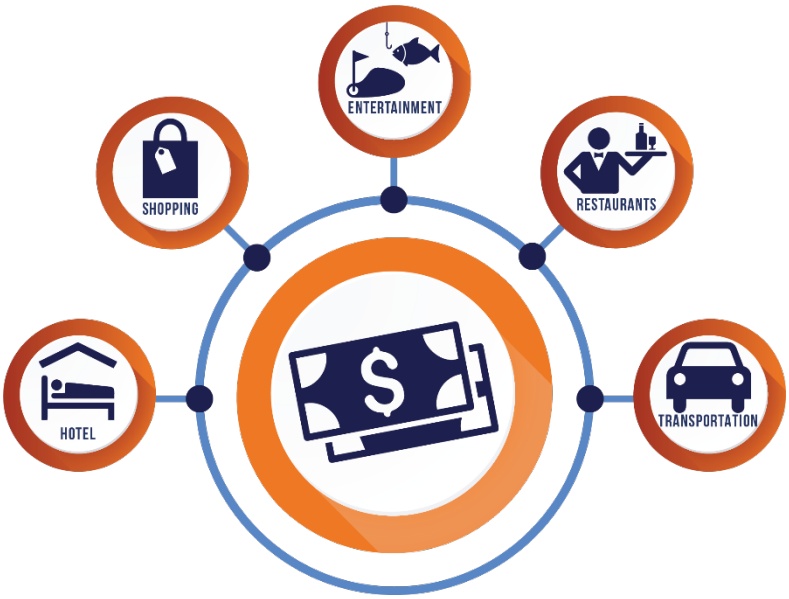
Survey estimates for the average number of visitors (pilots/passengers) are applied to the resultant visiting aircraft fleet. The FBOs are the source of information for typical visitors per aircraft type. This process leads to final estimates for the airport's annual general aviation visitors. The two primary general aviation visitor estimates established for SLC are as follows:

- 10,400 total annual visiting general aviation aircraft arrivals
- 43,000 total annual general aviation visitors

Using final general aviation visitor estimates, information from visitor surveys conducted on trip duration and spending per trip is used to estimate annual visitor spending. In addition to a statewide survey effort, SLC's FBOs were asked to assist in the process to distribute surveys to departing general aviation visitors. General aviation visitors were asked to provide information on:

- The purpose of their trip
- The duration of their stay
- The amount of money they spent for lodging, food, retail, ground transportation, and entertainment

General aviation visitor purchases for aviation fuel are not measured in this impact category because aviation fuel purchases go toward supporting jobs, payroll, and spending for the two FBOs selling fuel at SLC. Counting spending for fuel purchases in the general aviation visitor category would result in double-counting of economic impacts. The impacts of general aviation fuel purchases are reflected in the business tenant sources.



It should be noted that many general aviation visitors stay for less than one day, and some stay only a few hours. Visitors that stay briefly may have little to no spending.

Once direct annual visitor spending is estimated, information from the IMPLAN model is used to determine the number of direct jobs and direct payroll that visitor spending supports. Direct employment and payroll supported by general aviation visitor spending is primarily, but not exclusively, associated with off-airport establishments/businesses. Spending by visitors arriving on general aviation aircraft supports jobs associated with hotels, entertainment venues, retail shops, ground transportation providers, and restaurants.

Table 3-5 provides information on direct economic activity supported by general aviation visitor spending. The estimate of annual general aviation visitor expenditures is derived from surveys, interviews, and research conducted for this study. Estimates of direct employment and direct payroll in this impact category are based on ratios in the IMPLAN model. In **Table 3-5**, annual economic activity resulting from visitors arriving on general aviation aircraft is the sum of payroll and spending.

Annual economic activity is estimated based on average spending per visitor per trip. Average spending per visitor trip considers not only those visitors who spend at least one night, but also visitors who come only for the day and have limited spending. For SLC, average expenditures per general aviation visitor trip was estimated at $250. Once direct economic activity is estimated, the IMPLAN model is used to estimate direct employment, along with associated direct payroll. Direct economic activity reflects the sum of visitor spending and employee payroll.[7] Dollars infused into the state economy by visitors who arrive on a general aviation flight support the direct economic impacts reported in **Table 3-5**.

Table 3-5 is based on the following information:

- Direct annual economic activity from general aviation visitor spending is based on annual estimates of general aviation visitors multiplied by average spending per visitor trip.
- Direct employment supported by direct annual economic activity is based on ratios of jobs per average annual economic activity from the IMPLAN model.
- Direct payroll associated with direct employment in the general aviation visitor spending category is based on payroll per job from IMPLAN.
- Direct spending for goods, equipment, supplies, and infrastructure in the visitor spending category equals direct annual economic activity minus the direct annual payroll.

[7] Since visitor spending in the local economy covers the cost of both goods and labor for the merchant(s), direct annual economic activity, which includes payroll and spending, is the first measure used to then determine employment, payroll, and spending. For example, when visitor spending at restaurants is reported, the visitor reports their total bill. The bill reflects the cost of the food, equipment, and establishment, plus the labor to prepare and serve the food.

Table 3-5: Direct Impacts from General Aviation Visitor Spending

Impact Measure	Direct Impacts
Employment	197
Payroll	$4,990,800
Spending	$5,734,200
Annual Economic Activity	$10,725,000

Source: Visitor Surveys and IMPLAN

3.5 Estimates of Direct Impacts from Commercial Visitor Spending

Visitors who arrive on scheduled commercial airline flights also have significant spending in the direct impact category. Direct annual impact related to commercial service visitors is estimated by first identifying total annual commercial airline passenger enplanements.[8] Calendar year 2019 commercial passenger enplanements were used in this analysis.

After identifying annual passenger enplanements, data from USDOT is examined to determine the portion of the airport's annual enplanements that are visitors versus residents. For many years, the USDOT has conducted its 10 percent ticket sample at all commercial airports. This sample provides information on tickets associated with residents and tickets associated with visitors. USDOT is the source of information to identify each commercial airport's visitors.

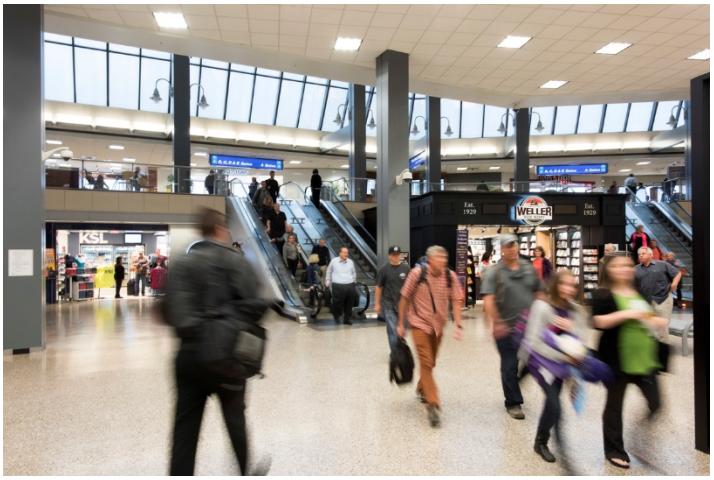


Table 3-6 provides information on the portion of the airport's enplanements that are visitors, as opposed to residents. As **Table 3-6** shows, the total number of visitors estimated to arrive annually on a commercial airline flight at SLC is approximately 6.4 million, which is approximately 47 percent of the nearly 13.4 million passenger enplanements experienced in 2019.

[8] The FAA defines a passenger enplanement as a person boarding in the United States in scheduled or nonscheduled service on aircraft in intrastate, interstate, or foreign air transportation.

Visitor spending data was collected through an online survey deployed on the airport terminal wi-fi network. Information collected from visitor surveys is used to develop estimates of average spending per visitor, per trip, per study airport. Estimates of average spending per visitor trip, shown in **Table 3-6,** consider spending by visitors who come only for the day, as well as those visitors who spend one or more nights. Average spending per visitor trip considers spending for lodging, food, ground transportation, retail, and entertainment

Table 3-6: Visitors Arriving on Commercial Airlines and Average Spending Per Trip

Commercial Visitor Impact Components	Estimates
Annual Enplanements (2019)	13,736,515
Percent Visitors	47.5%
Annual Visitors	6,523,212
Average Spending per Visitor	$607

Source: FAA, USDOT, Visitor Surveys

A web-based commercial passenger survey was deployed on the wi-fi throughout the terminal, starting May 2019. As of February 2019, the wi-fi survey yielded over 280,000 survey submissions, which is one of the largest single samples for any similar airport economic impact study. The sample size and duration afford a high level of confidence in the results, which are both reasonable and conservative given the wide range of included data and limited need to exclude extreme outliers. One of the primary takeaways from the data is that 63 percent of visitors departing through SLC stayed overnight for an average duration of 2.5 nights. The robust sample size also allows deeper analysis into spending patterns by spending category (lodging, food, retail, entertainment, transportation, etc.), by traveler/trip purpose, and by domestic/international traveler origin.

Average spending per day obtained from the survey responses is used to estimate annual commercial visitor direct spending. **Table 3-7** presents annual direct economic activity in this category. Once direct economic activity is estimated, the IMPLAN model is used to estimate direct employment, along with associated direct payroll. Direct economic activity reflects the sum of visitor spending and employee payroll.[9] Dollars infused into the state economy by visitors who arrive on a commercial airline flight support the direct economic impacts reported in **Table 3-7**.

[9] Since visitor spending in the local economy covers the cost of both goods and labor for the merchant(s), direct annual economic activity, which includes payroll and spending, is the first measure used to then determine employment, payroll, and spending. For example, when visitor spending at restaurants is reported, the visitor reports their total bill. The bill reflects the cost of the food, equipment, and establishment, plus the labor to prepare and serve the food.

This study estimates that visitors who arrive on a commercial airline flight at SLC are responsible for total direct annual economic activity estimated at nearly $3.9 billion.

For expenditures per visitor reported above, all spending is assigned to one of the following categories: lodging, food, ground transportation, entertainment, or retail spending. The distribution of spending by category is necessary for two reasons. The first relates to establishing indirect/induced impacts associated to visitor spending; multipliers differ depending on in which category the spending takes place. For instance, the direct dollar spent in the restaurant category tends to have greater subsequent impact than the same dollar spent in the retail category. This is because the retail item being purchased is most often not manufactured in Utah, or perhaps even in the United States. For these reasons, visitor expenditures are allocated to different categories. This is true for both commercial and general aviation visitor spending.

Table 3-7: Direct Impacts from Commercial Visitor Spending

Impact Measure	Direct Impacts
Employment	61,084
Payroll	$1,545,730,600
Spending	$2,305,921,900
Annual Economic Activity	$3,851,652,500

Source: Passenger Surveys and IMPLAN

3.6 Summary of Total Direct Economic Impacts

Table 3-8 presents total annual direct economic impacts for employment, payroll, spending, and economic activity for SLC. These impacts represent direct annual impacts for airport management, airport business tenants, capital investment, general aviation visitor spending, and commercial visitor spending.

Table 3-8: Summary of Total Annual Statewide Direct Economic Impact by Category

Impact Source	Direct Employment	Direct Payroll	Direct Spending	Direct Economic Activity
Airport Management	485	$40,222,700	$52,275,500	$92,498,200
Airport Business Tenants	12,287	$751,526,400	$1,317,489,700	$2,069,016,100
Capital Investment	1,559	$58,115,200	$232,605,700	$290,720,900
General Aviation Visitors	197	$4,990,800	$5,734,200	$10,725,000
Commercial Visitors	61,084	$1,545,730,600	$2,305,921,900	$3,851,652,500
Grand Total	75,612	$2,400,585,700	$3,914,027,000	$6,314,612,700

Source: Study Analysis and IMPLAN

Direct impacts are related to activity at the airport that can be quantified, counted, or measured in some way, and are typically the easiest to understand. **Table 3-9** provides a summary of direct impacts for employment, payroll, spending, and annual economic activity. This information is a sum of direct impacts previously presented for each of the five sources of economic impact: airport management, business tenants, capital investment, general aviation visitor spending, commercial visitor spending.

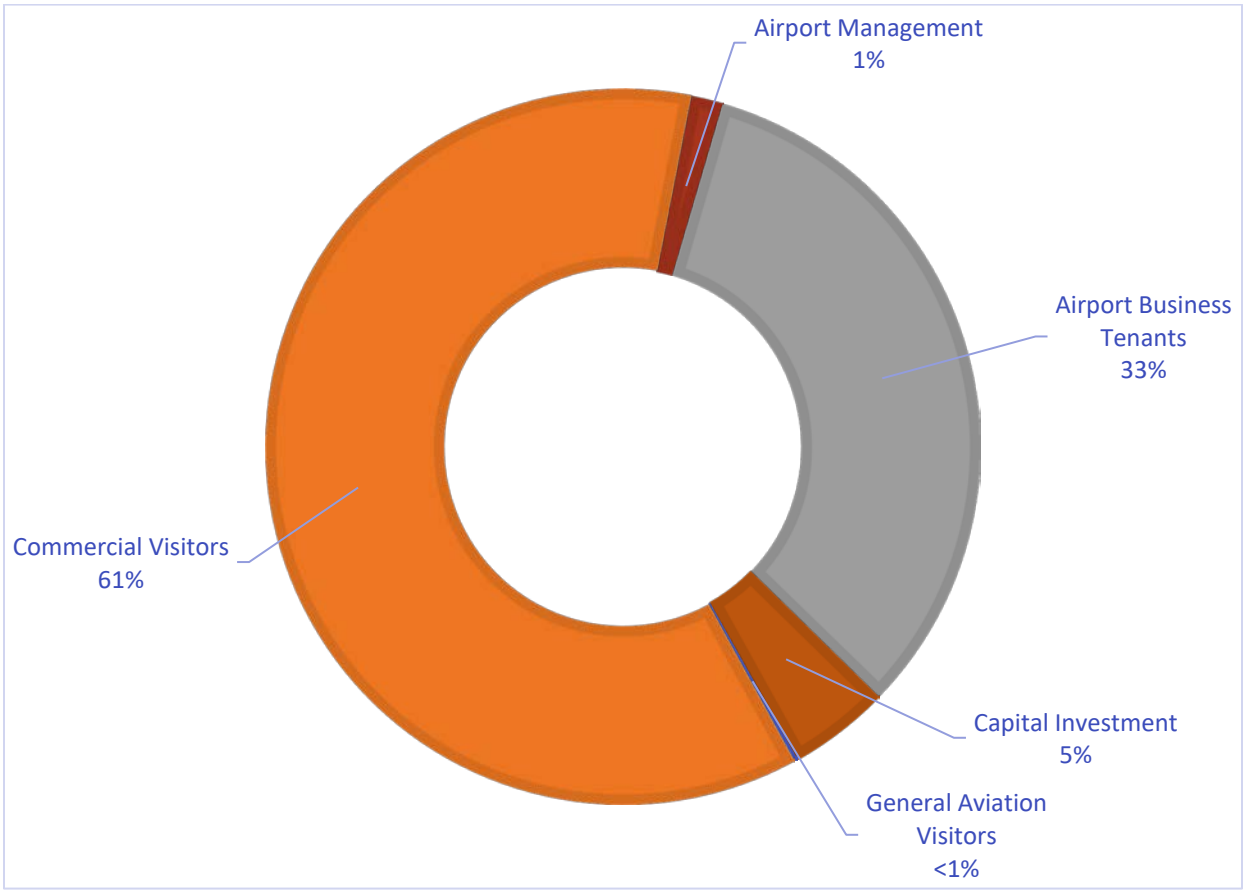
Table 3-9: Summary of Total Annual Direct Impacts

Impact Measure	Direct Impacts
Employment	75,612
Payroll	$2,400,585,700
Spending	$3,914,027,000
Annual Economic Activity	$6,314,612,700

Source: Study Analysis and IMPLAN

Figure 3-4 illustrates the distribution of direct annual economic activity by impact source. Perhaps unsurprisingly given SLC's role as a major hub airport, commercial visitors are responsible for the majority of direct economic impacts. Business tenants are responsible for the second largest percentage of direct economic impacts, followed by capital investment, airport management, and general aviation visitors.

Figure 3-4: Distribution of Direct Impacts by Impact Source



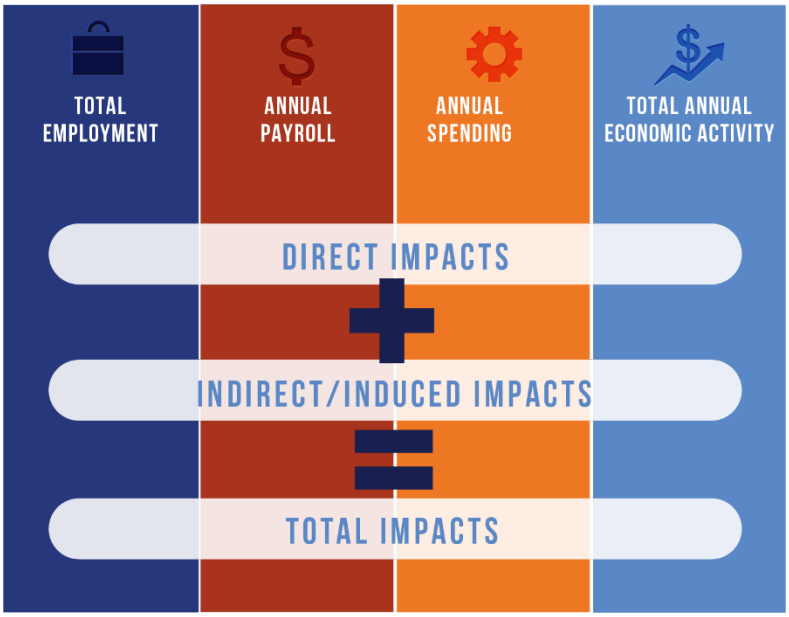
Source: Jviation

Notably, of the of the $291 million in direct annual economic activity related to capital investments (average annual capital investment spending based on five-year total of $1.45 billion), the terminal redevelopment project accounts for approximately 90 percent. Hypothetically, if the terminal redevelopment project spending were omitted, direct annual economic activity would drop from 5 percent of SLC's direct annual economic activity to less-than 1 percent.

The next section shows how these direct impacts multiply once they enter the state and local economies.

3.7 Discussion and Measurement of Indirect/Induced Economic Impacts

This section discusses indirect/induced economic impacts stemming from the direct economic impacts discussed in preceding sections. While some sectors of the economy are linked directly to the airport, many others are linked indirectly to the airport and activities it supports.



As discussed, when visitors arrive at SLC, they often spend money on rental cars, hotels, food, entertainment, retail, and sometimes other items. These direct expenditures also support direct employment and payroll. As an example of how indirect/induced economic impacts are created, many hotels are, in part, supported by air visitors. Hotels pay for utilities, purchase linens, secure food to supply their restaurant, and buy new carpeting with money paid to them, in part, by the air visitors. In turn, the suppliers of the utilities, linens, food, and carpet also buy "inputs," make payments for salaries, and generate additional economic impacts. The indirect/induced impacts associated with the hotel's operation are examples of how direct impacts (visitor spending in this case) associated with SLC generates additional indirect/induced impacts.

For this study, all indirect/induced impacts are based on sector-specific multipliers. In the economic modeling process, direct impacts in one sector lead to additional indirect/induced impacts in other sectors of the economy. In the process of estimating indirect/induced impacts, it is important to recognize that there is not just "one" multiplier that is used to estimate how direct impacts in the employment, payroll, and spending measures continue to create additional economic impacts once they enter the state economy. In reality, hundreds of multipliers are considered to estimate the indirect/induced impacts reported in this study.

For the previous example, the hotel paid salaries to their employees. In turn, these employees generate their own indirect/induced or multiplier impacts. For example, a hotel employee may use part of their income to take their family to dinner. Part of this expenditure becomes income to the waiter; he then spends some of his income at the dry cleaners, and part of this expenditure is then used by the owners of the dry-cleaning business to buy materials to renovate their house. Indirect/induced or multiplier impacts continue in the economy being studied until the multiplier impact diminishes to zero.

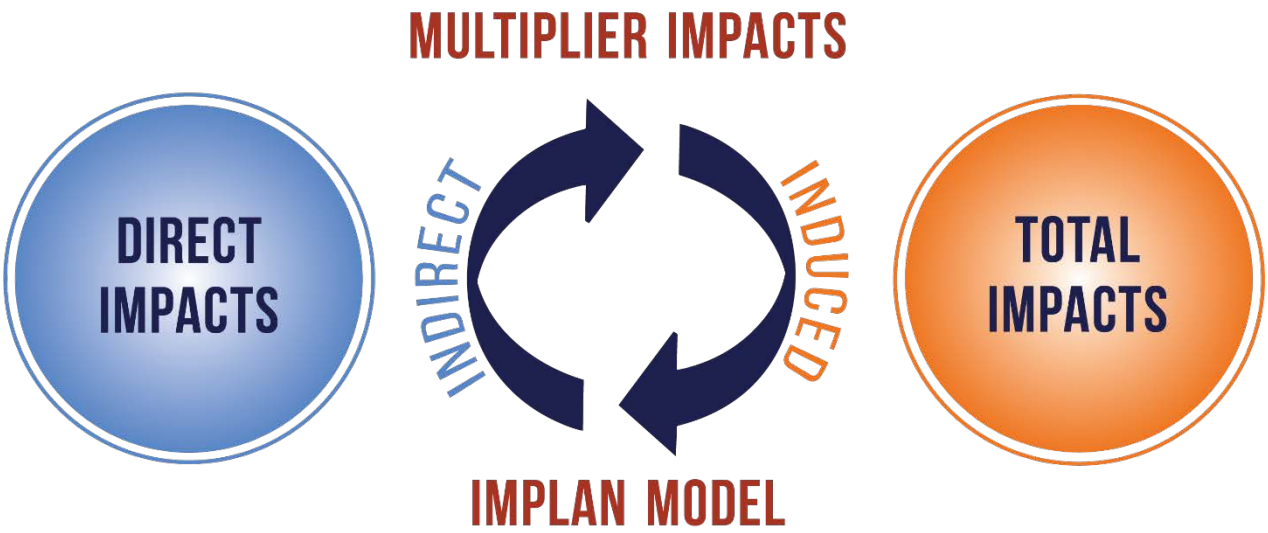
Indirect/induced or multiplier impacts are not the same for all economies. In the economic modeling process, indirect/induced impacts represent or measure opportunities for businesses and individuals to purchase goods and services they need in their local or state economy. The larger and more developed the economy of the area being studied, the greater the chance for purchasing a high percentage of what is needed in the local or state economy, thus the higher the multiplier impact. For less populated and more rural states, the opportunity to purchase needed goods and services locally may not be as great. However, the business or individual may still be able to purchase what they need within the state, in this case Utah. Indirect impacts result from industries purchasing from other industries, whereas induced impacts result from the expenditure of new household income associated with direct and indirect impacts. When summed, direct, indirect, and induced impacts equal total annual economic impacts.

A statewide, Utah-specific model was used to derive all indirect/induced and total annual economic impacts discussed in this report. A series of models were then prepared to estimate total economic impacts for each impact source and impact measure. The primary source of data for all models comes from IMPLAN, a proprietary suite of models that has been offered for several decades by a North Carolina-based, privately owned company. This analysis uses Utah-specific information with the most current version of IMPLAN. While there are several other models that support economic impact analysis, most are maintained by the U.S. Department of Commerce/Bureau of Economic Analysis. The data (population, employment, income, and other factors) upon which government-maintained models are based tends to be less current than the data in IMPLAN.

IMPLAN is an acronym for **IM**pact analysis for **PLAN**ning; the model was developed almost 40 years ago and is approved by FAA to estimate aviation-related economic impacts. IMPLAN is a general input-output economic activity model that comprises statewide and regionally specific Utah data sets. IMPLAN provides a system to estimate the interdependency between economic sectors, households, and government in a geographically defined region, using counties as the building blocks for the analysis. One of the most powerful aspects of IMPLAN is that the data sources behind the model are continually improved and updated. Rather than extrapolating regional data from national averages, IMPLAN measures economic impacts from data that characterizes actual local economies in Utah.

IMPLAN tracks all available industry groups in every level of the state's data. This permits detailed impact breakdowns and helps ensure accuracy of inter-industry relationships. Some of the data sets used to support the modeling completed in this economic impact study include:

- U.S. Bureau of Labor Statistics (BLS) Census of Employment and Wages program
- U.S. Bureau of Economic Analysis (BEA) Regional Economic Information System (REA) program
- U.S. Bureau of Economic Analysis Benchmark I/O Accounts of the United States
- BEA Economic Activity estimates
- BLS Consumer Expenditure Survey
- U.S. Census Bureau County Business Patterns (CBP) program
- U.S. Census Bureau Decennial Census and Population Surveys
- U.S. Census Bureau Economic Censuses and Surveys
- U.S. Department of Agriculture Census



Within the business tenant source, there are different multipliers for each tenant type. For the capital investment source, spending for buildings, asphalt, and equipment all have different multipliers. In the visitor source, each expenditure type—lodging, food, ground transportation, entertainment, and retail—has different multipliers. For instance, in the visitor expenditure source, there is a higher economic return to the state economy for money spent on hotels as opposed to retail. Hotels are likely purchasing a higher percentage of the goods and services that they need to operate within the state. On the other hand, many retail items

purchased by visitors are most likely not made in Utah. Therefore, indirect/induced impacts are higher for spending on hotels than for retail spending.

In the process of estimating indirect/induced economic impacts associated with visitor expenditure, separate model entries are made for hotels, food, retail, entertainment, and local transportation so that cumulative indirect/induced impacts are more accurately reflected. Direct economic activity in the capital investment source is also segmented to better reflect economic activity within the state. As another example, spending for equipment has a lower economic return (multiplier) than spending for runway paving since materials and labor are locally sourced.

The remaining portions of this section present indirect/induced economic impacts estimated using the IMPLAN model. Since total annual economic impacts in each source are a sum of direct and indirect/induced impacts (related to the multiplier effect), this section also presents total annual economic impacts as these impacts relate to airport management, business tenants, capital investment, general aviation visitor spending, and commercial visitor spending. This study focuses on direct impacts; a conservative approach is taken to estimate all indirect/induced impacts.

3.8 Indirect/Induced and Total Economic Impact from Airport Management

Direct economic impacts for the airport management source (employment, payroll, spending, and annual economic activity) were obtained directly from SLCDA. Direct impacts were entered into the IMPLAN model to estimate total economic impacts and to determine the portion of the airport's airport-management-related impacts that are indirect/induced (multiplier) impacts.

Table 3-10 presents SLC's direct, indirect/induced, and total annual economic impacts for employment, payroll, spending, and annual economic activity for the airport management source. In this and other tables, annual economic activity is the sum of spending and payroll.

Table 3-10: Direct, Indirect/Induced, and Total Economic Impact from Airport Management

Impact Measure	Direct Impacts	Indirect/Induced Impacts	Total Impacts
Employment	485	462	947
Payroll	$40,222,700	$61,413,000	$101,635,700
Spending	$52,275,500	$79,670,100	$131,945,600
Annual Economic Activity	$92,498,200	$141,083,100	$233,581,300

Source: SLCDA and IMPLAN

3.9 Indirect/Induced and Total Economic Impact from Airport Business Tenants

Direct economic impacts for the business tenant source for employment, payroll, spending, and total economic activity were obtained directly from each business tenant, airport representatives, or third-party data sources. Direct impacts were entered into the IMPLAN model to estimate total economic impacts and to determine the portion of SLC's business-tenant-related impacts that are indirect/induced (multiplier) impacts. Since there are multiple business tenants at SLC, confidentiality for individual tenant survey responses is maintained.

Table 3-11 presents SLC's direct, indirect/induced, and total annual economic impacts for employment, payroll, spending, and annual economic activity for the airport business tenant source. As with other tables in this report, annual economic impact activity is the sum of payroll and spending. The impacts for airport business tenants presented in **Table 3-11** are only for on-airport aviation-related companies or agencies that have employees. Business-tenant-related impacts presented in **Table 3-11** are a sum of all business-tenant-related impacts at SLC.

Table 3-11: Direct, Indirect/Induced, and Total Economic Impact from Airport Business Tenants

Impact Measure	Direct Impacts	Indirect/Induced Impacts	Total Impacts
Employment	12,287	15,009	27,296
Payroll	$751,526,400	$678,008,500	$1,429,534,900
Spending	$1,317,489,700	$856,924,500	$2,174,414,200
Annual Economic Activity	$2,069,016,100	$1,534,933,000	$3,603,949,100

Source: SLCDA, Airport Business Tenants, and IMPLAN

3.10 Indirect/Induced and Total Economic Impacts from Average Annual Capital Investment

Direct economic impacts for the capital investment source for employment, payroll, spending, and annual economic activity are obtained directly from SLCDA, UDOT, and business tenants. Direct impacts were entered into the IMPLAN model to estimate total economic impacts and to determine the portion of annual economic impacts from capital investment related to indirect/induced (multiplier) impacts.

Table 3-12 presents SLC's direct, indirect/induced, and total annual economic impacts for employment, payroll, spending, and annual economic activity for capital investments. These results consider what has been invested at SLC, on average, over the past five years (generally through 2019). This approach was taken since considering capital investment over a multi-year period helps capture the full impact for major projects that often extend over a multi-year period. Using a five-year average also smooths out fluctuations in spending levels year-to-year.

Table 3-12: Direct, Indirect/Induced, and Total Economic Impact from Average Annual Capital Investment

Impact Measure	Direct Impacts	Indirect/Induced Impacts	Total Impacts
Employment	1,559	1,981	3,540
Payroll	$58,115,200	$48,536,300	$106,651,500
Spending	$232,605,700	$218,004,500	$450,610,200
Annual Economic Activity	$290,720,900	$266,540,800	$557,261,700

Source: SLCDA, UDOT, Airport Business Tenants, and IMPLAN

3.11 Indirect/Induced and Total Economic Impact from General Aviation Visitor Spending

Direct economic impacts for the general aviation visitor spending source for employment, payroll, spending, and annual economic activity were obtained using input from SLCDA, FBOs, UDOT, FAA NOP data, and study surveys.

Direct impacts were entered into the IMPLAN model to estimate total economic impacts and to determine the portion of general aviation visitor-related economic impacts that is attributed to indirect/induced (multiplier) impacts. Direct visitor spending is assigned to one or more of the following categories based on survey results: hotels, food/restaurants, ground transportation, retail, and entertainment.

Table 3-13 presents SLC's direct, indirect/induced, and total annual economic impacts for employment, payroll, spending, and total annual economic activity (the sum of payroll and spending).

Table 3-13: Direct, Indirect/Induced, and Total Economic Impact from General Aviation Visitor Spending

Impact Measure	Direct Impacts	Indirect/Induced Impacts	Total Impacts
Employment	197	91	288
Payroll	$4,990,800	$3,334,000	$8,324,800
Spending	$5,734,200	$5,434,900	$11,169,100
Annual Economic Activity	$10,725,000	$8,768,900	$19,493,900

Source: SLCDA, FBOs, Study Surveys, FAA NOP Data, Aircraft Owners Pilots Association (AOPA), and IMPLAN

3.12 Indirect/Induced and Total Economic Impact from Commercial Visitor Spending

Direct economic impacts for the commercial visitor spending source for employment, payroll, spending, and annual economic activity were obtained from visitor surveys, SLCDA, FAA, and USDOT. Direct impacts were entered in the IMPLAN model to estimate total economic impacts and to determine the portion of commercial visitor spending impacts related to indirect/induced (multiplier) impacts. Direct visitor spending is assigned to one or more of the following categories based on survey results: hotels, food/restaurants, ground transportation, retail, and entertainment.

Table 3-14 presents SLC's direct, indirect/induced, and total annual economic impacts for employment, payroll, spending, and annual economic activity for commercial visitor spending.

Table 3-14: Direct, Indirect/Induced, and Total Economic Impact from Commercial Visitor Spending

Impact Measure	Direct Impacts	Indirect/Induced Impacts	Total Impacts
Employment	61,084	31,252	92,336
Payroll	$1,545,730,600	$1,108,444,500	$2,654,175,100
Spending	$2,305,921,900	$2,089,760,900	$4,395,682,800
Annual Economic Activity	$3,851,652,500	$3,198,205,400	$7,049,857,900

Source: SLCDA, USDOT, FAA, Study Surveys, and IMPLAN

4. Total Annual Economic Impact

SLC's total annual economic impact is the sum of its impacts from airport management, airport business tenants, average annual capital investment, general aviation visitor spending, and commercial visitor spending. All total economic impacts for the airport are the sum of its direct impacts added to its indirect/induced impacts. Total airport economic impacts were estimated using a statewide Utah input-output economic activity model developed specifically for this analysis.

Table 4-1 provides a summary of SLC's total annual economic impact. These impacts reflect its total impact on the state economy.

Table 4-1: Total Annual Statewide Economic Impact

Impact Measure	Direct Impacts	Indirect/Induced Impacts	Total Impacts
Employment	75,612	48,795	124,407
Payroll	$2,400,585,700	$1,899,736,300	$4,300,322,000
Spending	$3,914,027,000	$3,249,794,900	$7,163,821,900
Annual Economic Activity	$6,314,612,700	$5,149,531,200	$11,464,143,900

Source: Jviation

5. Annual Economic Impacts by Source

Annual direct, indirect/induced, and total economic impacts were estimated by measure for each of the five economic impact sources. **Table 5-1** presents all impact estimates for annual employment, payroll, spending, and economic activity for each impact source.

Table 5-1: Economic Impact from All Impact Sources

Impact Measure	Source	Direct Impacts	Indirect/Induced Impacts	Total Impacts
Employment	Airport Management	485	462	947
	Airport Business Tenants	12,287	15,009	27,296
	Capital Investment	1,559	1,981	3,540
	General Aviation Visitors	197	91	288
	Commercial Visitors	61,084	31,252	92,336
	Total Employment	75,612	48,795	124,407
Payroll	Airport Management	$40,222,700	$61,413,000	$101,635,700
	Airport Business Tenants	$751,526,400	$678,008,500	$1,429,534,900
	Capital Investment	$58,115,200	$48,536,300	$106,651,500
	General Aviation Visitors	$4,990,800	$3,334,000	$8,324,800
	Commercial Visitors	$1,545,730,600	$1,108,444,500	$2,654,175,100
	Total Payroll	$2,400,585,700	$1,899,736,300	$4,300,322,000
Spending	Airport Management	$52,275,500	$79,670,100	$131,945,600
	Airport Business Tenants	$1,317,489,700	$856,924,500	$2,174,414,200
	Capital Investment	$232,605,700	$218,004,500	$450,610,200
	General Aviation Visitors	$5,734,200	$5,434,900	$11,169,100
	Commercial Visitors	$2,305,921,900	$2,089,760,900	$4,395,682,800
	Total Spending	$3,914,027,000	$3,249,794,900	$7,163,821,900
Annual Economic Activity	Airport Management	$92,498,200	$141,083,100	$233,581,300
	Airport Business Tenants	$2,069,016,100	$1,534,933,000	$3,603,949,100
	Capital Investment	$290,720,900	$266,540,800	$557,261,700
	General Aviation Visitors	$10,725,000	$8,768,900	$19,493,900
	Commercial Visitors	$3,851,652,500	$3,198,205,400	$7,049,857,900
	Total Annual Economic Activity	$6,314,612,700	$5,149,531,200	$11,464,143,900

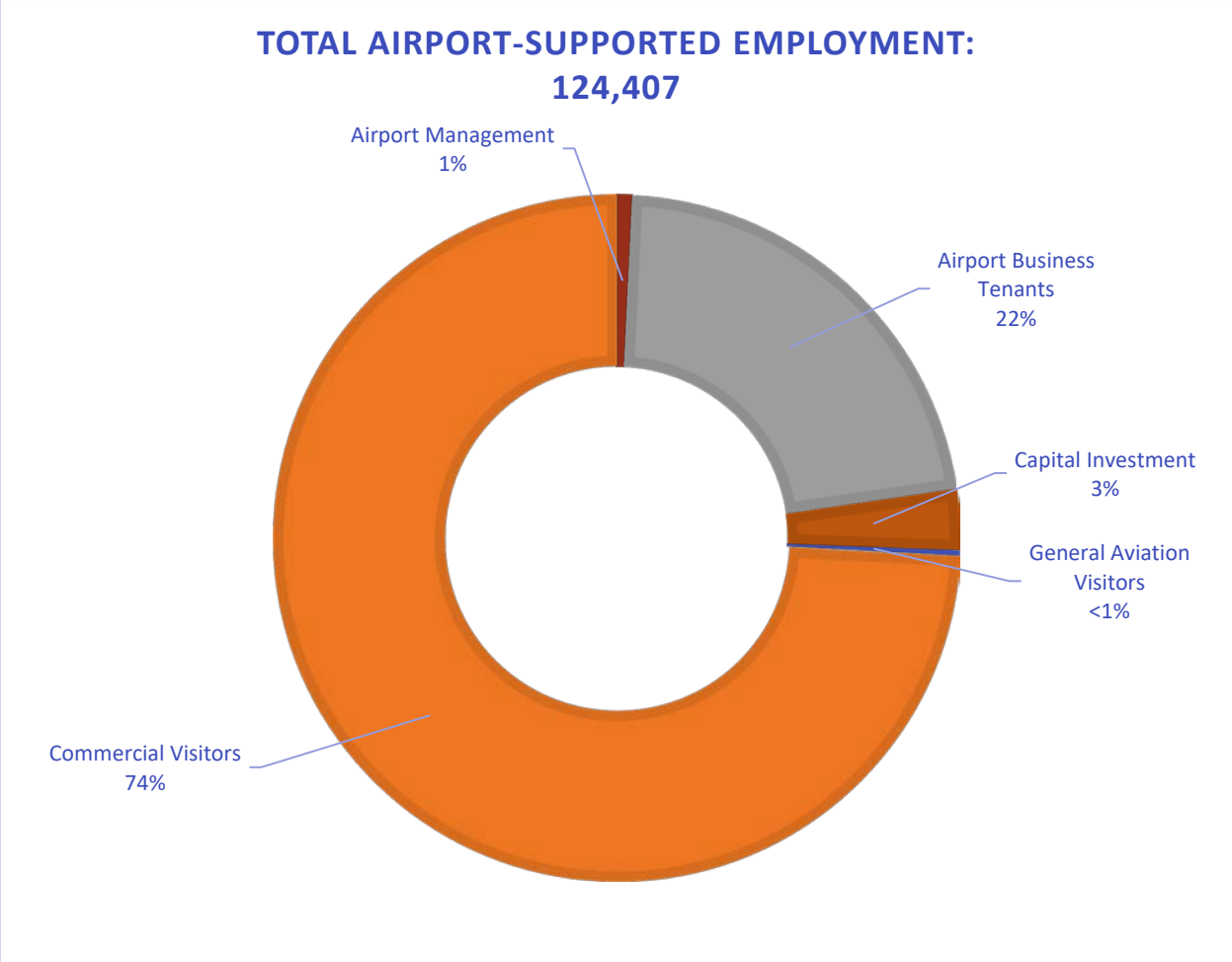
Source: Jviation

As shown in **Table 5-1**, this study estimates the following annual economic impacts for SLC:

- Total Jobs: **124,407**
- Total Annual Payroll: **$4.3 billion**
- Total Annual Spending: **$7.2 billion**
- Total Annual Economic Activity: **$11.5 billion**

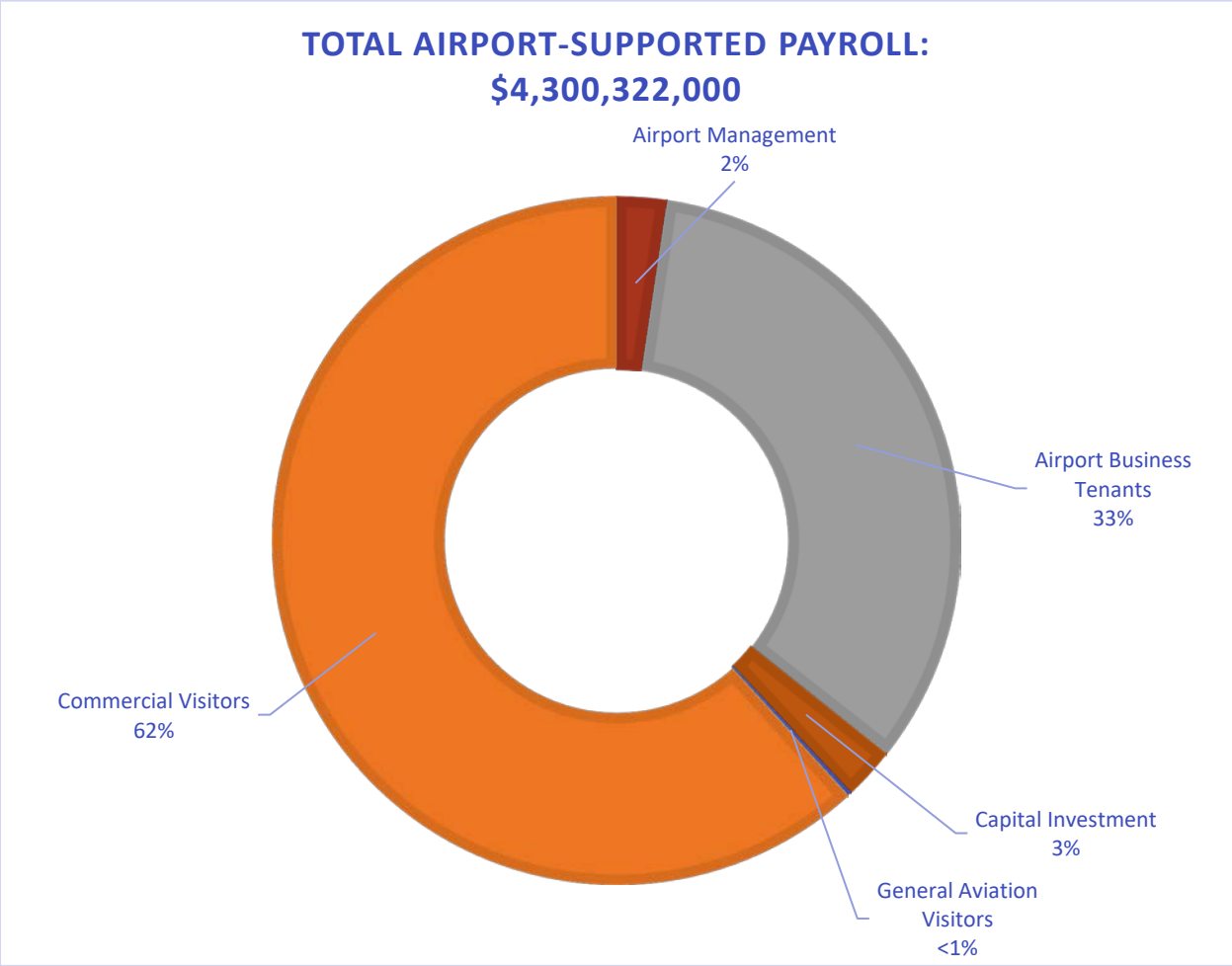
Figure 5-1, **Figure 5-2**, **Figure 5-3** , and **Figure 5-4** summarize the information presented in **Table 5-1.** These figures illustrate the share each economic impact source contributes towards total annual employment, payroll, spending, and annual economic activity estimated for SLC.

Figure 5-1: Percentage of Total Employment Impact by Impact Source



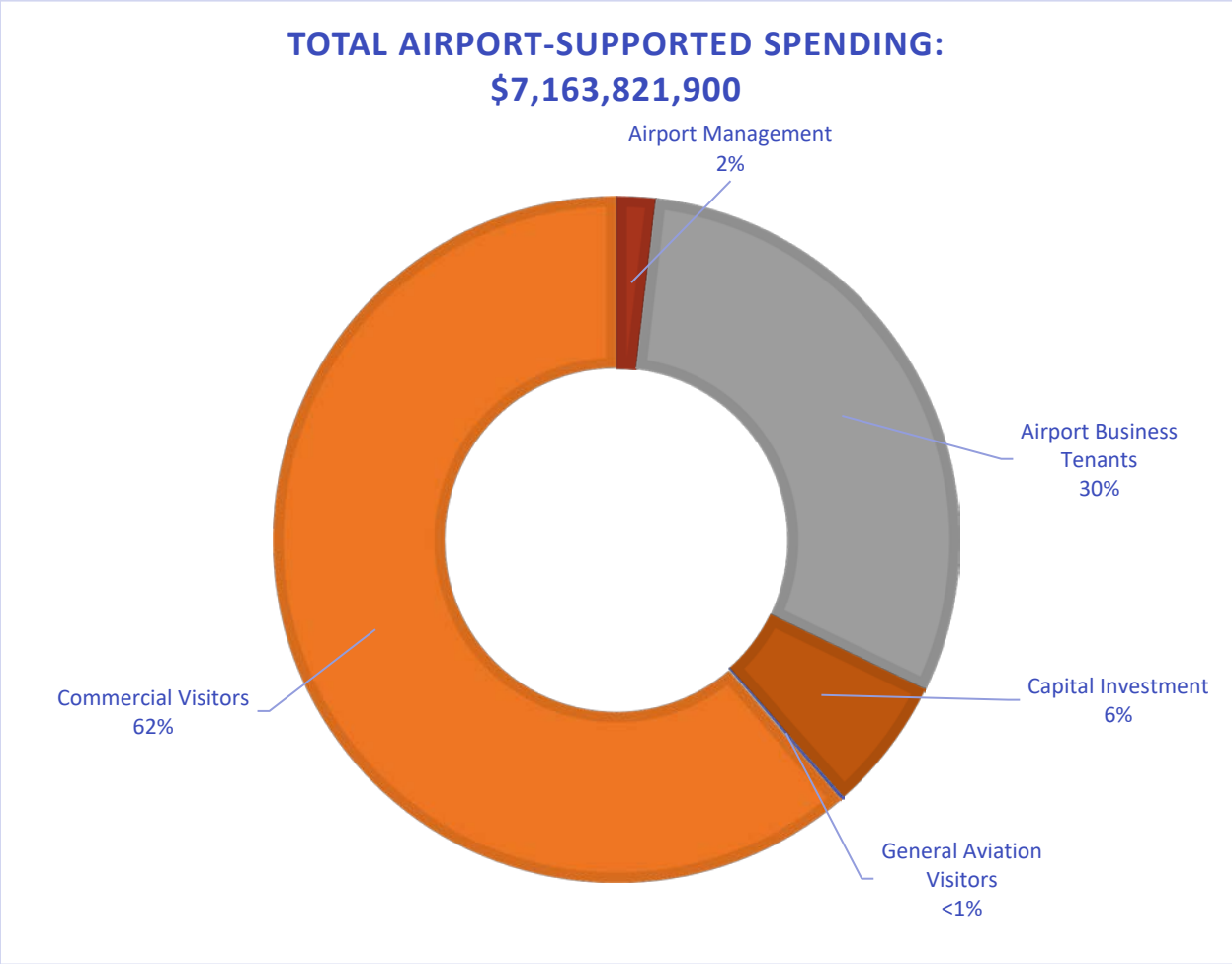
Source: Jviation

Figure 5-2: Percentage of Total Payroll Impact by Impact Source



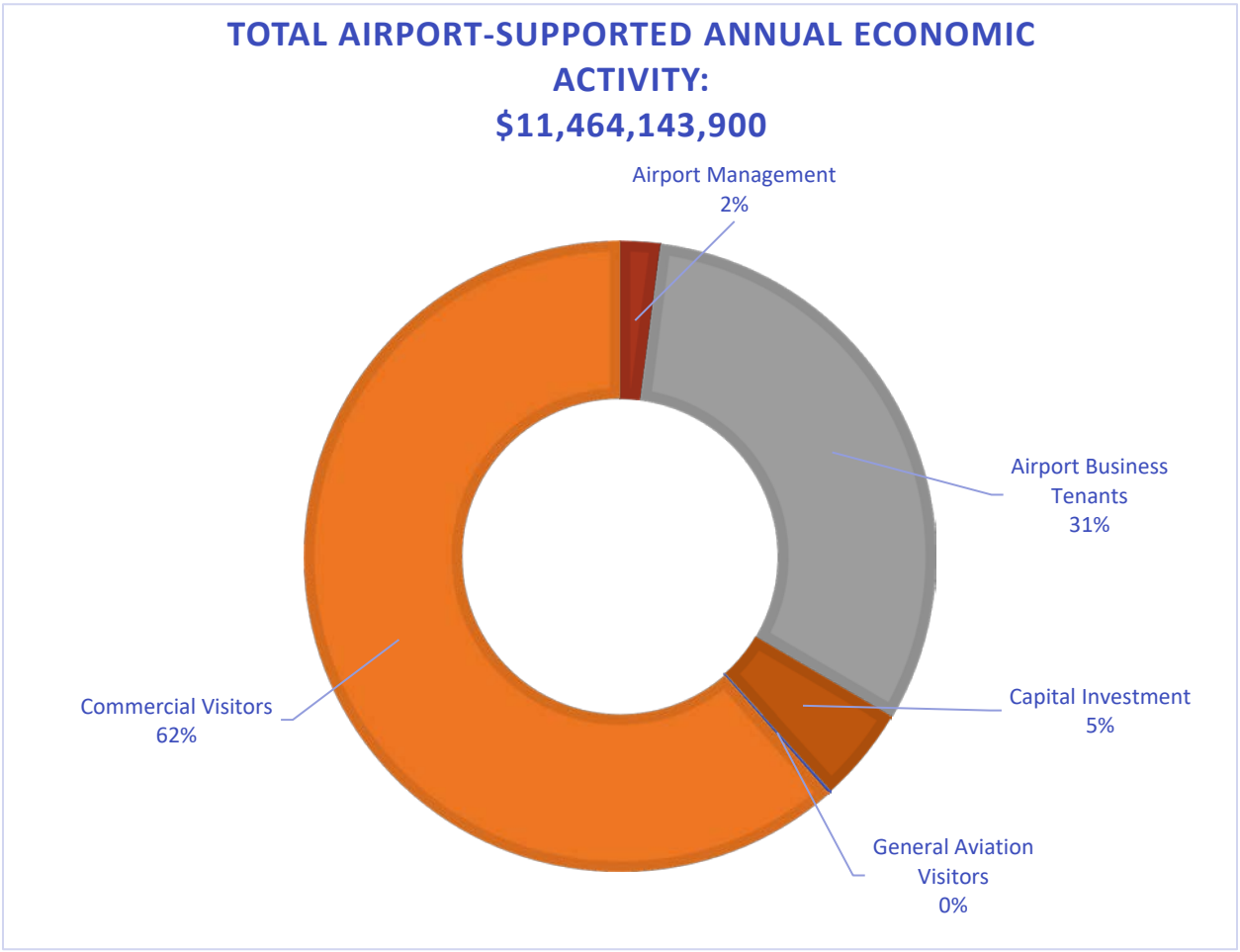
Source: Jviation

Figure 5-3: Percentage of Total Spending Impact by Impact Source



Source: Jviation

Figure 5-4: Percentage of Total Annual Economic Activity by Impact Source



Source: Jviation

6. Summary and Conclusions

This analysis estimates the annual economic impacts for SLC. As applicable, economic impacts are estimated for the following sources: airport management, business tenants, capital investment, general aviation visitor spending, and commercial visitor spending. For each category, employment, annual payroll, annual spending, and annual economic activity are estimated. For this analysis, annual economic activity is the sum of payroll and spending. These two measurements combined represent the economic cycle that starts at the airport and flows into other sectors of local and state economies.

Total annual economic impacts for SLC are as follows:

- Employment: 124,407
- Annual Payroll: $4.3 billion
- Annual Spending: $7.2 billion
- Annual Economic Activity: $11.5 billion

The $11.5 billion in total annual economic activity that SLC supports represents about 7 percent of Utah's 2018 gross state product.[10]

[10] https://jobs.utah.gov/wi/data/library/other/realgdp.html

Appendix A: Economic Impacts of Salt Lake City International Airport Using the REMI PI+ Model

The Kem C. Gardner Policy Institute calculated the economic impacts of the Salt Lake City International Airport in 2019 using the REMI PI+ model. Allowing for differences between IMPLAN and PI+, the Gardner Institute attempted to replicate Jviation's methodology as closely as possible. We modeled Airport Management, Airport Business Tenants, Capital Investment, General Aviation Visitor Spending, and Commercial Aviation Visitor Spending as distinct components. For each component, we used inputs provided by Jviation, the same as were used for the IMPLAN analysis.

The Gardner Institute used the Utah statewide, 70-sector version of REMI PI+. This model provides industry detail at the three-digit NAICS code level. In contrast, IMPLAN functions at a more detailed level, so we weren't always able to match exactly the industries used by Jviation. When this occurred, we used the higher-level industry in PI+ that encompasses the more detailed IMPLAN industry.

Impact Metrics

In order to be comparable with Jviation's results, we provide employment, earnings, and output impact results.

Employment in REMI PI+ (and IMPLAN) is the number of full- and part-time jobs, counted equally. Employment covers both employees of firms and the self-employed (sole proprietors).

Earnings in PI+ are comparable with IMPLAN's labor income. Both represent the sum of wages and salaries, employer contributions for pension and insurance funds and government social insurance, and proprietors' income. Compensation is the sum of wages and salaries and employer contributions, and is equal to earnings in government sectors, where there are no self-employed proprietors.

Output in both PI+ and IMPLAN is the sum of intermediate inputs (goods and services purchased as production inputs), employee compensation, taxes on production, and gross operating surplus (a measure of profit). Output represents total production, and can also be thought of as firm or industry sales. It is distinct from gross domestic product, which is equivalent to value added, or output less the value of intermediate inputs.

Airport Management

Direct airport management employment of 485 FTE jobs with $40.2 million in compensation, plus $52.3 million in nonpayroll spending supported 1,511 jobs, $96.5 million in earnings, and $253.9 million in output (see **Table A-1**). Direct output is total annual economic activity (AEA), or direct earnings plus direct spending.

Table A-1: Economic Impacts of Salt Lake City International Airport Management, 2019

Impact Measure	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Employment	485	1,026	1,511
Earnings	$40,222,743	$56,285,373	$96,508,116
Output	$92,498,215	$161,375,751	$253,873,966

Source: Kem C. Gardner Policy Institute analysis using the REMI PI+ model. Direct inputs provided by Jviation, Inc.

Airport Business Tenants

Business tenants at SLC International Airport provided 12,304 direct FTE jobs with $751.5 million in wages (equal to $967.7 million in earnings) and spent $1.3 million on nonpayroll business inputs. This activity supported a total of 22,440 jobs, $1.4 billion in earnings, and nearly $5.0 billion in output (see **Table A-2**). Direct output is the sum of direct earnings and spending on inputs reported by the tenant businesses.

Table A-2: Economic Impacts of Salt Lake City International Airport Business Tenants, 2019

Impact Measure	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Employment	12,304	10,136	22,440
Earnings	$967,752,575	$458,323,742	$1,426,076,317
Output	$2,285,242,268	$2,708,161,301	$4,993,403,569

Source: Kem C. Gardner Policy Institute analysis using the REMI PI+ model. Direct inputs provided by Jviation, Inc.

Capital Investment

Airport management and airport tenants spent a combined five-year annual average of $290.7 million on capital investments. These expenditures generated 1,639 direct jobs with $114.5 million in earnings, and supported a total of 4,523 jobs, $282.3 million in earnings, and $730.5 million in output (see **Table A-3**).

Table A-3: Economic Impacts of Capital Investment at Salt Lake City International Airport, 2019

Impact Measure	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Employment	1,639	2,884	4,523
Earnings	$114,533,591	$167,748,453	$282,282,044
Output	$290,720,839	$439,738,495	$730,459,334

Source: Kem C. Gardner Policy Institute analysis using the REMI PI+ model. Direct inputs provided by Jviation, Inc.

Visitor Spending

General aviation visitors to Utah spent $10.7 million in 2019. This spending supported direct employment of 117 jobs with $3.5 million in earnings, and a total of 211 jobs, $9.1 million in earnings, and $23.5 million in output (see **Table A-4**).

Table A-4: Economic Impacts of General Aviation Visitors to Salt Lake City International Airport, 2019

Impact Measure	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Employment	117	94	211
Earnings	$3,493,310	$5,624,228	$9,117,538
Output	$10,725,000	$12,794,246	$23,519,246

Source: Kem C. Gardner Policy Institute analysis using the REMI PI+ model. Direct inputs provided by Jviation, Inc.

Commercial aviation visitors spent $3.9 billion in Utah in 2019. This spending supported 42,397 direct jobs with $1.3 billion in earnings, and a total of 79,200 jobs, $3.5 billion in earnings, and $9.2 billion in output (see **Table A-5**).

Table A-5: Economic Impacts of Commercial Aviation Visitors to Salt Lake City International Airport, 2019

Impact Measure	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Employment	42,397	36,803	79,200
Earnings	$1,278,006,919	$2,213,001,726	$3,491,008,645
Output	$3,851,652,470	$5,327,303,111	$9,178,955,581

Source: Kem C. Gardner Policy Institute analysis using the REMI PI+ model. Direct inputs provided by Jviation, Inc.

Total Impacts

In the REMI model it is possible to run all of the individual components simultaneously to calculate the economic impacts of the Salt Lake City International Airport as a whole. Due to interactions in the model, this produces slightly larger results than summing the impacts of the individual components. **Table A-6** and **Table A-7** present both approaches for comparison. All told, the airport supports about 108,000 jobs in Utah, $5.3 billion in earnings, and $15.2 billion in output.

Table A-6: Total Economic Impacts of Salt Lake City International Airport, 2019
Components Modeled Simultaneously

Impact Measure	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Employment	56,942	51,202	108,144
Earnings	$2,404,009,138	$2,925,985,245	$5,329,994,383
Output	$6,530,838,792	$8,700,743,599	$15,231,582,391

Source: Kem C. Gardner Policy Institute analysis using the REMI PI+ model. Direct inputs provided by Jviation, Inc.

Table A-7: Total Economic Impacts of Salt Lake City International Airport, 2019
Sum of Individual Components

Impact Measure	Direct Impacts	Indirect & Induced Impacts	Total Impacts
Employment	56,942	50,943	107,885
Earnings	$2,404,009,138	$2,900,983,522	$5,304,992,660
Output	$6,530,838,792	$8,649,372,904	$15,180,211,696

Source: Kem C. Gardner Policy Institute analysis using the REMI PI+ model. Direct inputs provided by Jviation, Inc.

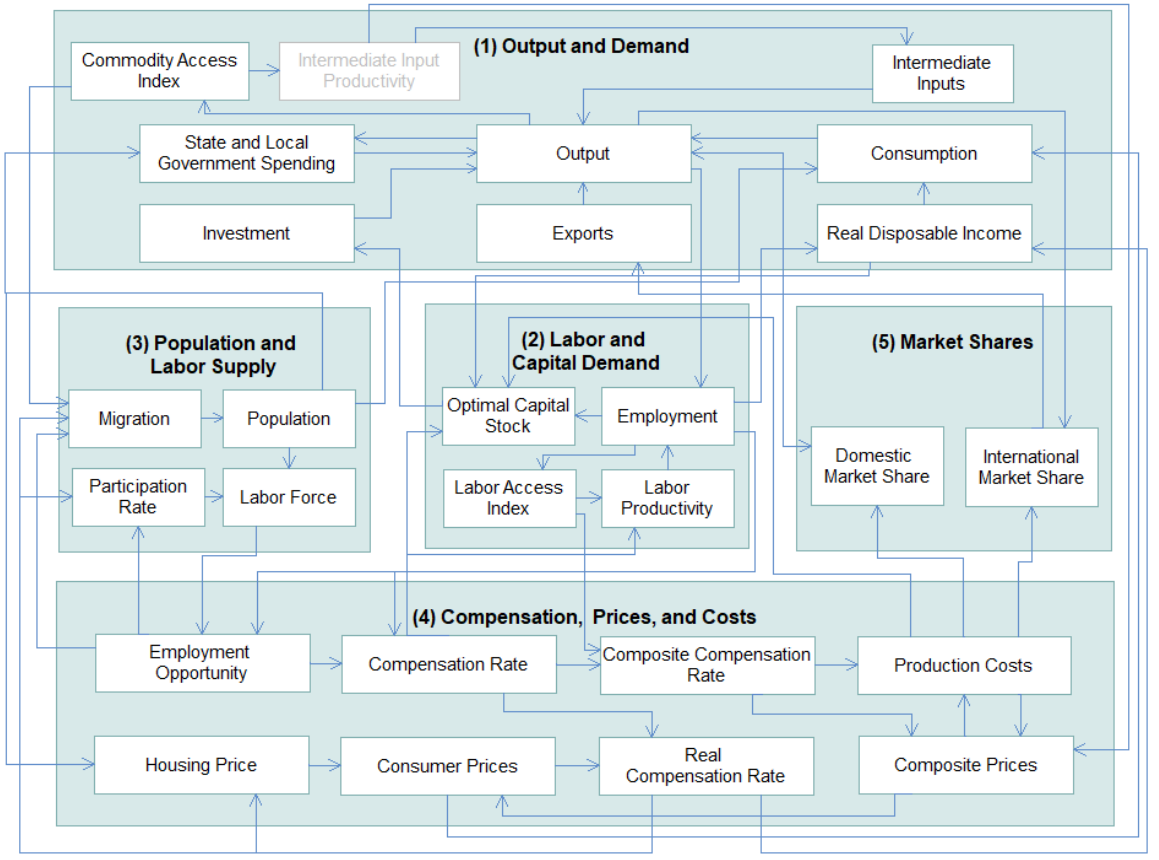
Methodology

REMI PI+ version 2.3.1, developed by Regional Economic Models, Inc., is a dynamic, multi-regional simulation model that estimates economic, population, and labor market impacts of specific economic or policy changes. The model incorporates input-output relationships, general equilibrium effects, econometric relationships, and economic geography effects. These components are organized into five interacting model "blocks": Output and Demand; Labor and Capital Demand; Population and Labor Supply; Compensation, Prices, and Costs; and Market Shares (see **Figure A-1**). Each block contains groups of variables that affect other variables both within the block and in other blocks. In comparison, IMPLAN multipliers incorporate only input-output relationships that reveal the extent of local supply chains (indirect effects) and household spending (induced effects). Economic impacts from PI+ tend to be larger because they include dynamic investment, price, labor market, and government spending responses as well as input-output effects.

When we used employment as an input (for the airport management and airport tenants components), the amounts matched those used by Jviation. While Jviation's numbers are FTE counts, both the PI+ and IMPLAN models measure employment as the number of full- and part-time jobs counted equally. Thus, using FTE employment will produce slightly more conservative results. Because of this difference, we converted Jviation's FTE jobs to full-time/part-time counts when comparing direct average payroll to REMI's baseline average wage and compensation rates. The REMI PI+ model allows users to adjust for the difference between the known wages or compensation associated with employment inputs and the model's built-in baseline rates. We calculated these wage and compensation adjustments using the converted average payroll amounts.

The Gardner Institute modeled airport management direct payroll as compensation (wages and salaries plus employer-paid benefits), based on an examination of the SLC Division of Airports financial reports.

Figure A-1: Diagram of the REMI PI+ Model Structure



Source: Regional Economic Models, Inc.

Jviation matched individual airport business tenants to REMI industries. The only changes the Gardner Institute made were to reassign car rental companies from Transit and Ground Passenger Transportation to Rental and Leasing Services. We made adjustments to account for differences between the payroll provided by business tenants and REMI's baseline wage rates. We modeled direct employment as firm employment in REMI with these wage bill adjustments. The direct earnings shown in **Table A-2** represent $751,526,426 in direct wages reported by the tenants, scaled up to compensation using industry-specific ratios of compensation to wages from the REMI PI+ model's Utah baseline data.

The Gardner Institute modeled the five-year average $290.7 million AEA amount for capital investment by the airport and its tenants as industry sales (output) using the industry mix provided by Jviation. These sales

generate direct employment in the REMI model based on labor productivity, which we multiplied by REMI's baseline average earnings rates to calculate direct earnings.

For both categories of visitor spending, the Gardner Institute modeled the full spending amounts (AEA) minus an adjustment for retail margins where appropriate. The IMPLAN model automatically adjusts retail purchases using the retail margin for the specific retail industry sector modeled. When modeling retail purchases in REMI PI+, the user must manually margin the amounts before entering them. We used IMPLAN's margin for Miscellaneous Store Retailers in Utah, 54.97%. The REMI model computed direct employment based on labor productivity, which we multiplied by REMI's baseline average earnings rates to calculate direct earnings.

All output measures reported here include employee compensation, therefore adding earnings and output would be double-counting.