

# CHAPTER 3. ECONOMIC IMPACT FINDINGS

## 3.1 INTRODUCTION

The West Virginia Aeronautics Commission (WVAC) elected to develop the West Virginia Aviation Economic Impact Study (WV AEIS) in order to identify the economic contribution associated with the state's 24 study airports. **Chapter 1. Introduction and Methodology** and **Chapter 2. The Data Collection Process** lay the foundation necessary to present the economic impact of West Virginia's aviation system in this chapter. Quantitative impacts are generated from three main sources:

- **On-Airport Activity:** Airports serve as regional job centers that provide employment opportunities to serve airlines or airline passengers, general aviation (GA) activities and services, facility operation, and more. Additionally, economic activity is spurred at airports through capital expenditures for construction for the airport as well as business tenants, such as concessionaires, fixed base operators (FBOs), and more. To maintain consistency among airports in this study, on-airport activity is defined by what is on/at the airport and does not account for off-airport businesses.
- **Visitor Spending:** Airports act as gateways for out-of-state visitors arriving to West Virginia for business and pleasure. These visitors coming to the state via a commercial service or GA airport spend money on lodging, food, retail, entertainment, and/or local transportation, all of which supports West Virginia's hospitality industry.
- **Air Cargo:** Airports serve as an essential link between West Virginia's industries and distant markets. Not only do they support the reach of local businesses, but these air-cargo-enabled sales support additional employment and revenue in West Virginia.

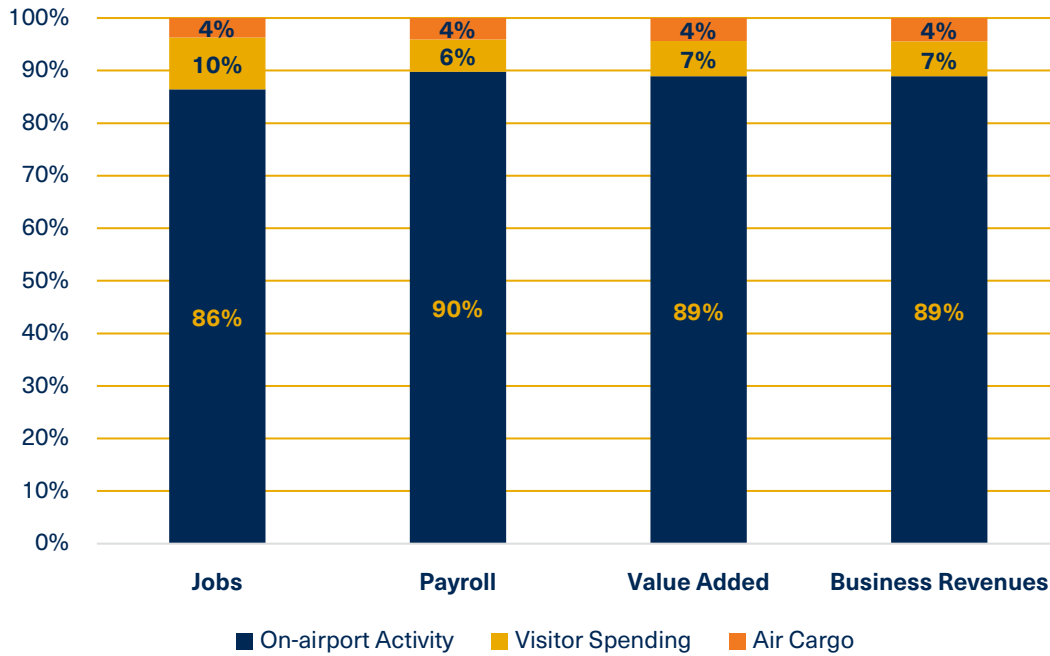
**Table 1** presents a summary of the economic impact attributed to West Virginia airports by source and indicator. The figures presented in this table include the multiplier effects of supplier sales and income re-spending. As shown, there are over 10,700 jobs supported by West Virginia airports, resulting in approximately \$550 million in payroll, \$816 million in value added, and nearly \$1.63 billion in business revenues. **Figure 1** demonstrates the share of impacts by source for each of the economic impact indicators. As shown, on-airport activity is responsible for 86 percent or more of the total impact for each indicator.

**Table 1: Summary of Aviation Economic Impacts by Source (including Multiplier Effects)**

Type	Jobs	Payroll	Value Added	Business Revenues
On-Airport Activity	9,271	\$493,845,000	\$725,997,000	\$1,446,134,000
Visitor Spending	1,063	\$34,035,000	\$54,963,000	\$107,248,000
Air Cargo	396	\$22,232,000	\$35,534,000	\$72,420,000
<b>Total</b>	<b>10,729</b>	<b>\$550,112,000</b>	<b>\$816,493,000</b>	<b>\$1,625,805,000</b>

*Note: Totals may not sum exactly due to rounding. Source: Calculations by EBP US using IMPLAN V.3 2018, 2021*

**Figure 1: Share of Economic Impacts by Indicator**



Source: Calculations by EBP US using IMPLAN V.3 2018, 2021

For additional statewide context, **Table 2** presents West Virginia's total economic output by indicator and compares it to the economic impacts attributable to aviation. As shown, West Virginia airports support roughly one percent of the state's economy.

**Table 2: Aviation's Contribution to West Virginia's Economy**

Measure	State Economy	Total Aviation Impacts	Percent of Economy Supported by Aviation
<b>Jobs</b>	895,190	10,729	1.2%
<b>Payroll</b>	\$47,039,773,000	\$550,112,000	1.2%
<b>Value Added</b>	\$78,863,900,000	\$816,493,000	1.0%

Sources: U.S. Bureau of Economic Analysis, 2019, for payroll, value added and jobs; Business revenues are from data assembled by IMPLAN 2018 and adjusted to 2019 using the BEA price deflator

The following sections present the quantitative impacts generated by aviation activity by source (on-airport activity, visitor spending, air cargo), by category (direct, supplier sales, income re-spending), and by region. Also included are an assessment of tax impacts of this aviation activity and the impacts of COVID-19 on West Virginia's aviation system.

### 3.2 Impacts by Source

Detailed assessments of economic impacts by source are provided in the following sections, including direct impacts, and those generated by supplier sales and income re-spending.

### 3.2.1 On-Airport Activity

Airports are considered economic generators because they support jobs and income associated with air travel and other aviation services. On-airport activity is categorized into three main service types:

- **Airport Administration:** Includes airport operations, management, and the budget associated with operating the airport, which may include facility and grounds maintenance and/or other administrative needs.
- **Airport Tenants** (at commercial service and GA airports): Includes airlines; fixed-base operators (FBOs); maintenance, repair and overhaul companies (MROs); avionics; and other aircraft service companies located on an airport. Airport tenants can also be related to non-aviation industries, such as on-airport warehouses, distribution centers, hotels, and other types of businesses that pay rent or fees to the airport and have an establishment (with employees) on the airport property. Airport tenants can also include ground transportation providers, such as rental car or taxi companies. Air cargo facilities, such as FedEx, UPS, and others, that are located on-airport are also considered airport tenants.
- **Capital Improvements:** Includes on-airport construction projects whether directly related to the airport or tenant facilities.

**Table 3** presents the economic impacts of on-airport activity by category (direct, supplier sales, and income re-spending) and by economic indicator (jobs, payroll, value added, and business revenues). As shown, direct on-airport activity at West Virginia system airports generates roughly \$1 billion dollars in business revenues. When combined with over \$400 million from multiplier impacts of supplier sales and income re-spending, almost \$1.5 billion in business revenues is added to the state economy because of on-airport activity each year. This activity also accounts for more than 9,200 jobs, resulting in approximately \$500 million in payroll, supporting an average salary per worker of approximately \$53,000. In total, nearly three-quarters of a billion dollars is contributed to West Virginia's Gross State Product (GSP).

**Table 3: Economic Impacts of On-Airport Activity at West Virginia's Study Airports**

Type	Jobs	Payroll	Value Added	Business Revenues
Direct	6,412	\$364,910,000	\$530,293,000	\$1,042,534,000
Supplier Sales	756	\$41,053,000	\$64,315,000	\$126,912,000
Income Re-spending	2,102	\$87,883,000	\$131,388,000	\$276,691,000
<b>Total</b>	<b>9,271</b>	<b>\$493,846,000</b>	<b>\$725,996,000</b>	<b>\$1,446,137,000</b>

*Note: Totals may not sum exactly due to rounding. Source: calculations by EBP US using IMPLAN V.3 2018, 2021*

### 3.2.2 Visitor Spending

Out-of-state travelers have many reasons to visit West Virginia, whether for business or recreation. These visitors rely on both commercial service and GA airports to arrive at their destinations safely and, once in the state, they spend money in the local economy. Typically, visitors spend their money in the following categories while traveling:

- **Accommodations**

- **Entertainment**
- **Food and beverage**
- **Local ground transportation**
- **Retail**

The following sections provide a detailed look at the spending amounts and patterns by out-of-state visitors arriving via West Virginia's commercial and GA airports.

### **3.2.2.1 Commercial Service Airport Visitor Spending**

There are seven airports in West Virginia that provide commercial airline services. Passengers traveling through these airports can be separated into three general types:

1. West Virginia residents traveling out-of-state or to a destination within West Virginia.
2. Out-of-state travelers who may stop in at a West Virginia airport as part of a layover or connection on the way to their ultimate destination. Typically, these travelers do not leave the airport.
3. **Out-of-state domestic or international travelers who are visiting West Virginia, whether for business or leisure.**

It is the third type of passenger whose spending is accounted for this analysis. Passengers in groups one and two are not counted in this analysis because either a) they are residents and therefore not bringing new money to the West Virginia economy or b) are not spending money in West Virginia communities because they do not leave the passenger terminal between connecting flights. If passengers from groups one or two spend money at a West Virginia airport that money is counted in the impacts of on-airport businesses.

Visitor spending associated with commercial service airports is a function of group three passengers and the amount of money those visitors spent, which was developed from data from Longwoods International provided by the West Virginia Tourism Office (more information about this survey is included in **Chapter 1** and **Chapter 2**) and results of the Commercial Air Passenger Survey.

**Table 4** presents the total spending by out-of-state visitors arriving to West Virginia via commercial service airports in the state. It is important to note that this table presents "gross spending," which means it is counting the dollars that leave the visitors' pockets before retail margins are applied. Visitor spending attributable to all commercial service airports in West Virginia is approximately \$49 million.

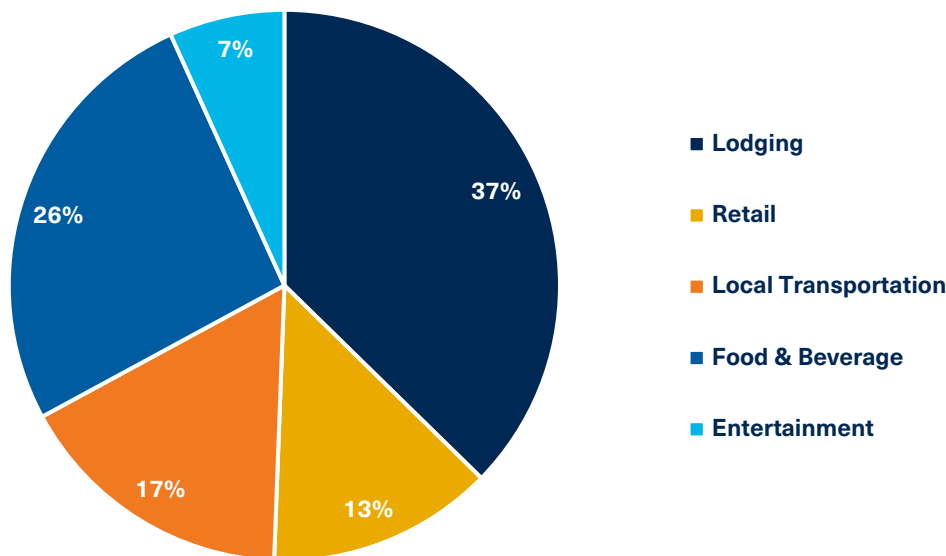
**Table 4: Visitor Spending at West Virginia’s Commercial Service Airports**

Associated City	Airport Name	FAA ID	2019 Visitors	2019 Spending per Visitor	Total Spending*
<b>Beckley</b>	Raleigh County Memorial	BKW	4,287	\$210	\$899,000
<b>Charleston</b>	Yeager Airport	CRW	87,543	\$386	\$33,756,000
<b>Clarksburg</b>	North Central West Virginia	CKB	10,942	\$401	\$4,383,000
<b>Huntington</b>	Tri-State/Milton J Ferguson Field	HTS	32,134	\$156	\$5,021,000
<b>Lewisburg</b>	Greenbrier Valley	LWB	5,916	\$430	\$2,545,000
<b>Morgantown</b>	Morgantown Municipal - Walter L Bill Hart Field	MGW	3,730	\$400	\$1,493,000
<b>Parkersburg</b>	Mid-Ohio Valley Regional	PKB	2,541	\$298	\$756,000
<b>Total</b>			<b>147,093</b>	<b>N/A</b>	<b>\$48,854,000</b>

Notes:\*Prior to accounting for retail margining. Totals may not sum exactly due to rounding. Sources: WV AEIS Commercial Air Passenger Survey, Calculations by EBP US, 2021

**Figure 2** shows the profile of spending by visitors using commercial service to reach the state. As shown, lodging accounts for the majority of spending, at 37 percent. Twenty-six percent of the money spent by commercial service passengers went to food and beverage and 17 percent went to local transportation. The remaining 20 percent was spent on retail (13 percent) and entertainment (seven percent).

**Figure 2: Commercial Service Visitor Spending Profile**



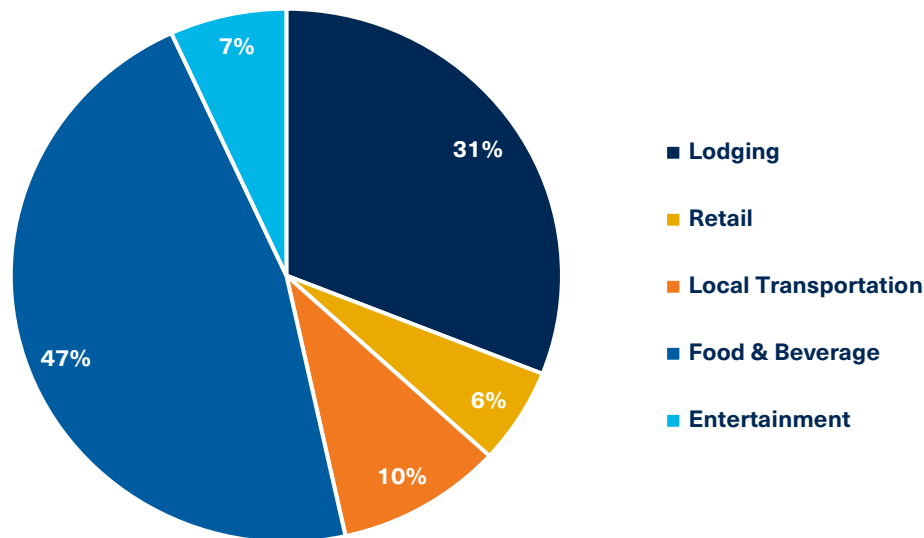
Sources: WV AEIS Commercial Air Passenger Survey, Longwoods International provided by the West Virginia Office of Tourism, calculations by EBP US, 2021

### 3.2.2.2 General Aviation Visitor Spending

All of the airports in the West Virginia system support GA activity. Similar to the commercial service visitor spending impacts analysis, only out-of-state visitors arriving to West Virginia via GA airports were accounted for in this analysis. These GA visitors arrive on what is referred to as “transient operations” and are considered true visitors as they bring money in from out-of-state by spending in West Virginia communities. As presented in **Chapter 1**, GA visitor spending amounts varied by airport based on location, nearby activities and businesses, and type of traveler. Average daily visitor spending ranged from \$49 to \$394 based on each airport’s National Plan of Integrated Airport Systems (NPIAS) classification.

As shown in **Figure 3**, the spending profile for GA visitors differs from that of visitors using commercial service. GA visitors spent the most money on food and beverage at 47 percent. Lodging accounted for 31 percent, which is less than that spent by commercial service visitors. This difference reflects the fact that not all GA visitors stay overnight. Ten percent of the money spent by GA visitors went towards local transportation, seven percent went to entertainment (same as commercial service visitors), and six percent went to retail spending.

**Figure 3: GA Visitor Spending Profile**



*Source: WV AEIS Transient GA Pilot & Passenger Survey, Longwoods International provided by the West Virginia Office of Tourism; calculations by EBP US, 2021*

### 3.2.2.3 Economic Impacts of Visitor Spending

In 2019, out-of-state visitors arriving by commercial service and GA airports spent approximately \$70 million in West Virginia’s economy. Considering the multiplier effects of supplier sales and income re-spending, this spending supported over 1,000 jobs statewide. **Table 5** presents the total impacts of visitor spending by passengers arriving in West Virginia via the 24 study airports. As a result of the approximately 1,000 jobs generated from visitor spending, there is approximately \$34 million in payroll generated, and \$55 million in value added being contributed annually to the state’s economy.

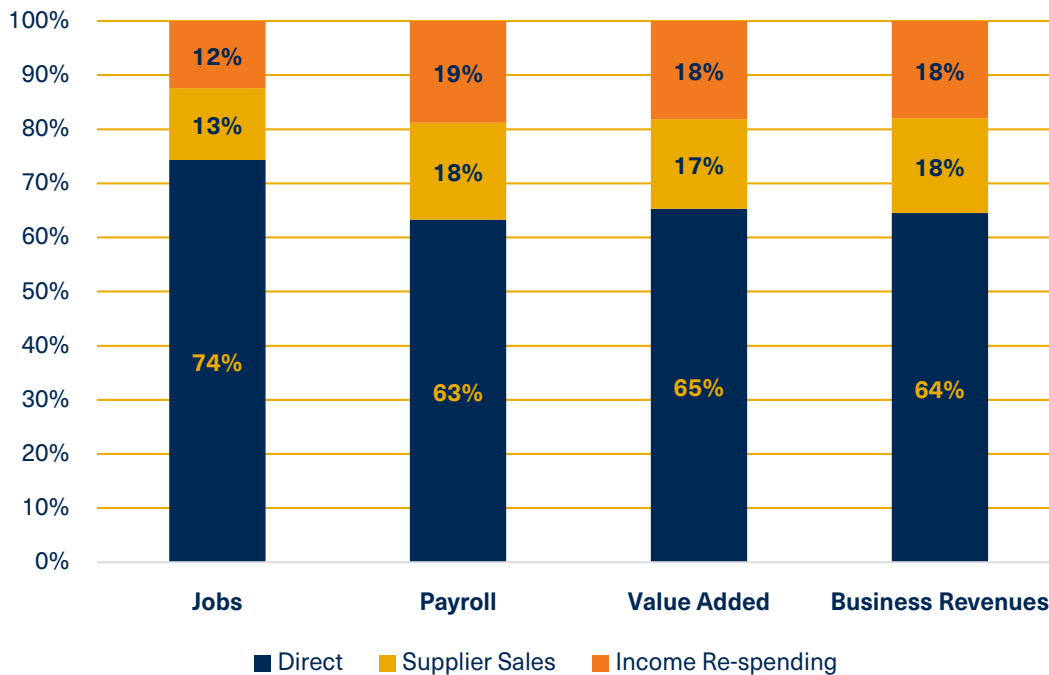
**Table 5: Economic Impacts of Visitor Spending at West Virginia’s Study Airports**

Type	Jobs	Payroll	Value Added	Business Revenues
Direct	790	\$21,553,000	\$35,896,000	\$69,163,000
Supplier Sales	141	\$6,079,000	\$9,092,000	\$18,858,000
Income Re-spending	132	\$6,403,000	\$9,975,000	\$19,226,000
<b>Total</b>	<b>1,063</b>	<b>\$34,035,000</b>	<b>\$54,963,000</b>	<b>\$107,248,000</b>

Note: Totals may not sum exactly due to rounding. Source: Calculations by EBP US using IMPLAN V.3 2018, 2021

Figure 4 presents the direct visitor spending impacts as a share of total visitor spending impacts. As shown, 63 percent or more of the total impacts associated with visitor spending is attributable to direct spending.

**Figure 4: Direct Visitor Spending Impacts as a Share of Total Visitor Spending Impacts**



Source: Calculations by EBP US using IMPLAN V.3 2018, 2021, 2021

### 3.2.3 Air Cargo

West Virginia airports play an important role in the state’s economy by enabling manufacturers and other businesses to receive material inputs and transport commodities and finished goods to customers in various markets. Air cargo in this analysis accounts for the off-airport activities that are supported by airports via the air cargo services they provide. The direct air cargo impacts associated with West Virginia’s airports total just over \$47 million in business revenues. When accounting for the multiplier effects of supplier sales and income re-spending, the total contribution of air cargo to the state’s economy includes almost 400 jobs, \$22 million in payroll, \$35 million in value added, and over \$72 million in business revenues, as shown in **Table 6**.

See **Appendix C. Economic Reliance of West Virginia Businesses on Aviation** for more information on air cargo in the state and to learn how other businesses and industries rely on aviation in West Virginia.

**Table 6: Economic Impacts of Air Cargo at West Virginia's Study Airports**

Type	Jobs	Payroll	Value Added	Business Revenues
Direct	231	\$14,311,000	\$21,947,000	\$47,354,000
Supplier Sales	74	\$3,986,000	\$6,407,000	\$12,418,000
Income Re-spending	91	\$3,935,000	\$7,180,000	\$12,648,000
<b>Total</b>	<b>396</b>	<b>\$22,232,000</b>	<b>\$35,534,000</b>	<b>\$72,420,000</b>

*Note: Totals may not sum exactly due to rounding. Source: Calculations by EBP US using IMPLAN V.3 2018, 2021*

### 3.3 Impacts by Category

The following sections present total economic impacts of on-airport activity and visitor spending by category: direct, supplier sales, and income re-spending. Note that the totals in this section do not account for impacts of air cargo, as those are calculated on a statewide basis and are not presentable by airport.

#### 3.3.1 Direct Impacts by Airport

**Table 7** presents the direct impacts for each airport for the four economic indicators: jobs, payroll, value added, and business revenues. Airports are listed in descending order by direct business revenues. The airports with the top 10 highest direct business revenues account for 97 percent of the system's total direct impacts. The top two airports, North Central West Virginia (CKB) and Yeager Airport (CRW) account for approximately 70 percent of the system's total direct business revenue impacts, 51 percent of jobs, 51 percent of payroll, and 58 percent of value-added impacts. As a note, although CRW has more jobs, CKB has higher payroll, value-added, and business revenues, due to the type of jobs present at the airport, many of which are related to the aerospace industry.



**Table 7: Direct Economic Impacts at West Virginia's Study Airports**

Associated City	Airport Name	FAA ID	Jobs	Payroll	Value Added	Business Revenues
Clarksburg	North Central West Virginia	CKB	1,325	\$119,566,000	\$222,517,000	\$626,109,000
Charleston	Yeager Airport	CRW	2,363	\$78,361,000	\$104,565,000	\$142,095,000
Martinsburg	Eastern West Virginia Regional/Shepherd Field	MRB	1,697	\$72,362,000	\$82,723,000	\$95,201,000
Parkersburg	Mid-Ohio Valley Regional	PKB	604	\$62,001,000	\$74,062,000	\$94,028,000
Huntington	Tri-State/Milton J Ferguson Field	HTS	315	\$14,781,000	\$22,006,000	\$40,210,000
Lewisburg	Greenbrier Valley	LWB	236	\$9,515,000	\$17,719,000	\$32,163,000
Morgantown	Morgantown Municipal - Walter L Bill Hart Field	MGW	184	\$8,149,000	\$12,448,000	\$25,931,000
Beckley	Raleigh County Memorial	BKW	90	\$4,224,000	\$5,966,000	\$11,036,000
Elkins	Elkins-Randolph County - Jennings Randolph Field	EKN	79	\$3,884,000	\$5,623,000	\$9,054,000
Cumberland	Greater Cumberland Regional	CBE	57	\$2,003,000	\$2,880,000	\$5,690,000
Buckhannon	Upshur County Regional	W22	27	\$1,939,000	\$2,595,000	\$5,198,000
Wheeling	Wheeling Ohio County	HLG	52	\$1,876,000	\$2,613,000	\$5,084,000
Ravenswood	Jackson County	I18	31	\$1,961,000	\$2,399,000	\$4,612,000
Moundsville	Marshall County	MPG	30	\$2,290,000	\$2,729,000	\$4,595,000
Bluefield	Mercer County	BLF	50	\$1,530,000	\$2,325,000	\$4,294,000
Logan	Logan County	6L4	21	\$863,000	\$1,260,000	\$2,438,000
Fairmont	Fairmont Municipal - Frankman Field	4G7	9	\$341,000	\$609,000	\$1,807,000
Petersburg	Grant County	W99	13	\$267,000	\$410,000	\$912,000
Point Pleasant	Mason County	3I2	4	\$192,000	\$291,000	\$456,000
Philippi	Philippi/Barbour County Regional	79D	6	\$273,000	\$334,000	\$442,000
Sutton	Braxton County	48I	3	\$27,000	\$36,000	\$144,000
Williamson	Appalachian Regional	EBD	1	\$12,000	\$15,000	\$93,000
Pineville	Kee Field	I16	1	\$44,000	\$55,000	\$80,000
Summersville	Summersville	SXL	0	\$1,000	\$10,000	\$24,000

Note: Where the table indicates no jobs but includes estimates for payroll, value added, and business revenues, individuals worked less than half-time on airport-related activities. Source: Calculations by EBP US using IMPLAN V.3 2018, 2021

### 3.3.2 Supplier Sales/Income Re-spending Impacts

Multiplier effects consist of two different revenue streams:

- **Supplier Sales:** Sales generated by the purchase of goods/services by direct businesses (businesses that account for direct impacts) from other West Virginia businesses.
- **Income Re-spending:** Household spending from payroll earned by workers at businesses that generate direct and supplier sale effects.

**Table 8** presents the summary of multiplier effects relative to total economic impacts. Supplier sales contributed to the generation of 962 jobs, and income re-spending supported 2,334 jobs, totaling nearly 3,300 jobs from multiplier impacts. This activity also generated approximately \$150 million in payroll, \$230 million in value added, and nearly \$467 million in business revenues. Across the four economic indicators, multiplier effects account for 27 to 31 percent of the total economic impact, with an implied multiplier effect ranging from 1.37 to 1.44 depending on the economic indicator.

**Table 8: Multiplier Effects Share of Total Impacts**

Type	Jobs	Payroll	Value Added	Business Revenues
<b>Direct Impacts</b>	<b>7,434</b>	<b>400,774,000</b>	<b>588,137,000</b>	<b>1,159,051,000</b>
Supplier Sales	962	52,442,000	80,696,000	158,556,000
Income Re-spending	2,334	97,897,000	147,660,000	308,197,000
<b>Multiplier Impacts</b>	<b>3,296</b>	<b>\$150,339,000</b>	<b>\$228,356,000</b>	<b>\$466,753,000</b>
<b>Total Impacts</b>	<b>10,729</b>	<b>550,112,000</b>	<b>816,493,000</b>	<b>1,625,805,000</b>
Multiplier Effect as a % of Total Impacts	31%	27%	28%	29%
Implied State Multiplier Effect	1.44	1.37	1.39	1.40

Note: Totals may not sum exactly due to rounding. Source: Calculations by EBP US using IMPLAN V.3 2018, 2021

Supplier sales and income re-spending impacts generated from direct airport-related activity support a number of industries across West Virginia's economy. **Table 9** presents the in-state jobs that are generated by industry because of supplier sales and income re-spending effects. **Table 10** presents the business revenues that are generated by supplier sales and income re-spending by industry. The top 10 industries for each indicator are presented. Some industries, particularly real estate, professional, scientific and technical services, administrative and support services, and wholesale trade have some overlap in job and revenue impacts from both multiplier streams. In general, jobs that are generated from supplier sales typically support business-serving sectors, such as administrative and support services, professional, scientific, and technical services, and transportation support services, whereas income re-spending impacts population-serving industries, such as food services, ambulatory health care services, hospitals, social assistance, and real estate.

**Table 9: Jobs Generated by Supplier Sales and Income Re-spending**

Impacts from Supplier Sales in West Virginia		Impacts from Income Re-spending in West Virginia	
Industry	Jobs Generated	Industry	Jobs Generated
Administrative & Support Services	181	Food Services & Drinking Places	310
Professional, Scientific, & Tech Services	90	Ambulatory Health Care Services	260
Transportation Support Services	85	Hospitals	194
Wholesale Trade	63	Social Assistance	120
Food Services & Drinking Places	61	Administrative & Support Services	92
Real Estate	50	Religious, Civil, & Professional Organizations	91
Repair & Maintenance	48	Professional, Scientific, & Tech Services	85
Management of Companies & Enterprises	36	General Merchandise Stores	77
Couriers, Warehousing & Storage	29	Nursing & Residential Care Facilities	75
Truck Transportation	28	Real Estate	72
<b>Subtotal Top Ten</b>	<b>671</b>	<b>Subtotal Top Ten</b>	<b>1,376</b>
<b>Subtotal Other</b>	<b>217</b>	<b>Subtotal Other</b>	<b>867</b>
<b>Total</b>	<b>888</b>	<b>Total</b>	<b>2,243</b>

*Note: Totals may not sum exactly due to rounding. Source: Calculations by EBP US using IMPLAN V.3 2018, 2021*

**Table 10: Business Revenues Generated by Supplier Sales and Income Re-spending**

Impacts from Supplier Sales in West Virginia		Impacts from Income Re-spending in West Virginia	
Industry	Business Revenues Generated	Industry	Business Revenues Generated
Wholesale Trade	\$16,254,000	Real Estate	\$53,713,000
Administrative & Support Services	\$13,712,000	Hospitals	\$31,988,000
Transportation Support Services	\$13,483,000	Ambulatory Health Care Services	\$30,442,000
Professional, Scientific, & Tech Services	\$11,638,000	Food Services & Drinking Places	\$19,646,000
Real Estate	\$9,361,000	Wholesale Trade	\$11,651,000
Transportation Equipment Manufacturing	\$8,852,000	Professional, Scientific, & Tech Services	\$11,215,000
Utilities	\$6,031,000	Insurance Carriers & Related Activities	\$11,054,000
Management of Companies & Enterprises	\$5,977,000	Religious, Civil, & Professional Organizations	\$9,242,000
Insurance Carriers & Related Activities	\$5,472,000	Monetary Authorities - Central Bank	\$7,626,000
Truck Transportation	\$4,979,000	Administrative & Support Services	\$7,070,000
<b>Subtotal Top Ten</b>	<b>\$95,759,000</b>	<b>Subtotal Top Ten</b>	<b>\$193,647,000</b>
<b>Subtotal Other</b>	<b>\$50,379,000</b>	<b>Subtotal Other</b>	<b>\$101,902,000</b>
<b>Total</b>	<b>\$146,138,000</b>	<b>Total</b>	<b>\$295,549,000</b>

Note: Totals may not sum exactly due to rounding. Source: Calculations by EBP US using IMPLAN V.3 2018, 2021

### 3.3.3 Total Impacts by Airport

The airport-level total impacts from on-airport activity and visitor spending presented in **Table 11** include direct impacts (as presented in **Table 7**) and multiplier impacts of supplier sales and income re-spending across economic indicators (jobs, payroll, value added, and business revenues). Note that impacts from air cargo are not included in **Table 11** as they are calculated on a statewide basis and not at the airport level. Airports are organized in this table in descending order by business revenues. Similar to the data presented for direct impacts, the top 10 airports account for 97 percent of the state airports' business revenues. Combined, CKB and CRW account for 64 percent of business revenues, approximately 51 percent of statewide jobs, 52 percent of statewide payroll, and 57 percent of statewide value added impacts. As a note, Eastern West Virginia Regional/Shepherd Field (MRB) has higher direct impacts across all indicators than the direct impacts of Mid-Ohio Valley Regional Airport (PKB), however, when multiplier effects are included, PKB's business revenues are slightly higher than MRB. Both airports are fairly comparable in terms of the income re-spending impacts, but there are significant differences in supplier sale impacts between the two airports, which results in marginally higher business revenue impacts at PKB. Business revenues supported by supplier sales at PKB are \$15.3 million, whereas the business revenues supported by supplier sales at MRB are approximately \$8 million. For more information about multiplier impacts at the airport level, see **Appendix A. Data Tables**.

**Table 11: Total Economic Impacts at West Virginia's Study Airports**

Associated City	Airport Name	FAA ID	Jobs	Payroll	Value Added	Business Revenues
Clarksburg	North Central West Virginia	CKB	2,345	\$168,177,000	\$295,704,000	\$775,448,000
Charleston	Yeager Airport	CRW	2,940	\$106,150,000	\$146,871,000	\$225,306,000
Parkersburg	Mid-Ohio Valley Regional	PKB	1,050	\$80,400,000	\$102,191,000	\$153,963,000
Martinsburg	Eastern West Virginia Regional/Shepherd Field	MRB	2,142	\$90,623,000	\$110,211,000	\$153,809,000
Huntington	Tri-State/Milton J Ferguson Field	HTS	471	\$21,614,000	\$32,459,000	\$61,927,000
Lewisburg	Greenbrier Valley	LWB	365	\$15,260,000	\$26,652,000	\$50,505,000
Morgantown	Morgantown Municipal - Walter L Bill Hart Field	MGW	293	\$13,184,000	\$20,226,000	\$41,782,000
Beckley	Raleigh County Memorial	BKW	141	\$6,452,000	\$9,352,000	\$18,033,000
Elkins	Elkins-Randolph County - Jennings Randolph Field	EKN	122	\$5,561,000	\$8,192,000	\$14,709,000
Cumberland	Greater Cumberland Regional	CBE	81	\$2,978,000	\$4,409,000	\$8,996,000
Wheeling	Wheeling Ohio County	HLG	74	\$2,914,000	\$4,183,000	\$8,273,000
Buckhannon	Upshur County Regional	W22	48	\$2,781,000	\$3,908,000	\$8,012,000
Ravenswood	Jackson County	I18	53	\$2,896,000	\$3,857,000	\$7,658,000
Moundsville	Marshall County	MPG	51	\$3,279,000	\$4,226,000	\$7,645,000
Bluefield	Mercer County	BLF	74	\$2,545,000	\$3,881,000	\$7,564,000
Logan	Logan County	6L4	29	\$1,231,000	\$1,839,000	\$3,650,000
Fairmont	Fairmont Municipal - Frankman Field	4G7	13	\$549,000	\$924,000	\$2,447,000
Petersburg	Grant County	W99	17	\$435,000	\$667,000	\$1,466,000
Philippi	Philippi/Barbour County Regional	79D	9	\$408,000	\$542,000	\$876,000
Point Pleasant	Mason County	3I2	6	\$274,000	\$420,000	\$711,000
Sutton	Braxton County	48I	4	\$61,000	\$87,000	\$253,000
Williamson	Appalachian Regional	EBD	2	\$37,000	\$52,000	\$168,000
Pineville	Kee Field	I16	2	\$64,000	\$85,000	\$141,000
Summersville	Summersville	SXL	0	\$7,000	\$19,000	\$43,000

Notes: This table does not include impacts of air cargo. Where the table indicates no jobs but includes estimates for payroll, value added, and business revenues, individuals worked less than half-time on airport-related activities. Source: Calculations by EBP US using IMPLAN V.3 2018, 2021

### 3.4 Regional Impacts

Thus far, economic impacts associated with aviation in West Virginia have been presented at the statewide and airport level. However, it is also important to recognize and assess the economic impacts of aviation on the regional level as airports play an important role in their respective regional economies. Economic impacts at the statewide level reflect the aggregation of airport level impacts across the state. Therefore, statewide impacts consider supplier sales and income re-spending activities that occur throughout West Virginia. In comparison, regional impacts reflect the impact of airports located within each region and supplier sales and income re-spending activities that occur within the boundaries of that region. For this assessment, the nine regions defined by the West Virginia Tourism Office were selected. See **Chapter 1** for more information on the tourism regions.

**Table 12** presents the total economic impact from on-airport activity and visitor spending, by indicator, for each of West Virginia's tourism regions in descending order of business revenues. Air cargo impacts are not included as those were calculated at the statewide level and could not be assigned by region. As shown, economic impacts in the Mountaineer Country region were the highest in terms of business revenues, with approximately \$812 million. The second highest is the Metro Valley region, with business revenues of approximately \$235 million. While the Metro Valley region is second in business revenues and payroll, it is first in jobs, with 2,996 jobs. This is reflective of the types of jobs created by airports in each region as some are higher paying positions and generate more business revenue than others.

**Table 12: Total Economic Impacts by Tourism Region**

Region	Jobs	Payroll	Value Added	Business Revenues
<b>Mountaineer Country</b>	2,618	\$180,994,000	\$314,700,000	\$812,369,000
<b>Metro Valley</b>	2,996	\$110,426,000	\$153,156,000	\$235,150,000
<b>Mid-Ohio Valley</b>	1,063	\$80,922,000	\$102,926,000	\$157,108,000
<b>Eastern Panhandle</b>	2,092	\$87,586,000	\$106,119,000	\$146,022,000
<b>Hatfield McCoy Mountains</b>	503	\$22,783,000	\$34,003,000	\$65,317,000
<b>New River-Greenbrier Valley</b>	450	\$18,321,000	\$30,654,000	\$57,038,000
<b>Potomac Highlands</b>	282	\$11,010,000	\$16,372,000	\$32,942,000
<b>Northern Panhandle</b>	202	\$10,148,000	\$14,645,000	\$29,610,000
<b>Mountain Lakes</b>	128	\$5,691,000	\$8,383,000	\$17,828,000

*Note: Economic impacts by region do not include air cargo impacts. Source: Calculations by EBP US using IMPLAN V.3 2018, 2021*

### 3.5 Tax Revenue Analysis

Among other contributions made by airports to the regional and state economy, airport activities also contribute to tax revenues. Direct impacts of visitor spending, on-airport activity from tenants, and the sale of aviation fuel resulted in approximately \$75.5 million dollars in state and local tax revenues, as shown in **Table 13**.

**Table 13: Summary of State and Local Tax Revenue from All Sources and Airports**

Tax Source	Commercial	General Aviation	All Airports
Visitor Spending	\$2,771,600	\$1,227,400	\$3,999,000
Tenants	\$63,113,900	\$7,054,000	\$70,167,900
Aviation Fuel Tax	N/A	N/A	\$1,361,100
<b>Total</b>	<b>\$65,885,500</b>	<b>\$8,281,400</b>	<b>\$75,528,000</b>

*Notes: Totals may not sum exactly due to rounding. Aviation fuel tax data is unavailable for individual airports. Sources: WV AEIS Airport Manager Survey; Airport Tenant Survey; Commercial Air Passenger Survey; Transient GA Pilot & Passenger Survey, 2019; WVAC; and state and local tax rates*

**Table 14** presents the summary of only the state tax revenues produced by all commercial service and GA airports, which includes tax revenues from visitor spending, tenants, and aviation fuel tax. As presented, the majority of the tax revenue is accrued to the state as opposed to local geographies. Also of importance is that the aviation fuel tax is only accrued at the state level.

**Table 14: Summary of State Tax Revenue from All Sources and Airports**

Tax Source	Commercial	General Aviation	All Airports
Visitor Spending	\$2,764,700	\$1,189,300	\$3,954,000
Tenants	\$62,643,300	\$6,981,300	\$69,624,600
Aviation Fuel Tax	N/A	N/A	\$1,361,100
<b>Total</b>	<b>\$65,408,000</b>	<b>\$8,170,600</b>	<b>\$74,939,700</b>

*Notes: Totals may not sum exactly due to rounding. Aviation fuel tax data is unavailable for individual airports. Sources: WV AEIS Airport Manager Survey; Airport Tenant Survey; Commercial Air Passenger Survey; Transient GA Pilot & Passenger Survey, 2019; WVAC; and state tax rates*

**Table 15** shows a summary of only local tax revenues generated from visitor spending and tenant activity for all commercial service and GA airports.

**Table 15: Summary of Local Tax Revenue from All Sources and Airports**

Tax Source	Commercial	General Aviation	All Airports
Visitor Spending	\$6,900	\$38,100	\$45,000
Tenants	\$470,600	\$72,700	\$543,300
<b>Total</b>	<b>\$477,500</b>	<b>\$110,800</b>	<b>\$588,300</b>

*Note: Totals may not sum exactly due to rounding. Sources: WV AEIS Airport Manager Survey; Airport Tenant Survey; Commercial Air Passenger Survey; Transient GA Pilot & Passenger Survey, 2019; WVAC; and local tax rates*

### 3.5.1 Tax Rates

**Table 16** shows the state and local tax rates used in the analysis. The following sections describe how these tax rates were used to estimate state and local tax revenue. Multiple sources were reviewed to determine the appropriate tax rate for each category presented in **Table 16**. Sales and use tax rates were sourced from the West Virginia State Tax Department’s website.<sup>1</sup> Information regarding personal and corporate income tax rates was sourced from West Virginia Business Tax document TSD-100<sup>2</sup>. The National Conference of State Legislatures<sup>3</sup> and the West Virginia State Legislature<sup>4</sup> websites were both sources of information regarding the rental car tax rate. The West Virginia Tax Department<sup>5</sup> was also reviewed for aviation fuel taxes.

**Table 16: State and Local Tax Rates in West Virginia**

Tax	Rate
Sales and Use Tax (state)	6% of sales price
Sales and Use Tax (local)	1% in select counties*
Personal Income Tax (state)	3-6.5% of taxable income
Corporate Income Tax (state)	6.5% of taxable income
Rental Car Tax (state)	\$1.00-1.50 per day**
Aviation Fuel Tax (state)	\$0.1520 per gallon***

Notes: \* Counties with an airport that have a municipal tax include Mercer, Ohio, Jackson, Marshall, and Wood. \*\* Midpoint of \$1.25 used for the analysis. Assumes average of \$86 per day spent on car rentals (according to Kayak.com). \*\*\* Applied to sales of aviation gas and aviation jet fuel. Sources: National Conference of State Legislatures, 2020; West Virginia State Tax Department, 2020

### 3.5.2 Visitor Spending

Visitors generate tax revenues by spending money in West Virginia. The following sections summarize tax revenues from out-of-state visitors arriving at commercial and GA airports. Sales and use tax revenues were estimated by applying the tax rates in **Table 16** to visitor spending.

Tax revenues generated by off-airport car rentals were estimated by applying the rate in **Table 16** to what visitors spent on ground transportation. An assumption was made that 82 percent of ground transportation spending by visitors is for rental cars, which is based on the rental car industry’s share of statewide output for the passenger transportation sector (according to data from the U.S. Bureau of Economic Analysis assembled by IMPLAN). Rental car tax revenue is in addition to sales and use tax revenue.

#### 3.5.2.1 Commercial Airports

**Table 17** presents tax revenues generated by out-of-state visitors arriving at West Virginia’s seven commercial airports. This includes revenue from sales and use taxes and from the state’s rental car tax. Only PKB is in a county that has a municipal tax rate, which explains why it is the only airport that generated local sales and use tax revenue.

1 <https://tax.wv.gov/Business/SalesAndUseTax/MunicipalSalesAndUseTax/Pages/MunicipalSalesAndUseTax.aspx>

2 <http://tax.wv.gov/Documents/TSD/tsd100.pdf>

3 <https://www.ncsl.org/research/fiscal-policy/rental-car-taxes.aspx>

4 <http://www.wvlegislature.gov/WVCODE/ChapterEntire.cfm?chap=17A&art=3&section=4#3>

5 <https://tax.wv.gov/Documents/TaxForms/2020/MotorFuelRates.2020.pdf>



**Table 17: State and Local Tax Revenue Generated from Visitor Spending by Tax Category and Commercial Service Airport**

Associated City	Airport Name	FAA ID	Sales and Use Tax (state)	Sales and Use Tax (local)	Rental Car Tax (state)	Total
<b>Beckley</b>	Raleigh County Memorial	BKW	\$49,100	\$0	\$1,800	\$50,900
<b>Charleston</b>	Yeager Airport	CRW	\$1,844,600	\$0	\$66,400	\$1,911,000
<b>Clarksburg</b>	North Central West Virginia	CKB	\$239,600	\$0	\$8,600	\$248,200
<b>Huntington</b>	Tri-State/Milton J Ferguson Field	HTS	\$273,500	\$0	\$9,900	\$283,400
<b>Lewisburg</b>	Greenbrier Valley	LWB	\$138,900	\$0	\$5,000	\$143,900
<b>Morgantown</b>	Morgantown Municipal – Walter L Bill Hart Field	MGW	\$81,600	\$0	\$2,900	\$84,500
<b>Parkersburg</b>	Mid-Ohio Valley Regional	PKB	\$41,300	\$6,900	\$1,500	\$49,700
<b>Total</b>			<b>\$2,668,600</b>	<b>\$6,900</b>	<b>\$96,100</b>	<b>\$2,771,600</b>

Note: Totals may not sum exactly due to rounding Sources: WV AEIS Commercial Air Passenger Survey, 2019; and state and local tax rates

**Table 18** presents the total tax revenue generated from out-of-state visitor spending at commercial service airports by spending category. The total for each commercial service airport and total for all commercial service airports includes state and local tax revenues and totals nearly \$2.8 million. Spending related to lodging yielded the highest tax revenues, approximately \$1.1 million, compared to other spending categories.

**Table 18: State and Local Tax Revenue Generated from Visitor Spending by Spending Category and Commercial Service Airport**

Associated City	Airport Name	FAA ID	Lodging	Restaurant	Ground Transportation	Entertainment	Retail	Total
<b>Beckley</b>	Raleigh County Memorial	BKW	\$20,100	\$14,100	\$10,700	\$3,700	\$2,300	\$50,900
<b>Charleston</b>	Yeager Airport	CRW	\$755,900	\$529,200	\$400,600	\$137,300	\$88,100	\$1,911,100
<b>Clarksburg</b>	North Central West Virginia	CKB	\$98,200	\$68,700	\$52,000	\$17,800	\$11,500	\$248,200
<b>Huntington</b>	Tri-State/Milton J Ferguson Field	HTS	\$112,400	\$78,700	\$59,600	\$20,400	\$12,200	\$283,300
<b>Lewisburg</b>	Greenbrier Valley	LWB	\$57,000	\$39,900	\$30,200	\$10,400	\$6,400	\$143,900
<b>Morgantown</b>	Morgantown Municipal – Walter L Bill Hart Field	MGW	\$33,400	\$23,400	\$17,700	\$6,100	\$3,900	\$84,500
<b>Parkersburg</b>	Mid-Ohio Valley Regional	PKB	\$19,800	\$13,800	\$10,200	\$3,600	\$2,300	\$49,700
<b>Total</b>			<b>\$1,096,800</b>	<b>\$767,800</b>	<b>\$581,000</b>	<b>\$199,300</b>	<b>\$126,700</b>	<b>\$2,771,600</b>

Note: Totals may not sum exactly due to rounding. Sources: WV AEIS Commercial Air Passenger Survey, 2019; and state and local tax rates

### 3.5.2.2 General Aviation Airports

**Table 19** presents tax revenue generated by out-of-state visitors arriving via GA at West Virginia's system airports. This includes revenue from sales and use taxes at the state and local level, as well as revenue generated from the state's rental car tax. These tax revenues were estimated using the same method described for the commercial service visitor spending tax revenue analysis.

**Table 19: State and Local Tax Revenue Generated from GA Visitor Spending by Tax Category**

<b>Tax</b>	<b>Total</b>
<b>Sales and Use Tax (state)</b>	\$1,165,900
<b>Sales and Use Tax (local)</b>	\$38,100
<b>Rental Car Tax (state)</b>	\$23,400
<b>Total</b>	<b>\$1,227,400</b>

*Note: Totals may not sum exactly due to rounding. Sources: WV AEIS Transient GA Pilot & Passenger Survey 2019; and state and local tax rates*

**Table 20** presents revenues generated from state and local sales and use tax as well as rental car tax for each system airport. Note commercial service airports are listed in the table as they experience GA activity in addition to scheduled air service.

**Table 20: State and Local Tax Revenue Generated from GA Visitor Spending by Tax Category by Airport**

Associated City	Airport Name	FAA ID	Sales and Use Tax (state)	Sales and Use Tax (local)	Rental Car Tax (state)	Airport Total
<b>Commercial Service</b>						
<b>Beckley</b>	Raleigh County Memorial	BKW	\$31,000	\$0	\$700	\$31,700
<b>Charleston</b>	Yeager Airport	CRW	\$73,600	\$0	\$1,800	\$75,400
<b>Clarksburg</b>	North Central West Virginia	CKB	\$30,800	\$0	\$700	\$31,500
<b>Huntington</b>	Tri-State/Milton J Ferguson Field	HTS	\$2,700	\$0	\$100	\$2,800
<b>Lewisburg</b>	Greenbrier Valley	LWB	\$528,500	\$0	\$7,300	\$535,800
<b>Morgantown</b>	Morgantown Municipal – Walter L Bill Hart Field	MGW	\$160,000	\$0	\$3,800	\$163,800
<b>Parkersburg</b>	Mid-Ohio Valley Regional	PKB	\$65,300	\$10,900	\$1,600	\$77,800
<b>General Aviation</b>						
<b>Bluefield</b>	Mercer County	BLF	\$89,300	\$14,900	\$2,900	\$107,100
<b>Buckhannon</b>	Upshur County Regional	W22	\$9,900	\$0	\$300	\$10,200
<b>Cumberland</b>	Greater Cumberland Regional	CBE	\$4,300	\$0	\$100	\$4,400
<b>Elkins</b>	Elkins-Randolph County - Jennings Randolph Field	EKN	\$12,500	\$0	\$300	\$12,800
<b>Fairmont</b>	Fairmont Municipal – Frankman Field	4G7	\$9,900	\$0	\$200	\$10,100
<b>Logan</b>	Logan County	6L4	\$2,300	\$0	\$100	\$2,400
<b>Martinsburg</b>	Eastern West Virginia Regional/Shepherd Field	MRB	\$40,700	\$0	\$1,000	\$41,700
<b>Moundsville</b>	Marshall County	MPG	\$3,700	\$600	\$100	\$4,400
<b>Petersburg</b>	Grant County	W99	\$27,800	\$0	\$700	\$28,500
<b>Philippi</b>	Philippi/Barbour County Regional	79D	\$600	\$0	\$0	\$600
<b>Pineville</b>	Kee Field	116	\$300	\$0	\$0	\$300
<b>Point Pleasant</b>	Mason County	312	\$300	\$0	\$0	\$300
<b>Ravenswood</b>	Jackson County	118	\$23,300	\$3,900	\$600	\$27,800

Associated City	Airport Name	FAA ID	Sales and Use Tax (state)	Sales and Use Tax (local)	Rental Car Tax (state)	Airport Total
<b>Summersville</b>	Summersville	SXL	\$200	\$0	\$0	\$200
<b>Sutton</b>	Braxton County	48I	\$1,500	\$0	\$0	\$1,500
<b>Wheeling</b>	Wheeling Ohio County	HLG	\$46,900	\$7,800	\$1,100	\$55,800
<b>Williamson</b>	Appalachian Regional	EBD	\$500	\$0	\$0	\$500
<b>Total</b>			<b>\$1,165,900</b>	<b>\$38,100</b>	<b>\$23,400</b>	<b>\$1,227,400</b>

Note: Totals may not sum exactly due to rounding. Sources: WV AEIS Transient GA Pilot & Passenger, 2019; and state and local tax rates

**Table 21** presents out-of-state GA visitor spending tax revenues by visitor spending category. Spending at restaurants and for lodging generated the highest revenues between categories, with \$593,000 and \$383,800 generated respectively.

**Table 21: State and Local Tax Revenue Generated from Visitors by Spending Category for GA Airports**

Tax	Total
Restaurant	\$593,000
Lodging	\$383,800
Ground Transportation	\$147,300
Entertainment	\$84,600
Retail	\$18,700
<b>Total</b>	<b>\$1,227,400</b>

*Note: Totals may not sum exactly due to rounding. Sources: WV AEIS Transient GA Pilot & Passenger Survey, 2019; and state and local tax rates*

### 3.5.2.3 Visitor Spending Summary

Approximately \$4 million in tax revenue is generated from out-of-state visitors arriving to the state via commercial service and GA operations and spending money in the local community. **Table 22** presents the summary of tax revenue generated from visitor spending across system airports for state and local tax revenue streams.

**Table 22: Summary of State and Local Tax Revenue from Visitor Spending**

Tax Source	Commercial	General Aviation	All Airports
State Tax Revenue	\$2,764,700	\$1,189,300	\$3,954,000
Local Tax Revenue	\$6,900	\$38,100	\$45,000
<b>Total</b>	<b>\$2,771,600</b>	<b>\$1,227,400</b>	<b>\$3,999,000</b>

*Note: Totals may not sum exactly due to rounding. Sources: WV AEIS Commercial Air Passenger Survey; Transient GA Pilot & Passenger Survey, 2019; and state and local tax rates*

### 3.5.3 Airport Tenants and Employees

Airport tenants and their employees generate tax revenue through the tenants' expenditures and through the employees spending their earned income. **Table 23** presents the tax revenue impacts generated from tenant expenditures and employee income and spending for all system airports. The majority of this revenue came from state sales and use tax, with \$45.8 million generated, and personal income tax, with \$20.6 million generated. State corporate income tax generated approximately \$3.3 million and local sales and use tax generated \$543,000. It is important to note that five system airports do not have any on-airport tenants and are therefore considered not applicable to the analyses in this section. For state and local sales tax impacts, tax rates were applied from **Table 16** to tenant expenditures and an estimate of employee spending.

Corporate income tax revenue was estimated by applying the corporate income tax rate in **Table 16** to tenants' proprietor income. Proprietor income was calculated using values from IMPLAN for each tenant's respective industry sector. For tenants for which a specific sector could not be

identified, an average proprietor income-to-output ratio was applied. Personal income tax revenue was estimated by applying marginal tax rates to employee compensation.<sup>6</sup>

**Table 23: State and Local Tax Revenue Generated by Tenant Expenditures and Employee Income and Spending**

Tax Source	Tenant Expenditures	Employee Income & Spending	Total
Sales and Use Tax (state)	\$38,253,300	\$7,540,000	\$45,793,300
Sales and Use Tax (local)	\$340,600	\$202,700	\$543,300
Corporate Income Tax (state)	\$3,275,200	NA	\$3,275,200
Personal Income Tax (state)	NA	\$20,556,200	\$20,556,200
<b>Total</b>	<b>\$41,869,000</b>	<b>\$28,299,000</b>	<b>\$70,168,000</b>

Note: Totals may not sum exactly due to rounding. Sources: WV AEIS Airport Tenant Survey, 2019; and state and local tax rates

**Table 24** presents the tax revenue generated from tenant expenditures for the 19 system airports with on-airport tenants. Tenant expenditures were estimated by subtracting what tenants provided in labor income from their revenues. Tax generated from tenant expenditures totaled approximately \$41.9 million, with Commercial Service airports generating \$39.5 million from tenant expenditures and GA airports generating \$2.4 million from tenant expenditures.

<sup>6</sup> See <https://www.creditkarma.com/tax/i/filing-west-virginia-state-tax>.

**Table 24: State and Local Tax Revenue Generated by Tenant Expenditures**

Associated City	Airport Name	FAA ID	Sales and Use Tax (state)	Sales and Use Tax (local)	Corporate Income Tax (state)	Airport Total
<b>Commercial Service</b>						
<b>Beckley</b>	Raleigh County Memorial	BKW	\$311,800	\$0	\$40,600	\$352,400
<b>Charleston</b>	Yeager Airport	CRW	\$2,013,500	\$0	\$360,400	\$2,373,900
<b>Clarksburg</b>	North Central West Virginia	CKB	\$29,642,100	\$0	\$2,380,600	\$32,022,700
<b>Huntington</b>	Tri-State/Milton J Ferguson Field	HTS	\$1,003,700	\$0	\$104,200	\$1,107,900
<b>Lewisburg</b>	Greenbrier Valley	LWB	\$808,800	\$0	\$56,100	\$864,900
<b>Morgantown</b>	Morgantown Municipal – Walter L Bill Hart Field	MGW	\$701,300	\$0	\$65,300	\$766,600
<b>Parkersburg</b>	Mid-Ohio Valley Regional	PKB	\$1,664,800	\$277,500	\$55,800	\$1,998,100
<b>General Aviation</b>						
<b>Bluefield</b>	Mercer County	BLF	\$62,600	\$10,400	\$6,500	\$79,500
<b>Buckhannon</b>	Upshur County	W22	\$149,300	\$0	\$16,400	\$165,700
<b>Cumberland</b>	Greater Cumberland Regional	CBE	\$7,900	\$0	\$700	\$8,600
<b>Elkins</b>	Elkins-Randolph County-Jennings Randolph Field	EKN	\$242,900	\$0	\$37,100	\$280,000
<b>Fairmont</b>	Fairmont Municipal – Frankman Field	4G7	\$62,700	\$0	\$5,000	\$67,700
<b>Logan</b>	Logan County	6L4	\$85,700	\$0	\$8,500	\$94,200
<b>Martinsburg</b>	Eastern West Virginia Regional/Shepherd Field	MRB	\$1,177,700	\$0	\$102,700	\$1,280,400
<b>Moundsville</b>	Marshall County	MPG	\$110,700	\$18,500	\$10,500	\$139,700
<b>Petersburg</b>	Grant County	W99	\$100	\$0	\$0	\$100
<b>Philippi</b>	Philippi/Barbour County Regional	79D	\$2,300	\$0	\$900	\$3,200
<b>Ravenswood</b>	Jackson County	116	\$115,400	\$19,200	\$13,100	\$147,700
<b>Wheeling</b>	Wheeling Ohio County	312	\$89,900	\$15,000	\$10,600	\$115,500
<b>Total</b>			<b>\$38,253,200</b>	<b>\$340,600</b>	<b>\$3,275,000</b>	<b>\$41,868,800</b>

Notes: Column totals do not precisely match tenant expenditure totals in Table 23 due to rounding for each individual airport. Totals may not sum exactly due to rounding. Sources: WV AEIS Airport Tenant Survey, 2019; and state and local tax rates



**Table 25** presents the tax revenue generated from employee income and spending for the system airports with on-airport tenants. Employee spending was estimated by assuming that 36 percent of the average worker's spending is subject to sales and use tax. This is based on surveys by the U.S. Bureau of Labor Statistics.<sup>7</sup> Tax generated from employee income and spending totaled approximately \$28.3 million, with Commercial Service airports generating \$23.6 million from income and spending and GA airports generating \$4.7 million from income and spending.

<sup>7</sup> See <https://www.valuepenguin.com/average-household-budget>.

**Table 25: State and Local Tax Revenue Generated by Employee Income and Spending**

Associated City	Airport Name	FAA ID	Sales and Use Tax (state)	Sales and Use Tax (local)	Personal Income Tax (state)	Total
<b>Commercial Service</b>						
<b>Beckley</b>	Raleigh County Memorial	BKW	\$56,600	\$0	\$142,200	\$198,800
<b>Charleston</b>	Yeager Airport	CRW	\$598,900	\$0	\$1,199,400	\$1,798,300
<b>Clarksburg</b>	North Central West Virginia	CKB	\$3,955,500	\$0	\$11,861,200	\$15,816,700
<b>Huntington</b>	Tri-State/Milton J Ferguson Field	HTS	\$173,100	\$0	\$440,900	\$614,000
<b>Lewisburg</b>	Greenbrier Valley	LWB	\$55,700	\$0	\$133,700	\$189,400
<b>Morgantown</b>	Morgantown Municipal – Walter L Bill Hart Field	MGW	\$79,300	\$0	\$196,100	\$275,400
<b>Parkersburg</b>	Mid-Ohio Valley Regional	PKB	\$1,158,600	\$193,100	\$3,383,000	\$4,734,700
<b>General Aviation</b>						
<b>Bluefield</b>	Mercer County	BLF	\$10,800	\$1,800	\$21,600	\$34,200
<b>Buckhannon</b>	Upshur County	W22	\$27,300	\$0	\$77,400	\$104,700
<b>Cumberland</b>	Greater Cumberland Regional	CBE	\$1,200	\$0	\$1,700	\$2,900
<b>Elkins</b>	Elkins-Randolph County-Jennings Randolph Field	EKN	\$37,900	\$0	\$88,400	\$126,300
<b>Fairmont</b>	Fairmont Municipal – Frankman Field	4G7	\$8,300	\$0	\$24,100	\$32,400
<b>Logan</b>	Logan County	6L4	\$14,100	\$0	\$39,300	\$53,400
<b>Martinsburg</b>	Eastern West Virginia Regional/Shepherd Field	MRB	\$1,314,600	\$0	\$2,825,700	\$4,140,300
<b>Moundsville</b>	Marshall County	MPG	\$7,200	\$1,200	\$12,600	\$21,000
<b>Philippi</b>	Philippi/Barbour County Regional	79D	\$1,400	\$0	\$2,700	\$4,100
<b>Ravenswood</b>	Jackson County	I18	\$21,800	\$3,600	\$60,400	\$85,800
<b>Wheeling</b>	Wheeling Ohio County	HLG	\$17,600	\$2,900	\$45,700	\$66,200
<b>Total</b>			<b>\$7,539,900</b>	<b>\$202,600</b>	<b>\$20,556,100</b>	<b>\$28,298,600</b>

Notes: Column totals do not precisely match tenant expenditure totals in Table 23 due to rounding for each individual airport. Totals may not sum exactly due to rounding. Sources: WV AEIS Airport Manager Survey; WV AEIS Airport Tenant Survey, 2019; state and local tax rates

### 3.5.4 Aviation Fuel Tax

The WVAC provided data on aviation fuel tax transfers for calendar year 2019, shown in **Table 26**. These transfers indicate the amount of revenue WVAC was able to collect from the tax on aviation fuel sales. As shown, there are some variations in the funding generated from this tax throughout the year. The revenue from aviation fuel taxes reached a high point in August, with \$166,278. The total revenue generated from fuel tax in 2019 was approximately \$1.4 million, averaging approximately \$113,400 per month. These funds were expended to meet the state match for FAA Airport Improvement Program (AIP) grants used by airports to fund projects.

**Table 26: Aviation Fuel Tax Transfers in Calendar Year 2019**

Month	Aviation Fuel Tax
January	\$115,635
February	\$113,122
March	\$51,000
April	\$122,540
May	\$105,748
June	\$74,599
July	\$111,991
August	\$166,278
September	\$128,186
October	\$127,302
November	\$91,482
December	\$153,258
<b>Total</b>	<b>\$1,361,140</b>

*Note: Aviation fuel tax data is unavailable for individual airports. Source: WVAC*

### 3.5.5 Total Tax Revenue by Airport

**Table 27** summarizes the state, local, and total tax revenue across all sources for commercial and GA airports in West Virginia. Note, this table does not account for aviation fuel tax revenue, which is provided only on a statewide basis. As shown, West Virginia airports are responsible for generating over \$74 million in tax revenues, not including the \$1.4 million generated from aviation fuel tax. Activity at commercial service airports generated \$66.8 million in tax revenues and GA airports generated \$7.4 million. CKB generated the highest tax revenues of commercial service airports at \$48 million, and MRB generated the highest tax revenues of GA airports, at approximately \$5.5 million.

**Table 27: State, Local, and Total Tax Revenue by Airport**

Associated City	Airport Name	Sales and Use Tax (state)	Sales and Use Tax (local)	Rental Car Tax (state)	Corporate & Individual Income Tax (state)	Airport Total
<b>Commercial Service</b>						
<b>Beckley</b>	Raleigh County Memorial	\$448,500	\$0	\$2,500	\$182,800	\$633,900
<b>Charleston</b>	Yeager Airport	\$4,530,600	\$0	\$68,200	\$1,559,800	\$6,158,600
<b>Clarksburg</b>	North Central West Virginia	\$33,868,000	\$0	\$9,300	\$14,241,800	\$48,119,100
<b>Huntington</b>	Tri-State/Milton J Ferguson Field	\$1,453,000	\$0	\$10,000	\$545,100	\$2,008,100
<b>Lewisburg</b>	Greenbrier Valley	\$1,531,900	\$0	\$12,300	\$189,800	\$1,734,100
<b>Morgantown</b>	Morgantown Municipal – Walter L Bill Hart Field	\$1,022,200	\$0	\$6,700	\$261,400	\$1,290,300
<b>Parkersburg</b>	Mid-Ohio Valley Regional	\$2,930,000	\$488,400	\$3,100	\$3,438,800	\$6,860,100
<b>General Aviation</b>						
<b>Bluefield</b>	Mercer County	\$162,700	\$27,100	\$2,900	\$28,100	\$220,800
<b>Buckhannon</b>	Upshur County	\$186,500	\$0	\$300	\$93,800	\$280,700
<b>Cumberland</b>	Greater Cumberland Regional	\$13,400	\$0	\$100	\$2,400	\$16,100
<b>Elkins</b>	Elkins-Randolph County-Jennings Randolph Field	\$293,300	\$0	\$300	\$125,500	\$419,100
<b>Fairmont</b>	Fairmont Municipal – Frankman Field	\$80,900	\$0	\$200	\$29,100	\$110,200
<b>Logan</b>	Logan County	\$102,100	\$0	\$100	\$47,800	\$150,000
<b>Martinsburg</b>	Eastern West Virginia Regional/Shepherd Field	\$2,533,000	\$0	\$1,000	\$2,928,400	\$5,462,400
<b>Moundsville</b>	Marshall County	\$121,600	\$20,300	\$100	\$23,100	\$165,200
<b>Petersburg</b>	Grant County	\$27,900	\$0	\$700	\$0	\$28,700
<b>Philippi</b>	Philippi/Barbour County Regional	\$4,300	\$0	\$0	\$3,600	\$7,800
<b>Pineville</b>	Kee Field	\$300	\$0	\$0	\$0	\$300

Associated City	Airport Name	Sales and Use Tax (state)	Sales and Use Tax (local)	Rental Car Tax (state)	Corporate & Individual Income Tax (state)	Airport Total
Point Pleasant	Mason County	\$300	\$0	\$0		\$300
Ravenswood	Jackson County	\$160,500	\$26,700	\$600	\$73,500	\$261,300
Summersville	Summersville	\$200	\$0	\$0		\$200
Sutton	Braxton County	\$1,500	\$0	\$0		\$1,500
Wheeling	Wheeling Ohio County	\$154,400	\$25,700	\$1,100	\$56,300	\$237,600
Williamson	Appalachian Regional	\$500	\$0	\$0		\$500
<b>Total</b>		<b>\$49,627,600</b>	<b>\$588,200</b>	<b>\$119,500</b>	<b>\$23,831,100</b>	<b>\$74,166,400</b>

*Note: Totals may not sum exactly due to rounding. Commercial and GA totals do not sum to category totals in Tables 14-16. This is because commercial airports also have GA operations, and are therefore included in both categories when calculating revenue. Table does not include \$1.4 million in aviation fuel tax revenue because data is unavailable for individual airports. Source: WV AEIS Airport Manager Survey; Airport Tenant Survey; Commercial Air Passenger Survey; Transient GA Pilot & Passenger Survey, 2019; WVAC; and state and local tax rates*

## 3.6 Airport-Reported COVID-19 Impacts

The WV AEIS was initiated in January 2020 and by February of the same year the novel coronavirus (referred to as COVID-19) pandemic was significantly impacting the world economy as it surged and spread across the globe. By March 2020, the US economy was hit as the virus took a foothold across the country. The aviation industry and the nation's airports immediately felt the impacts as air travel nearly screeched to a halt. Fortunately, the study year for WV AEIS is 2019, and although the virus presented challenges to the project (schedule delay, site visit changes, etc.), the core assessment planned for the WV AEIS was allowed to continue. Now more than ever, the findings of the WV AEIS are critical to share with policy makers, planners, local and state authorities, and the general public.

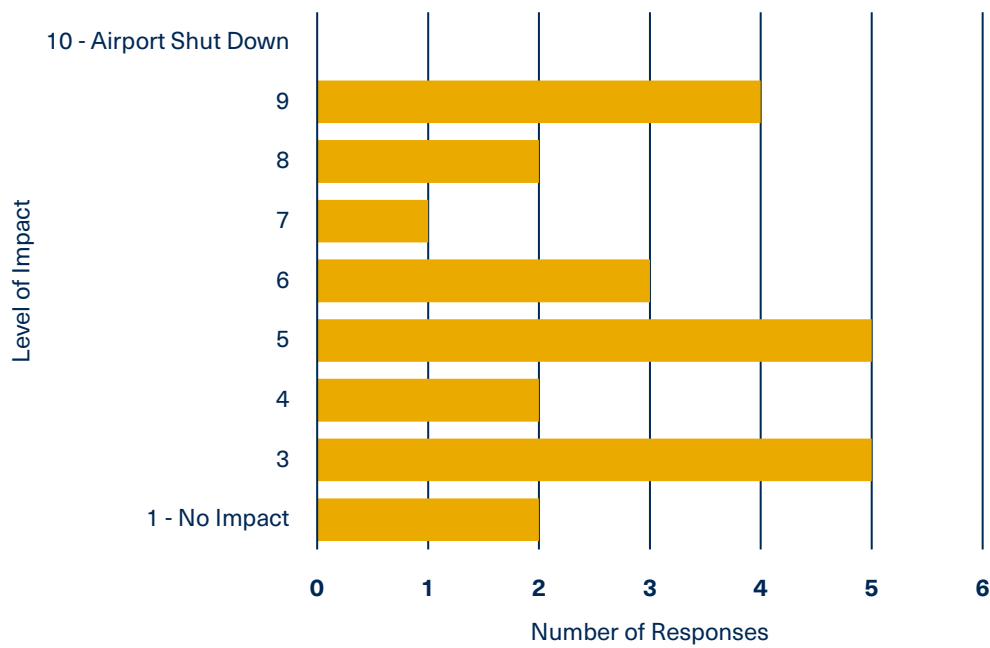
Site visits were conducted at each of the 24 study airports in July 2020 to collect important on-airport data from airport owners/sponsors and tenants. While the data being collected during these site visits was for calendar year (CY) 2019, it was important to recognize and address how airports were impacted by COVID-19. In order to capture this data, airports were asked a series of COVID-19 related questions during their site visit. Responses to these questions covered topics such as revenue, staff, and on-airport activity or operational changes. While the pandemic did not affect the CY 2019 data for this study, the summary of COVID-19 impacts provided in this chapter should be considered alongside the quantitative findings of the study.

### 3.6.1 General Impacts

Study airports were asked to report on a scale of 1 to 10 (1 = no impact, 10 = shut down) the level of COVID-19 impacts at their airport. Airports were asked to consider financial, operational, and capital development impacts when selecting their level of impact. As presented in **Figure 5**, responses ranged from Level 1 to Level 9 (no airport selecting 10), with the most common responses of Level 3, Level 5, and Level 9. Six of the seven commercial service airports reported impacts of Level 5 or higher, and three of the four respondents who reported Level 9 were commercial service airports. These results indicate that the commercial service airports in West Virginia were more severely impacted by COVID-19 than GA airports. This is likely due in part to the significant and immediate drop in passenger levels flying commercially whereas GA airports had a more diverse customer base flying privately. Only two airports in the system reported no impacts (Level 1), one is a busier GA airport with 10,000 annual operations in 2019 and the other is a less busy rural airport that had approximately 300 annual operations in 2019.<sup>8</sup>

<sup>8</sup> Operations data sourced from the FAA Form 5010 Master Record

**Figure 5: Airport Reported Level of COVID-19 Impacts**



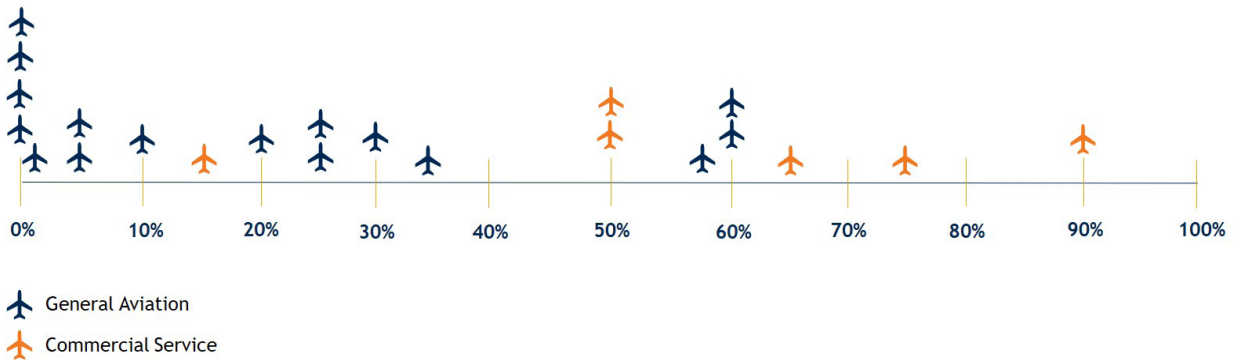
Sources: WV AEIS Airport Manager Survey, 2020; Kimley-Horn, 2021

### 3.6.2 Revenue Impacts

Airports were asked to report if they experienced a reduction in their revenue beginning in 2020. If they experienced revenue reductions, they were asked to provide an estimate of the percent decrease compared to 2019 revenues from the same time frame (January to July) and the approximate date the decline started.

Seventy-five percent of system airports reported they experienced some reduction in revenue due to COVID-19 impacts, while 17 percent of the system reported that they did not experience a revenue reduction. Eight percent of the system (one commercial service and one GA airport) did not provide a response to the percentage of revenue reduction they experienced. The percent of revenue reduction that airports experienced is quite varied and ranged from roughly one percent to 90 percent reduction, as presented in **Figure 6**.

**Figure 6: Range of Revenue Reduction as Reported by Airports**



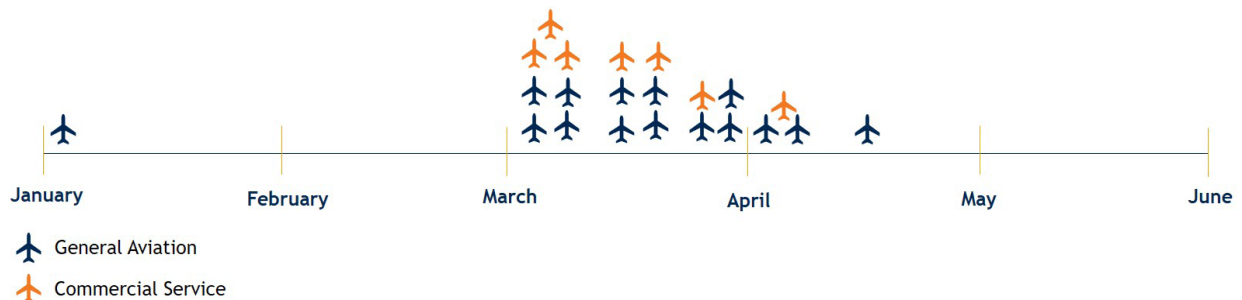
Source: WV AEIS Airport Manager Survey, 2020; Kimley-Horn, 2021

Six of the seven commercial service airports and 12 GA airports reported a percent reduction in their revenue. Eight airports reported a revenue loss of 50 percent or more compared to the same time in 2019. The average revenue reduction at system airports was 38 percent compared to revenue generated between January and July of 2019.

Airports were also asked when they noticed the revenue reductions started occurring. The two airports that did not provide a percentage of revenue reduction did provide a time frame for when their airports began experiencing impacts due to COVID and are included in **Figure 7**. Their answers were included in the following analysis because they provided a qualitative response as to how their airport has experienced a decline in activity or operations that generate revenue.

**Figure 7** presents a six-month timeline between January 2020 and June 2020. As shown, the majority of the airports noticed initial revenue reductions or other decline in airport activity between early March and mid-April 2020.

**Figure 7: Timeline of When Impacts Started at West Virginia Airports**



Notes: Two airports are not represented in this figure because they did not report experiencing COVID impacts. Sources: WV AEIS Airport Manager Survey, 2020; Kimley-Horn, 2021

Airports were asked to provide additional details regarding the specific sectors that contributed the most to their revenue reduction or where they noticed the most significant changes in activity. For commercial service airports, the significant reduction in scheduled airline service resulted in the loss of parking fees, landing fees, concessions revenues, other user fees, and fuel sales, contributing the most to their revenue loss. In general, most GA airports also noted a loss of fuel sales for both 100LL and Jet A. Some outlying GA airports indicated that fuel sales had actually increased, perhaps because users were opting to visit the less busy airport over other busier



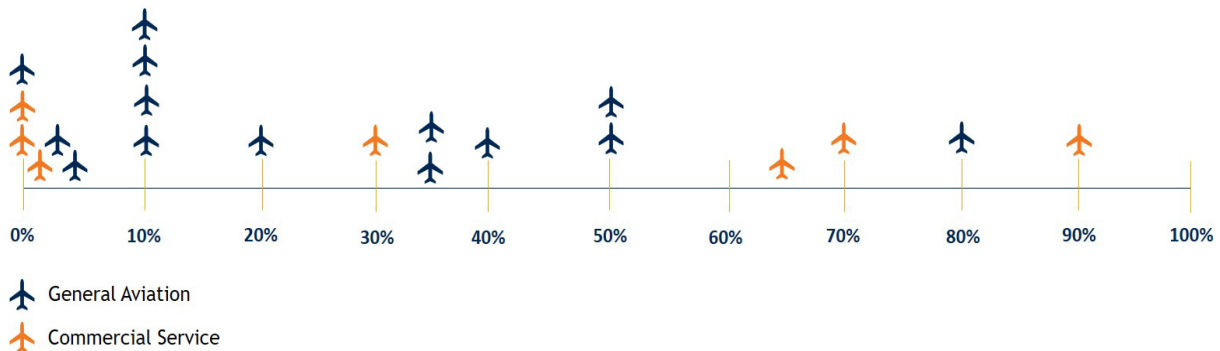
facilities. Another GA airport noted that the number of gallons sold had increased but the low cost of fuel resulted in a loss of revenue. GA airports noted that the inability to host community events, such as fly-ins, impacted their airport revenues because those are great opportunities to attract airport visitors who pay for aircraft parking, fuel, or who visit on-airport restaurants and other businesses. Other activities that GA airports observed declining included flight instruction, business aviation, recreational flying, and air charter services, all which hindered the airports' ability to generate revenue.

### 3.6.3 Impacts to Operations

Airports were also asked to provide estimates for the percent change in aircraft operations they experienced due to impacts of COVID-19. Commercial service airport responses to this question were quite varied. One airport noted no operational decreases occurred due to their Essential Air Service (EAS) status. The two other airports in the state that offer scheduled airline service through the EAS program noted that their operations have stayed relatively the same, however the number of enplanements declined drastically, with an airport noting an 80 percent decline in commercial service passengers. Other commercial service airports that do not operate under EAS status reported that they experienced a 65 percent to 76 percent decrease in scheduled airline service operations. Commercial service airports also reported some significant decreases in their GA operations, with one airport noting a 90 percent decrease in GA operations, and others offering a range of 2 to 70 percent reductions. Two commercial service airports noted no GA operational reductions, and another experienced an increase in GA traffic due to an increase in private jet operations.

GA airports experienced a wide range of operational declines, from no decline to 80 percent decline. Three GA airports did not respond to this question on the survey, so data is only available for 14 GA airports. One GA airport reported no change and noted that GA activity may have actually increased. Six GA airports reported a 3 to 10 percent decline in operations and four other GA airports reported a 20 – 40 percent decline in operations. Three GA airports reported a 50 percent or greater decline in operations, with the highest decline being 80 percent. **Figure 8** shows the range of GA operational declines noted by both commercial service and GA airports.

**Figure 8: Range of Decline in GA Operations for Commercial Service and GA Airports**



Source: WV AEIS Airport Manager Survey, 2020; Kimley-Horn, 2021

### 3.6.4 Financial Changes

The following sections provide information about some of the financial concerns airport managers reported experiencing due to COVID-19, including concerns related to state level funding, tenants' ability to pay lease payments in a timely manner, and fluctuating on-airport employment levels.

#### 3.6.4.1 State Grant Program

Airports were asked to provide information about how their airport budget may be impacted by reductions in the state grant program. Only eight of the 24 airports reported that their airport budget would not be impacted if there are reductions in the state grant program. Two airports responded that they were not yet sure how reductions in the state grant program would impact their airport budget. The remaining 14 system airports reported concerns for some type of impact to their airport budget due to the reduction in available state funding. Airports are predominately concerned that important projects will be delayed because they do not have the state or local funding match to accept Federal Aviation Administration (FAA) grants. Some airports reported that funding from the state program factors into their operational budget so a reduction in that funding could impact daily operations in addition to capital project scheduling.

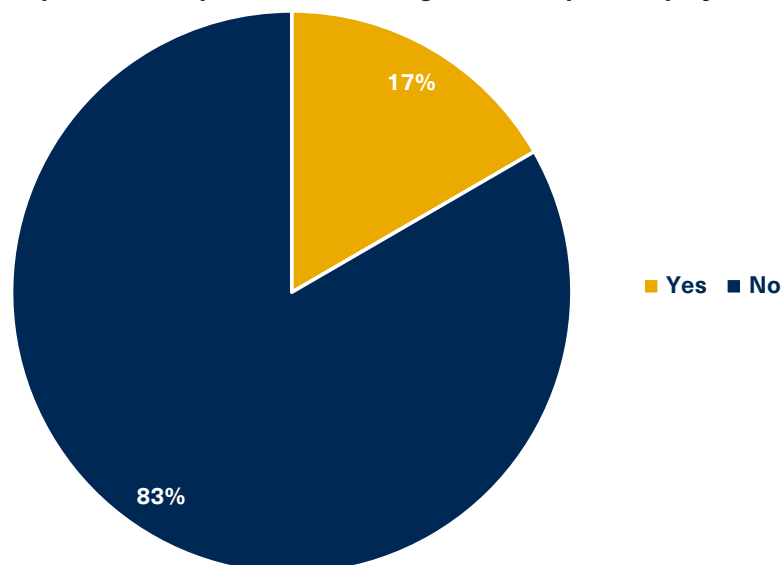
#### 3.6.4.2 Rent Abatement or Deferrals

When on-airport activity came to a grinding halt it not only impacted airports' ability to generate revenue, but it greatly impacted the on-airport business tenants' ability to generate revenue as well. Both aeronautical and non-aeronautical tenants felt the impacts of COVID-19 as they were not isolated to the aviation industry. Five system airports provided rent abatement or deferral programs to support their tenants through this difficult period. One airport was able to provide all of their tenants with rent abatements, while other airports provided between 10 and 30 percent of their tenants with rent abatements.

#### 3.6.4.3 Airport Employment

During the time of the survey, the majority of airports reported that they did not experience any changes to on-airport employment. As shown in **Figure 9**, only 17 percent (four airports) reported that they had to terminate one or more airport employees.

**Figure 9: Percent of Airports that Experienced a Change in On-Airport Employment**



Source: WV AEIS Airport Manager Survey, 2020; Kimley-Horn, 2021

While 17 percent of the airports reported a change in on-airport employment due to COVID-19, they all reported that these changes would be temporary. The most notable decrease was for a commercial service airport that reported a 10 percent loss in administration or operations jobs and a 33 percent loss in tenant employment, including their fixed-base operator (FBO), rental car kiosks, and concessionaires. None of the airports reported a decrease in employment for support service jobs, such as Transportation Security Administration (TSA), military contractors, and emergency services.

Airports were also asked to comment as to whether they experienced a notable change in itinerant activity at their airport. The majority of airports did not report any noticeable itinerant activity changes, while eight airports noted some itinerant activity change. Two airports noted the decline in itinerant activity was very substantial and the other six noticed a moderate to light change. Airports cited the loss of community airport events and the decline in business aviation as the reason for their decline in itinerant activity.

### **3.6.5 Summary of COVID-19 Impacts**

The full extent of the impacts of COVID-19 on West Virginia airports is not yet known. So far, the impacts have been varied with some airports being more affected than others. The COVID-19 questions on the WV AEIS Airport Manager Survey were designed to capture a high-level understanding of what airports experienced in the early months of the COVID-19 outbreak. The findings show that almost all airports experienced some form of operational, employment, activity, and/or revenue changes due to the pandemic. Commercial service airports experienced a significant decline in passengers and enplanements, resulting in loss of revenue from a variety of sources, including parking, fuel, and other user fees. GA airports missed out on opportunities to host community events that generate revenue and experienced significant decrease in itinerant operations, resulting in a loss of revenue from fuel sales, aircraft parking fees, and other user fees. Some GA airports did note that recreational flying activities increased at their airport. They cited people having more time to recreate because of work-from-home mandates, early retirements, or other changes in employment due to significant economic changes as the reason for their activity increase.

## **3.7 Conclusion**

The economic impact findings presented in this chapter look at direct and multiplier impacts (supplier sales and income re-spending) from on-airport activity, visitor spending, and air cargo activity related to West Virginia airports. Findings are presented at the statewide, regional, and airport level to better represent the diverse range of activities and impacts that occur across the state. In total, airports in West Virginia contribute over \$1.6 billion to the state's economy and support over 10,700 jobs with a payroll of \$550 million. This activity generates over \$75 million in state and local tax revenues annually. While the COVID-19 pandemic impacted each of the 24 study airports in some way, the aviation industry in the state is strong and has begun a slow recovery to 2019 activity levels. While the timeline is not yet known, the diversity of business and recreation opportunities in the state will only help West Virginia's aviation industry recovery.

