ECONOMIC IMPACT OF NORTH CENTRAL WEST VIRGINIA AIRPORT EXPANSION

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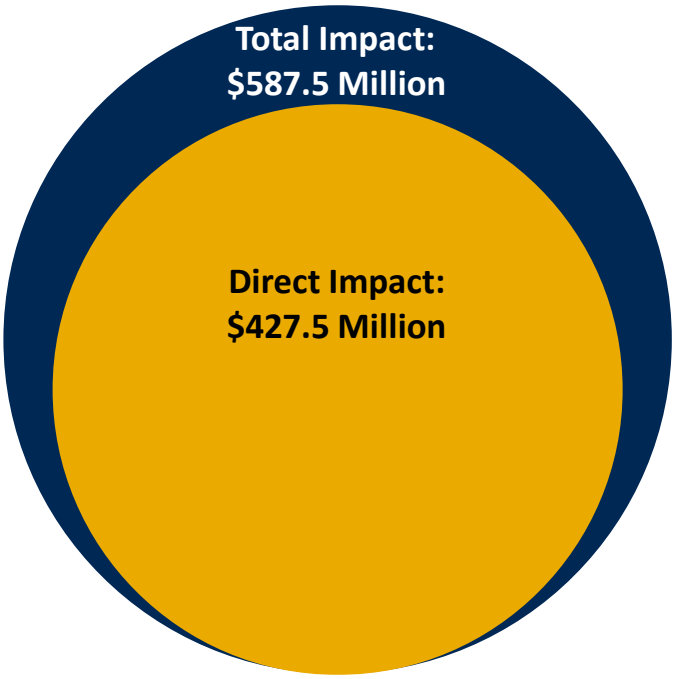
Executive Summary

The North Central West Virginia (NCWV) Airport in Clarksburg/Bridgeport has experienced rapid growth over the last decade. The number of airline passengers through the airport increased nearly four-fold between 2010 and 2019. The airport was also chosen as the primary US hub for the Mitsubishi Heavy Industries airplane refurbishment facility, which services airplanes from most major airlines.

Because of this rapid growth, the NCWV Airport has begun construction on a new terminal building in order to handle the increased traffic through the area. In this report, we provide an economic impact estimate of the terminal's expansion and associated growth in the aerospace industry on the West Virginia economy.

Overall, if all of the growth anticipated by airport officials comes to fruition, we estimate that the airport and surrounding areas will add nearly $428 million in annual economic activity to the state's economy. As shown in Figure 1, this new spending would generate more than $587 million in total economic impact once secondary suppliers are considered.

Figure 1: Total Annual Economic Impact



AIRPORT TERMINAL CONSTRUCTION: In order to accommodate additional growth in flights at the airport, NCWV Airport officials plan to build a new terminal for the airport. This construction is expected to have the following impacts:

- The **total economic impact of construction expenditures for the airport terminal expansion is estimated to be $88 million**, of which more than $55 million will be spent directly, and another $33 million will be generated in secondary industries.
- The airport expansion project is estimated to employ about 356 construction workers directly, and another 199 in supplier industries, for **a total employment impact of 555 jobs**.

- This portion of the project will also create **83 acres of flat developable land at the airport that can be used for further economic development**.

AIRPORT OPERATIONAL EXPANSION: Along with the expansion of the airport terminal, NCWV officials anticipate that the airport will continue to grow its operations, which has been growing at a rate of 5 percent per year.

- We anticipate that growth at the airport will add an additional $16.7 million in expenditures in the local economy over 10 years. When counting secondary impacts, we anticipate this spending will result in **more than $28.5 million in total economic impact over this period**.
- By the final year of expansion, we estimate that **annual airport expenditures will be more than $3 million higher than current levels, with a total annual economic impact of $5.5 million**.
- We expect employment at the airport to grow by an average of 17 jobs, with another 8 jobs coming in secondary industries, for **a total annual employment impact of 26 jobs by 2030**.

INDUSTRIAL EXPANSION AT THE AIRPORT CAMPUS: Expansion of the airport terminal is expected to allow for an increase in the industrial base at and near the airport campus. NCWV officials anticipate that seven additional small- to medium-sized businesses will either expand or locate in the Clarksburg/Bridgeport area as a result of the new terminal building, for a total of more than 1,300 new jobs. If all of these new businesses do locate in the state, we estimate that this expansion will result in the following annual impacts:

- **An additional $582 million in annual economic activity in the state's economy**, with $424 million coming from direct expenditures by the new firms.
- **Nearly 2,330 new jobs in the state**, of which approximately 900 will come from direct impacts and another 1,020 from secondary suppliers.
- **A total of more than $129 million in new labor income.**
- A total of more than **$15 million in new tax revenue for state and local governments**.

1 Introduction

The North Central West Virginia (NCWV) Airport in Clarksburg/Bridgeport has experienced rapid growth over the last decade. The number of airline passengers through the airport increased nearly four-fold between 2010 and 2019. The airport was also chosen as the primary US hub for the Mitsubishi Heavy Industries airplane refurbishment facility, which services airplanes from most major airlines.

Because of this rapid growth, the NCWV Airport has begun construction on a new terminal building in order to handle the increased traffic through the area. In this report, we provide an economic impact estimate of the terminal's expansion and associated growth in the aerospace industry on the West Virginia economy. We begin with background on the aerospace industry in Harrison County, then consider the economic impact of the airport expansion in three areas: 1) terminal construction, 2) operational expenditure growth, and 3) associated aerospace sector industrial growth at the airport. We provide economic impacts for output, employment, labor income, and tax revenue.

2 Background on the North Central West Virginia Airport

The NCWV Airport and surrounding Harrison County have traditionally been a hub for aerospace-related industries in West Virginia. Harrison County employment in aerospace-related fields[1] totaled 1,207 jobs in 2021, representing about 5 percent of all county jobs, and more than one-third of all aerospace employment in the state (see Figure 2). This concentration of aerospace employment—as measured by location quotient[2]—is nearly 4 times the national average.

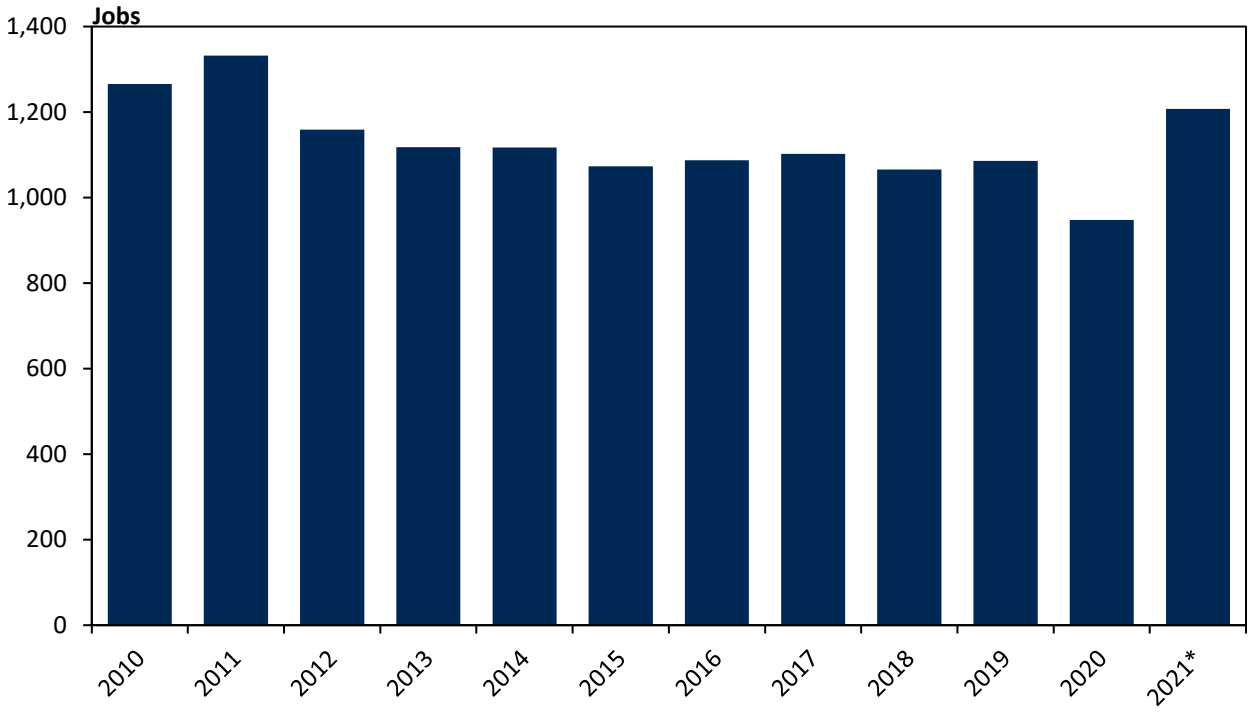
As shown Figure 3, Harrison County employment in the aerospace sector fell about 14 percent between 2010 and 2019, before falling another 10 percent in 2020 due to the effects of the COVID-19 pandemic. However, rapid hiring at Mitsubishi Heavy Industries over the last year sent employment in the sector upward in 2021. West Virginia employment in this sector fell 13 percent between 2010 and 2019, compared with an 18-percent increase nationally. While aerospace-sector employment rebounding in 2021 in Harrison County and the state, US employment in the sector continued to slide.

The NCWV Airport experienced a significant increase in airline passengers over the last decade. As shown in Figure 4, passenger enplanements at the NCWV Airport rose from under 11 thousand in 2010 to nearly 42 thousand in 2019, a gain of 14.6 percent per year on average. During the same period, enplanements in West Virginia as a whole fell by an average of half a percent per year. Enplanements fell in both regions in 2020 due to the effects of the COVID-19 pandemic on air travel, but NCWV Airport enplanements were largely back to pre-COVID levels in 2021.

[1] Includes aerospace manufacturing, air transportation, and air transportation support services.

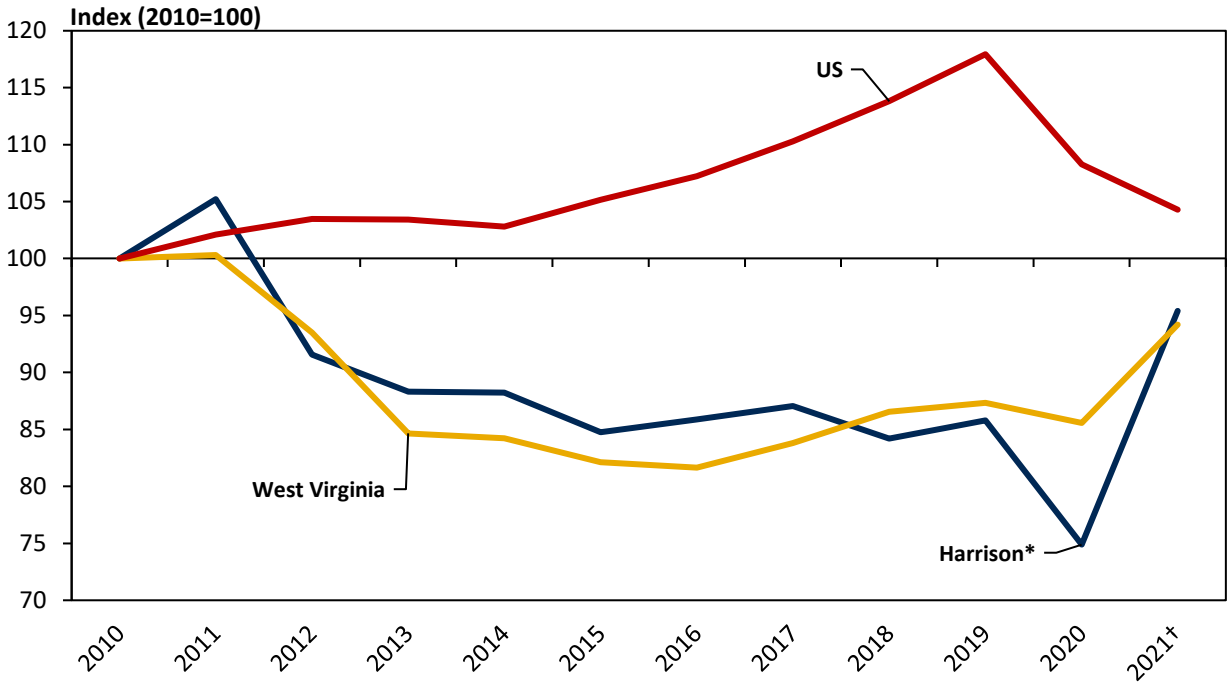
[2] Location quotient compares the share of industry jobs in a local region with the share nationally.

Figure 2: Harrison County Private Aerospace Sector Employment



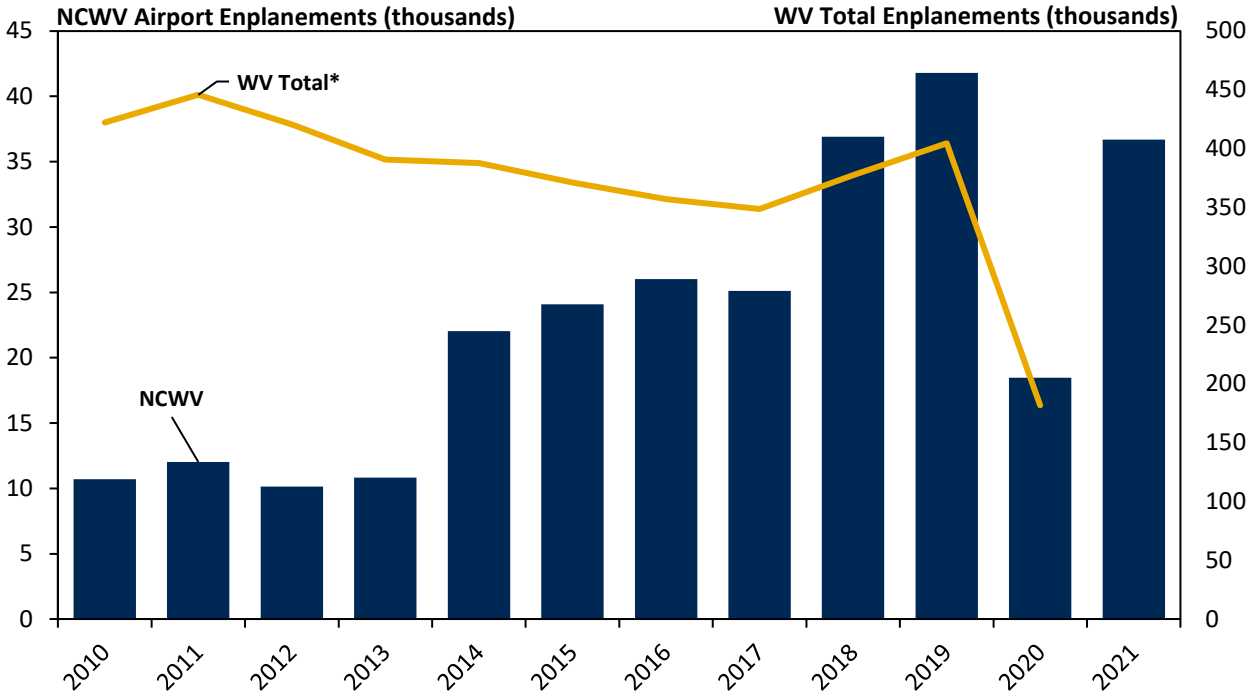
*2021 data based on first two quarters. Source: US Bureau of Labor Statistics.

Figure 3: Private Aerospace Sector Employment Growth



* A small number of Harrison County Air Transportation employment was not disclosed. †2021 data based on first two quarters. Source: US Bureau of Labor Statistics

Figure 4: Passenger Enplanements



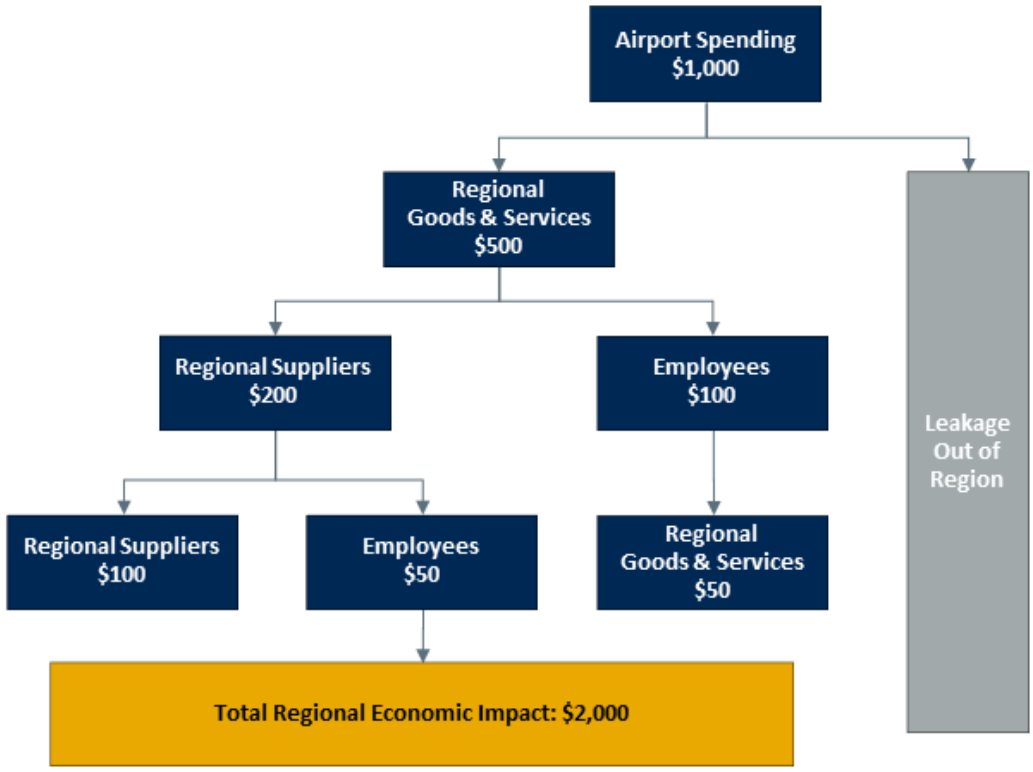
*2021 data for WV not yet available. Sources: US Federal Aviation Administration, NCWV Airport

3 Economic Impact Methodology

To estimate the economic impacts of the NCWV Airport, we use a detailed model of the West Virginia economy.[3] For example, each year the NCWV Airport and businesses located there purchase a variety of goods and services, such as airplane fuel, utilities, insurance, etc. Also, the airport and associated businesses directly employ hundreds of workers, part of whose income will be spent in the West Virginia economy. These expenditures and employment are called the direct impact.

However, the total impact is not limited to the direct impact, but also includes the secondary economic impact accrued as those expenditures are re-spent throughout the rest of the economy. As depicted in Figure 5, as the demand from the airport increases, suppliers of these inputs also increase production, their subsequent suppliers will increase production, and so on. These secondary impacts together form what is known as the "multiplier effect." The original stimulus to the economy from the NCWV Airport expansion is re-spent multiple times through the rest of the economy. At each stage, some of the expenditures "leak" out of West Virginia as they are spent at companies outside the state. The combined direct impact and secondary impacts together constitute the total economic impact of the airport's operations.

Figure 5: Economic Impact Flow



[3] This study was conducted using the IMPLAN modeling software, an industry-standard input-output model of the economy. More information about IMPLAN can be found at http://www.implan.com.

To conduct this analysis, we make several assumptions. First, in order to estimate the economic impact of the airport expansion, we assume that industrial growth at the airport would not happen without the expansion of the terminal. Second, we assume that permanent employees of the airport and associated businesses live within the state boundaries and their expenditure patterns follow that of the typical West Virginia resident. Employment impacts for this study include all full- or part-time workers involved in the economic activity. Data for this study was provided by the NCWV Airport and was not independently audited by the Bureau of Business and Economic Research.

4 Airport Terminal Construction Impact

The first economic impact we consider is the expenditure for the construction of the new airport terminal. The terminal construction will be conducted in three phases: earth movement, apron and taxiway construction, and construction of the terminal building itself. In total, the airport expects to spend approximately $57 million on the project. However, there are a number of impacts that we have excluded from this total. In Phase One, we have excluded land acquisition from the total as this results in a transfer of assets and does not constitute a new economic impact in the region. Secondly, in order to provide a conservative estimate of the economic impact, we have excluded the contingency line-item from all three phases, as this impact may not be realized in the economy. Direct impacts for this part of the project are shown in Table 1.

Table 1: Construction Phases

Construction Phase	Direct Impact ($, millions)
Phase One: Earth movement	16.4
Phase Two: Apron and taxiway	12.0
Phase Three: Terminal building and parking	27.1
Total	**55.5**

Source: NCWV Airport

4.1 Phase One

Phase One of the airport expansion is currently underway at the NCWV campus as construction crews relocate earth to shore up and flatten the terminal site. In addition to the building pad for the terminal, this portion of the project will also create 83 acres of flat developable land at the airport that can be used for further economic development.

Airport officials estimate that initial construction expenditures for this phase will be more than $16.4 million. Using national average construction employment from our economic model, we estimate that employment for this phase of the project will be 112 workers earning approximately $6.3 million in labor income and compensation. Total tax revenue generated directly from construction is estimated to be $402 thousand.

When multiplier effects are considered, we estimate that the first phase of construction will generate an additional $10.5 in economic activity for a total economic impact of nearly $27 million (see Table 2). Construction is expected to support a total of 177 workers, of which 65 will come from secondary suppliers. These workers are expected to earn about $9.7 million in labor income, of which $3.4 will come in secondary industries. We estimate the total state and local tax revenue to be approximately $753 thousand, of which $351 thousand will come from secondary impacts.

Table 2: Economic Impact of Phase One Construction

Impact Type	Direct Impact	Indirect & Induced Impact	Total Economic Impact
Output ($, millions)	16.4	10.5	26.9
Employment (jobs)	112	65	177
Labor Income ($, millions)	6.3	3.4	9.7
Total Taxes ($, thousands)	401.5	351.1	752.5

Notes: Output, Employee Compensation, and Tax Revenue are measured in 2021 dollars. Tax Revenue impact includes sales, personal income, property, and corporation net income taxes.

4.2 Phase Two

Phase Two of the airport expansion includes construction of the apron and taxiway for the new terminal. Construction costs for this portion of the project total $12 million. We estimate that this phase of the project will require 69 workers earning $3.9 million in labor income. Total tax revenue generated directly from construction is estimated to be $258 thousand.

When multiplier effects are considered, we estimate that the second phase of construction will generate an additional $6.2 million in economic activity for a total economic impact of more than $18 million (Table 3). This construction is expected to support a total of 105 workers, of which 35 will come from secondary suppliers. These workers are expected to earn about $5.9 million in labor income, of which $1.9 will come in secondary industries. We estimate the total state and local tax revenue to be approximately $458 thousand, of which about $200 thousand will come from secondary impacts.

Table 3: Economic Impact of Phase Two Construction

Impact Type	Direct Impact	Indirect & Induced Impact	Total Economic Impact
Output ($, millions)	12.0	6.2	18.2
Employment (jobs)	69	35	105
Labor Income ($, millions)	3.9	1.9	5.9
Total Taxes ($, thousands)	258.4	199.9	458.3

Notes: Output, Employee Compensation, and Tax Revenue are measured in 2021 dollars. Tax Revenue impact includes sales, personal income, property, and corporation net income taxes.

4.3 Phase Three

Phase Three of the airport expansion is the final construction of the new terminal building itself. Construction costs for this portion of the project are expected to be approximately $27 million. We estimate that this phase of the project will require 175 workers earning nearly $10 million in labor income. Total tax revenue generated directly from construction is estimated to be $636 thousand.

The final construction phase is expected to generate a total of $43 million in economic activity, which includes $16 million in secondary impacts, as shown in Table 4. This construction is expected to support a total of 274 workers, of which 99 will come from secondary suppliers. These workers are expected to earn about $15 million in labor income, of which more than $5 million will come in supplier industries. We estimate the total state and local tax revenue to be approximately $1.2 million, with $636 thousand in direct impacts, and another $538 thousand from secondary impacts.

Table 4: Economic Impact of Phase Three Construction

Impact Type	Direct Impact	Indirect & Induced Impact	Total Economic Impact
Output ($, millions)	27.1	16.2	43.3
Employment (jobs)	175	99	274
Labor Income ($, millions)	9.9	5.3	15.1
Total Taxes ($, thousands)	636.2	537.8	1,174.0

Notes: Output, Employee Compensation, and Tax Revenue are measured in 2021 dollars. Tax Revenue impact includes sales, personal income, property, and corporation net income taxes.

4.4 Total Impact

All told, we estimate the airport terminal construction will generation more than $88 million in economic activity across the region and state, as shown in Table 5. This impact includes more than $55 million in direct construction expenditures and almost $33 million in secondary economic impacts. Total employment for the project is expected to be 555 workers, of which about 356 will come directly from construction and an additional 199 from secondary industries. Workers are expected to earn nearly $31 million in total labor income, with $20 million spent directly during construction and another nearly $11 million from secondary impacts. State and local tax revenue is estimated to be almost $3 million, with $1.1 million coming from secondary economic activity.

Table 5: Total Impact of Airport Terminal Construction

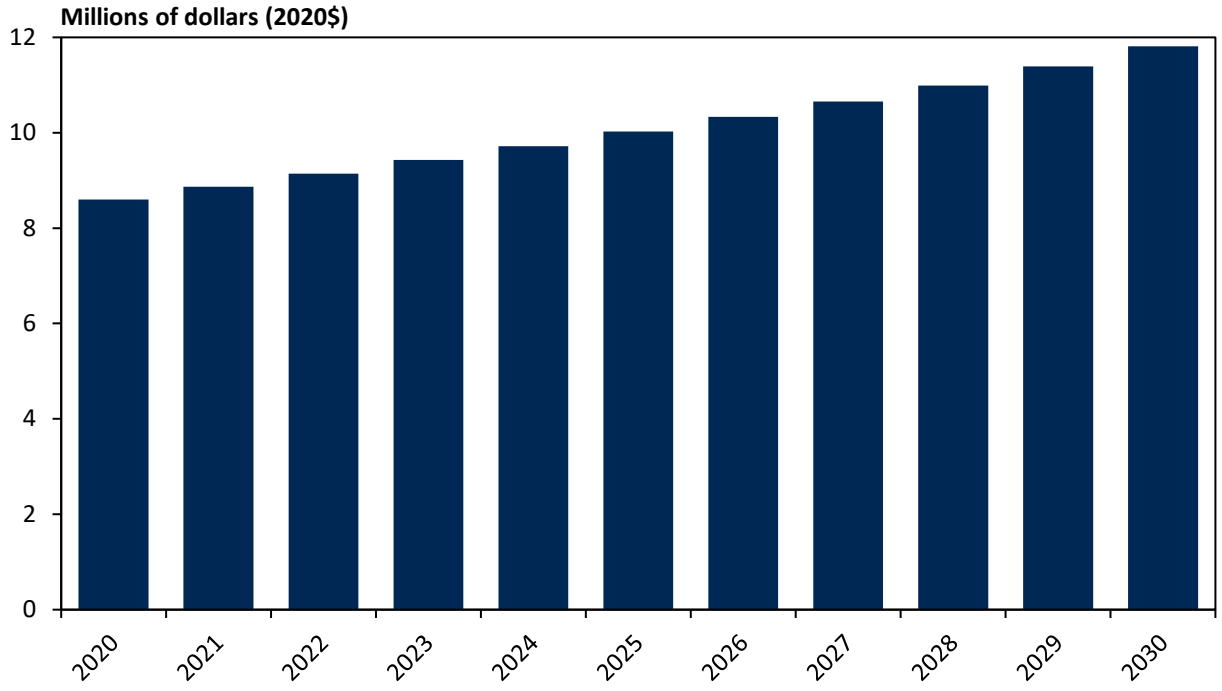
Impact Type	Direct Impact	Indirect & Induced Impact	Total Economic Impact
Output ($, millions)	55.5	32.9	88.4
Employment (jobs)	356	199	555
Labor Income ($, millions)	20.1	10.6	30.7
Total Taxes ($, millions)	1.8	1.1	2.9

Notes: Output, Employee Compensation, and Tax Revenue are measured in 2021 dollars. Tax Revenue impact includes sales, personal income, property, and corporation net income taxes.

5 Airport Operational Expenditure Growth

Along with the construction expenditures for the new terminal, NCWV Airport officials expect operational spending to grow over the next 10 years as the terminal generates additional usage of the airport. Starting from baseline spending for the 2020 fiscal year, the airport anticipates growth of 5 percent per year through 2030, as shown in Figure 6.

Figure 6: Airport Operational Spending Forecast



Source: NCWV Airport

Based on the growth projections provided by NCWV Airport officials, we anticipate the airport will generate $16.7 million of new economic activity in the region over the next 10 years.[4] Annual spending in the final year is projected to be more than $3 million above current levels. Based on national average employment levels, we estimate that this growth will support an additional 17 workers directly employed at the airport on average over these 10 years. We estimate these workers will earn approximately $1.4 million in labor income and compensation per year, for a total income impact of $13.6 million. Though the airport is a county agency and does not directly pay taxes, we expect that the workers will pay approximately $837 thousand in personal income and sales taxes over this 10-year period.

Including secondary impacts, we estimate the operational growth at the airport will generate a total of $29 million in new economic activity over this 10-year period, of which nearly $12 million will come in secondary supplier industries. We anticipate airport spending will support eight additional workers per

[4] Dollar amounts have been adjusted for inflation to 2021 dollars based on inflation projections in the IMPLAN model.

year in secondary industries for an average annual jobs impact of 26 workers. Total labor income is expected to be nearly $18 million over this 10-year period, of which $4.3 million will come in secondary industries. We estimate suppliers and workers will pay about $1.3 million in taxes to state and local governments.

Table 6: 10-Year Economic Impact of Airport Operational Growth

Impact Type	Direct Impact	Indirect & Induced Impact	Total Economic Impact
Total Output ($, millions)	16.7	11.8	28.5
Average Annual Employment (jobs)	17	8	26
Total Labor Income ($, millions)	13.6	4.3	17.9
Total Taxes ($, thousands)	836.7	426.3	1,263.0

Notes: Output, Employee Compensation, and Tax Revenue are measured in 2021 dollars. Tax Revenue impact includes sales, personal income, property, and corporation net income taxes.

6 Industrial Expansion

Expansion of the airport terminal is expected to allow for an increase in the industrial base in and around the airport campus. NCWV officials anticipate that several additional small- to medium-sized businesses will either expand or locate in the Bridgeport area as a result of the new terminal building construction. Table 7 shows a breakdown of which aerospace sector companies officials believe are likely to locate in the region, along with their potential employment levels. All told, officials project that employment near the airport will rise by 1,310 jobs due to expansion and new firm location.

Table 7: Projected Employment Growth

Industry Type	Projected Employment Growth
Aerospace Manufacturing	150
Aerospace Supply Chain	500
Air Cargo	150
Airline Support	10
Airplane Maintenance and Repair	50
Airplane Overhaul	500
Federal Government Employment	10
Total Employment Increase	**1,310**

Source: NCWV Airport

Airport officials did not provide the BBER with a timeline for this industrial expansion. Thus, our impact estimates are based on the total annual economic activity if all of these new jobs come to the Clarksburg/Bridgeport area. As mentioned above, the BBER did not independently audit these projections, and we assume these jobs will be created in the region only due to the construction of the new terminal building and adjacent parcels developed by aerospace industries.

As shown in Table 8, we estimate that job growth of this size would require an additional $424 million in aerospace sector spending in the state. Total labor income would be expected to be nearly $130 million for an average annual labor income of more than $98,000 per worker. Total tax revenue paid by companies and their employees is estimated to be just under $10 million annually.

Including secondary impacts, we estimate the economic impact of industrial expansion at the NCWV Airport to be nearly $582 million, of which $158 million would come from secondary supplier industries and their employees. We anticipate that aerospace sector growth of this magnitude would support an additional 1,020 workers in supplier industries for a total economic impact of more than 2,300 workers earning $185 million in labor income. Total state and local tax revenue paid by companies and employees is estimated to be $15 million with about $5.5 million coming from secondary impacts.

Table 8: Annual Economic Impact of Industrial Expansion at the Airport

Impact Type	Direct Impact	Indirect & Induced Impact	Total Economic Impact
Output ($, millions)	424.3	157.7	582.0
Employment (jobs)	1,310	1,020	2,330
Labor Income ($, millions)	129.4	55.7	185.0
Total Taxes ($, millions)	9.6	5.5	15.1

Notes: Output, Employee Compensation, and Tax Revenue are measured in 2021 dollars. Tax Revenue impact includes sales, personal income, property, and corporation net income taxes.

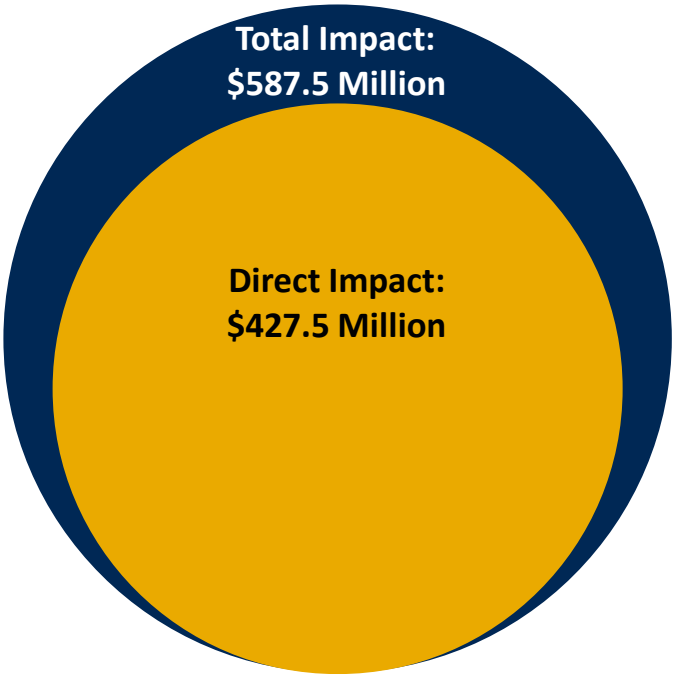
7 Conclusion

The North Central West Virginia Airport in Bridgeport has been growing rapidly over the last decade. The airport is currently constructing a new terminal that is expected to open up new opportunities for development in and around the airport site. We anticipate that the airport terminal construction will generate more than $88 million in economic activity over the three-phase construction timeline. This spending is expected to support 555 jobs in the local economy over the construction period.

However, the larger economic impact from the construction will come as companies at the airport expand due to improved access to air transport. If all of the operational and industrial growth anticipated by airport officials comes to fruition, we estimate that the airport and surrounding areas will add nearly $428 million in annual economic spending to the state's economy. As shown in Figure 7, this new spending would generate more than $587 million in additional annual economic impact once secondary suppliers are considered.

We anticipate that this new economic activity would generate approximately $15 million in annual tax revenue for state and local governments, of which nearly $10 million would be generated directly by the companies and workers located at the airport. We estimate approximately two-thirds of this revenue would flow to the state government, with the remainder going to local governments in the form of property taxes and local sales taxes.

Figure 7: Total Annual Economic Impact



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