

MULTIMODAL ECONOMIC IMPACT STUDY FOR HUNTINGTON TRI-STATE AIRPORT



PREPARED FOR:
**KYOVA INTERSTATE
PLANNING COMMISSION**

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Multimodal Economic Impact Study for Huntington Tri-State Airport

May 2018

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CHAPTER 1: REPORT OVERVIEW



The Huntington Tri-State Airport is a valuable transportation link for the Tri-State region, providing access to the national airspace system for its residents and businesses. To better understand its value, the KYOVA Interstate Planning Commission undertook this study to quantify the economic benefits of the airport, and qualitatively assess how it and other multimodal transportation links bring value to the Tri-State region.

STUDY RESULTS

The economic impacts of Huntington Tri-State Airport were estimated using an FAA-approved methodology that has been successfully applied at airports throughout the United States. The study found that, in 2017, the Huntington Tri-State Airport was responsible for:

- 1,275 jobs
- \$54.9 million in payroll
- \$108.4 million in output

These impacts account for on-airport activity, capital improvements at the airport, and local off-airport spending by visitors using the airport. This report explains the details behind these important findings. The following sections provide an overview of each chapter of this report.

Huntington Tri-State Airport Overview

Huntington Tri-State Airport is a commercial service, nonhub airport that enplanes approximately 100,000 passengers annually. It is owned and operated by the Tri-State Airport Authority. It operates a single 7,017-foot long runway with precision instrument approaches on each end. An air traffic control tower provides aircraft separation services and sequencing. Passenger airline service is provided by two airlines – Allegiant Air and American Airlines. FedEx conducts scheduled air cargo flights from its facility based at Tri-State Airport.

General aviation operations are served by Huntington Jet Center, the airport fixed-base operator (FBO), which is owned and operated by the airport authority. General aviation facilities are located close to the commercial airline facilities. However, airport plans call for developing the Tri-State Aeroplex, a planned 95-acre development on the southeast side of the airport. This development focuses on general aviation and provides a degree of separation between the general aviation functions and the commercial airline operations. It also represents a growth opportunity for the airport. More details on the Huntington Tri-State Airport are available in Chapter 2 of the report.



Overview of the Tri-State Area

The area of interest for this economic impact study consisted of six counties: Cabell, Putnam, and Wayne County in West Virginia; Boyd and Greenup County in Kentucky; and Lawrence County in Ohio. This region has maintained its population and employment levels over the past 10 years, while steadily increasing its per capita income. Major employers in the area, such as Marshall University, Marathon Oil, and AK Steel, depend on the airport for its services.

The airport works in conjunction with other modes of transportation to provide for the efficient movement of people and goods. West Virginians recognize this mutual relationship, as evidenced by their approval of Amendment 1, the Bond for Roads and Bridges Measure in 2017. This legislation authorized \$1.6 billion in state bonds for funding road and bridge construction. Numerous projects in the Tri-State Area stand to benefit from this measure, including:

- the widening and improvement of I-64 in various locations,
- a proposed bridge across the Ohio River to OH 7, and;
- the construction of the Tolsia Highway (US 52), which will link the Prichard Intermodal Facility to I-64.

The Prichard Intermodal Facility is used to transfer intermodal containers between the railroad and other modes of transport and is a key component of the Heartland Corridor project, which connects the Port of Norfolk in Virginia to Columbus, Ohio via rail. The airport itself is pursuing multimodal projects, including improvements to the access road, which will help cargo carriers, and a proposed parking structure to accommodate increased passenger demand at the airport. More details on the Tri-State Area are available in Chapter 3 of the report.

Study Approach

This study took a structured approach in developing the estimates of economic impacts. It relied on economic data gathered from the airport, its tenants, and passengers using the airport. This data served as input for a linear input-output economic model to estimate additional impacts associated with the Tri-State Airport. This modeling procedure is considered one of the leading methods currently available for estimating the total economic impact of an airport. The process used to obtain the data, and the assumptions and methodologies behind the calculations are explained in Chapter 4 of the report.

Economic Impacts of Huntington Tri-State Airport

The economic impacts summarized above are broken down into various components to provide a better understanding of how different aspects of the airport contribute to its overall impacts. Additionally, these results are compared with the previous economic impact study, which was completed in 2006. Further context is provided by comparing the results with other peer airports using CDM Smith's proprietary Airport Peer Assessment Tool. More details on the economic impacts of Huntington Tri-State Airport are available in Chapter 5 of the report.

Qualitative Impacts

In addition to the jobs, payroll, and output quantified above, there are many advantages that the Huntington Tri-State Airport provides that are difficult to assign a numerical value. Research for this report, as well as a survey of area businesses, found a variety of qualitative impacts that the Tri-State airport provides. More details on the qualitative impacts of Huntington Tri-State Airport are available in Chapter 6 of the report.

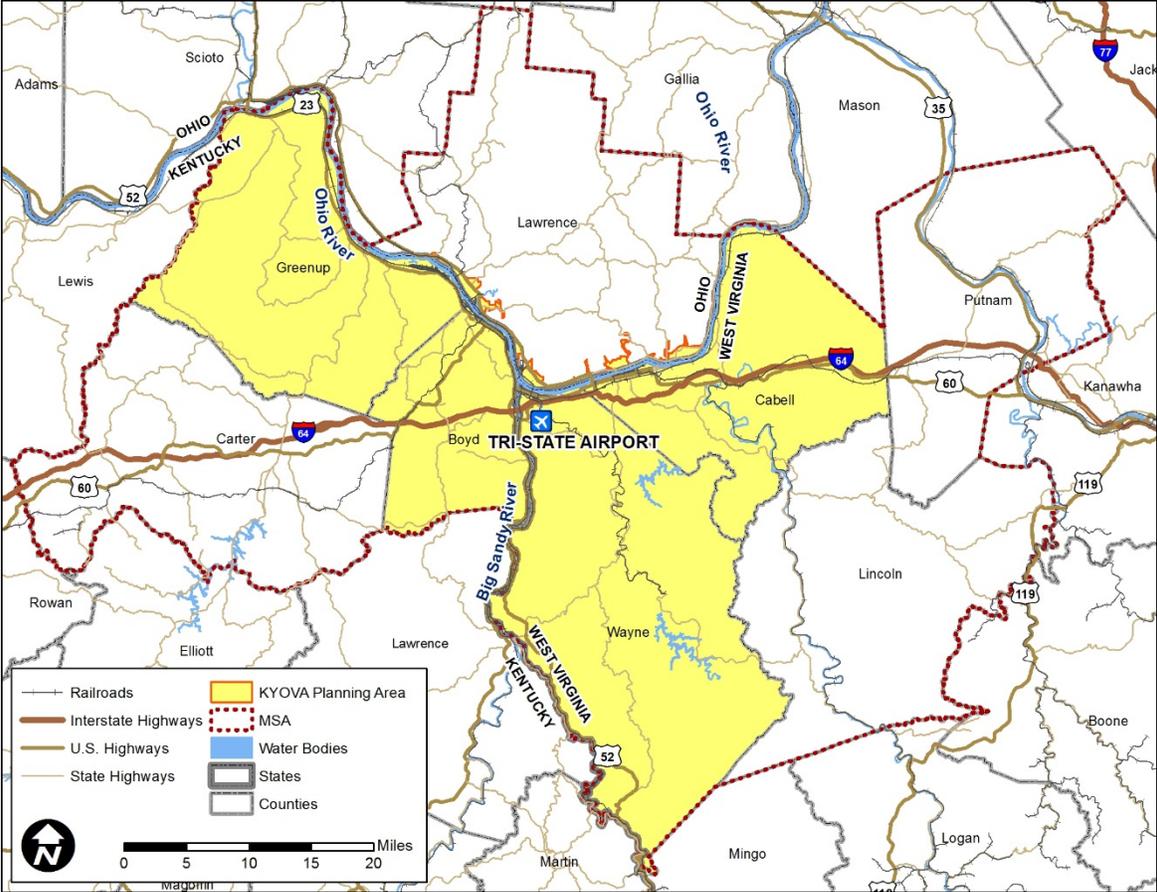
CHAPTER 2: HUNTINGTON TRI-STATE AIRPORT OVERVIEW



The Huntington Tri-State Airport, also known as Ferguson Field, is located in Wayne County, approximately seven miles southwest of downtown Huntington. The airport is owned and operated by the Tri-State Airport Authority, which was formed in 1948 for purposes of building an airport near Huntington to serve the entire region. Authority members are appointed from all three states – 10 for West Virginia, four for Kentucky, and three for Ohio. The Authority purchased 534 acres in 1959, and in 1962 the Tri-State Airport was dedicated, originally having a 4,600-foot runway. Runway 12/30 has been extended several times since its original construction and is now 7,017 feet in length. A secondary, crosswind runway was constructed in the 1970s, but is no longer in use. The original terminal building, which is still in use, was dedicated in 1961.¹

The location of Tri-State Airport provides it a unique opportunity for intermodal transportation and shipping. As shown in **Figure 2-1**, the airport is located where West Virginia, Kentucky, and Ohio meet, and where the Big Sandy River flows into the Ohio River. By road, the airport is primarily accessible via Interstate 64, U.S. 60, and U.S. 52. The airport is also located at the convergence of multiple railroad lines. It is the primary airport for the area that the KYOVA Interstate Planning Commission oversees.

**Figure 2-1
Tri-State Airport Location and KYOVA Planning Area**



Source: CDM Smith.

¹ Huntington Tri-State Airport (2017).

KYOVA is responsible for transportation planning decisions in two West Virginia counties, two in Kentucky, and the urbanized areas of Lawrence County in Ohio. Huntington, West Virginia is in the heart of the Huntington-Ashland, WV-KY-OH Metropolitan Statistical Area (MSA), also shown on Figure 2-1. The MSA is locally referred to as the Tri-State Area.

AIRPORT FACILITIES AND ACTIVITY

Tri-State Airport has a single runway measuring 7,017 feet in length and 150 feet in width. Runway 12/30 is at an elevation of 828 feet and is equipped with high intensity runway lights.

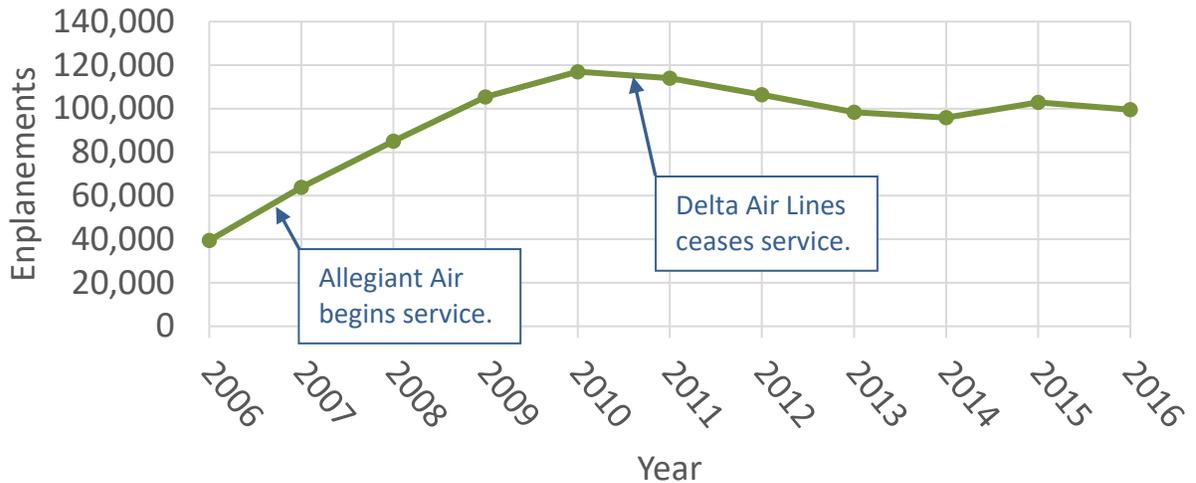
The Federal Aviation Administration (FAA) operates the airport's air traffic control tower that provides aircraft separation services. Aircraft operations at the airport are supported by four published instrument approaches, with instrument landing system and GPS approaches on both runway ends. All approach procedures provide vertical guidance with precision or near-precision approach minima. Pilots can access automated, on-airport weather reporting via an automated surface observing system. Such advanced airside facilities and navigational aids, in concert with the airport's long runway, make Tri-State Airport attractive for corporate activity.



American Airlines (Piedmont Airlines) and Allegiant Air offer commercial airline service at the airport. On a typical weekday, American has three flights in and out of the airport to its hub in Charlotte, where passengers can connect to other destinations. American typically uses an Embraer regional jet, which has 44 seats for passengers. Allegiant offers service to more locations than American, but with less frequency. Destinations include Orlando/Sanford, Tampa-St. Petersburg-Clearwater, Myrtle Beach, and Punta Gorda. Allegiant tends to use larger twin-jet aircraft with higher seating capacities, including the McDonnell Douglas MD-80 and Airbus A320. On a typical weekday, Allegiant may only have one or two flights out of the airport. Due to the vacation character of Allegiant's destinations, the majority of passengers originate in Huntington, whereas American's passengers are a more even mix of origin and destination passengers.

After Yeager Airport in Charleston, Tri-State Airport is the second-busiest airport in West Virginia by passenger enplanements with just under 100,000 passengers enplaned in 2016. This places Tri-State Airport in the FAA's nonhub airport category, which are commercial service airports with annual enplanements between 10,000 and 400,000. Annual enplanement data are shown in **Figure 2-2**. As can be seen, enplanements are up over 150 percent since 2006, on the strength of an almost three-fold increase between 2006 and 2010. The increase in enplanements is largely attributed to the addition of Allegiant Air flights to the airport. Their first flight at Huntington Tri-State Airport was November 3, 2006, leading to a steady rise in enplanements through 2010. In June 2010, Delta Air Lines ceased operating its two daily Detroit flights with 50-seat Canadair regional jets. With Delta's departure from Huntington, enplanements declined until rebounding in 2015.

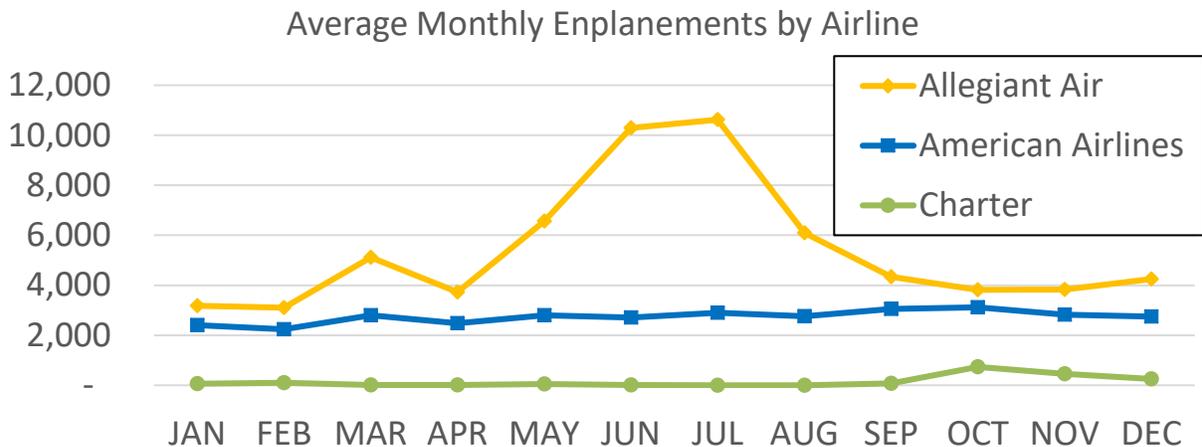
Figure 2-2
Annual Enplaned Passengers at the Huntington Tri-State Airport
 Huntington Tri-State Airport Enplaned Passengers
 2006 to 2016



Source: Federal Aviation Administration.

Average monthly enplanements by airline from January 2014 to October 2017 are provided in **Figure 2-3**. Overall, about two-thirds of the annual enplanements at Huntington Tri-State Airport fly on Allegiant Air. As can be seen, enplanements on American Airlines are relatively consistent throughout the year, while enplanements on Allegiant are highly seasonal. Also, charter activity is sporadic and significantly less than scheduled enplanements, but tends to peak during the fall, when Marshall University’s football season gets underway.

Figure 2-3
Average Monthly Enplanements by Airline (2014 - 2016)



Source: Huntington Tri-State Airport.

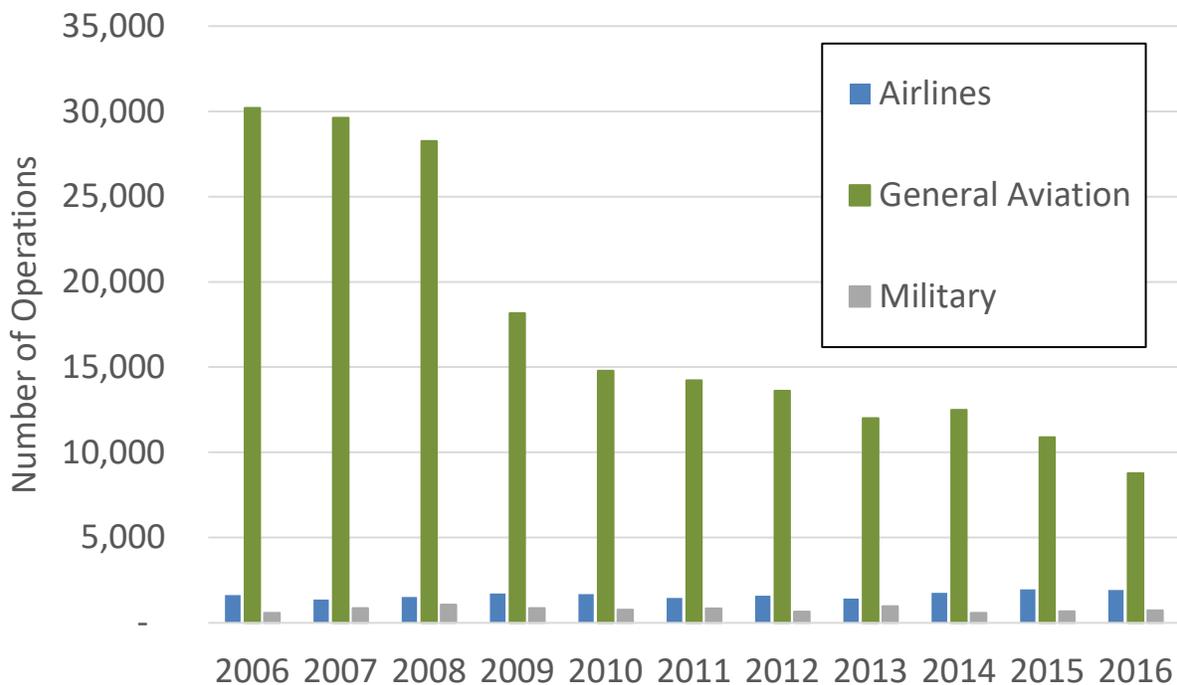
For freight, the airport is home to a FedEx air and ground station, the only facility in West Virginia with flights to the FedEx hub in Memphis. FedEx operates Boeing 757-200 aircraft to Memphis, as well as to Columbus, Ohio. Mountain Air Cargo, a flight provider for FedEx, flies from Huntington to Raleigh County Airport in Beckley, West Virginia using Cessna Caravans.

The airport’s general aviation (GA) activity is supported by a full-service fixed-base operator (FBO), Huntington Jet Center, which offers services such as aircraft fuel, catering, car rental, aircraft parking and storage, and flight planning. The FBO is owned and operated by the Authority. Huntington Jet Center’s GA terminal offers a pilot’s lounge, internet, and conference room, among other facilities. The airport authority also provides aircraft rescue and firefighting services.



Figure 2-4 shows the total annual operations at the airport from 2006 to 2016. As can be seen, total operations are down 65 percent from 2006, mainly because of the decline in general aviation activity due to increasing costs. Airline operations are up almost 20 percent over this time period.

Figure 2-4
Annual Operations by Type (2006 - 2016)



Source: Federal Aviation Administration.

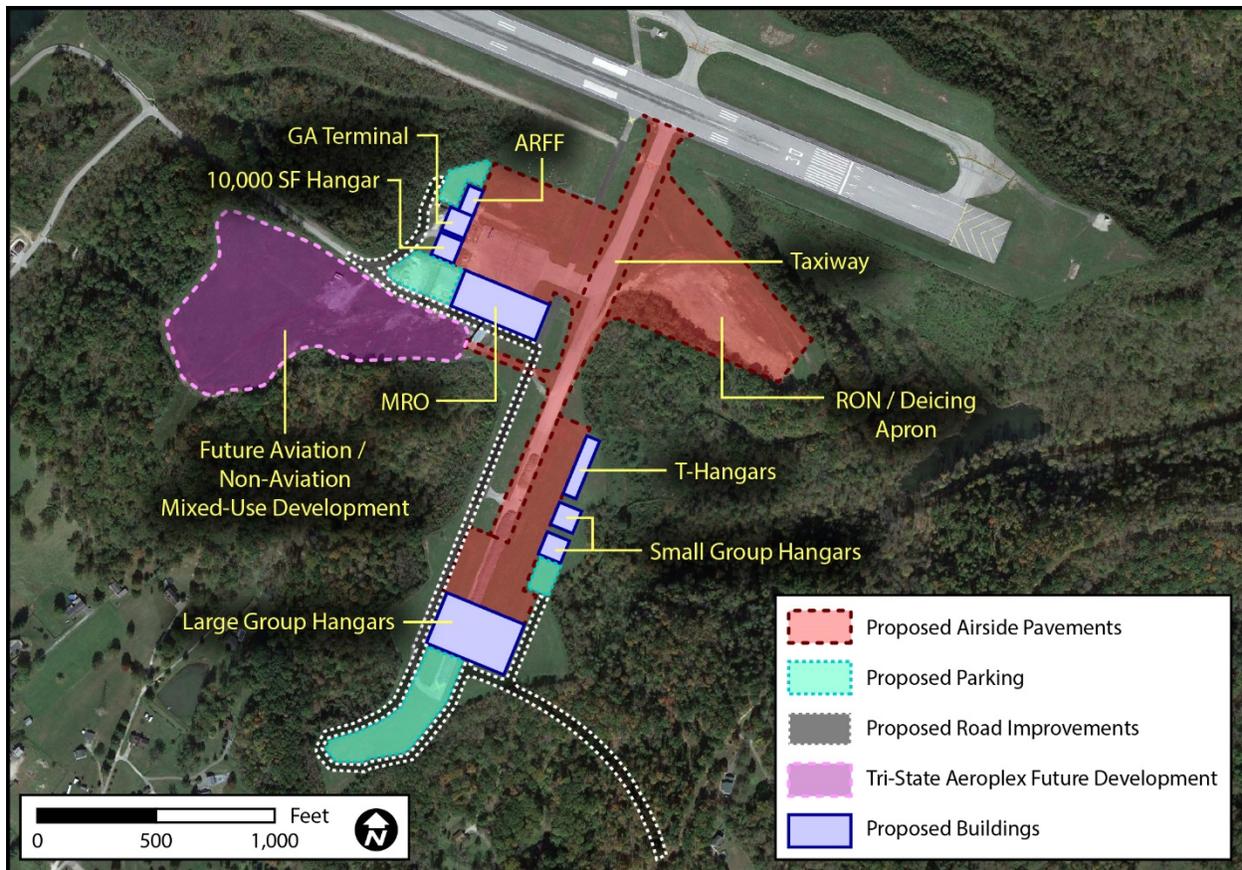
AREAS OF ECONOMIC POTENTIAL

The Tri-State Area is rich in manufacturing, engineering, and shipping. Both at the airport and in the region as a whole, there exists great potential for economic growth and expansion, with a number of key projects underway or in the planning phase. The following section provides an overview of these projects.

Tri-State Aeroplex

The most immediate and direct source of economic potential is the Tri-State Aeroplex, a planned, 95-acre area located on the southeast side of the airport property and specifically set aside for airside and business development. The Aeroplex is centered on the previous crosswind runway, which will be adapted into a new taxiway (**Figure 2-5**) as development progresses. The long-term plan for the Tri-State Aeroplex is a combined aviation and non-aviation industrial and business park. Hangars of various sizes and a deicing facility are planned for the Aeroplex. The project site has existing utilities, including potable and fire protection water, sanitary sewer, three-phase electricity, fiber optic lines, and gas. The Aeroplex is a prime opportunity for both industrial and business economic activity for the region.

Figure 2-5
Conceptual Plan for the Tri-State Aeroplex



Source: CDM Smith, Google Maps, and Tri-State Airport.

Appalachian Sky

Tri-State Airport, and the Tri-State Area as a whole, are part of an aviation-manufacturing organization called Appalachian Sky. Appalachian Sky consists of four AERoready-certified² regions: Huntington, West Virginia; Greater Ashland, Kentucky; Greater Portsmouth, Ohio; and One East, Kentucky. In addition to Tri-State Airport, Appalachian Sky includes Ashland Regional Airport, Greater Portsmouth Regional Airport, Big Sandy Airport, Pike County Airport, and Wendell H. Ford Airport.

Appalachian Sky aims to attract additional companies to the area via existing benefits. One such benefit touted by the organization is low cost utilities. Specifically, American Electric Power (AEP) is the main provider of electricity to the region, and is among the lowest cost electric companies in the nation. The Appalachian Sky area is also home to approximately 150 aerospace companies and service providers, including such industry giants as GE Aviation and Lockheed Martin. The area also offers a skilled and trained workforce, with over 1,800 engineers and nearly 19,000 employees working in the metal fabrication industry, including experienced welders, solder technicians, and machine operators.

Braidy Industries

A recent major win for Appalachian Sky and the Tri-State Area was the addition of Braidy Industries to Eastern Kentucky. The company plans to build a \$1.3 billion aluminum mill in 2018 with a planned opening in 2020. Mill construction will bring an estimated 1,000 temporary jobs to the region, impacting the local economy. The mill itself is expected to create 550 advanced manufacturing jobs at an annual average wage of \$70,000. The mill will produce sheet metal for the aerospace and automotive industries. Braidy Industries stated their reasons for locating in the region included the existing strong metal manufacturing industry, the chance to provide an economic boost to Eastern Kentucky, and the ability to be served by the Kentucky Skills Network, a partnership of local and state workforce development organizations that offer streamlined services for recruitment, training, and professional development.^{3 4} The new plant is expected to attract vendors to the region and has the potential to make sites at the Aeroplex more appealing, especially among aerospace companies that could benefit from the aluminum output. Together with the establishment of the company's headquarters in Ashland, demand for air service at the Tri-State Airport could increase.

“Braidy Industries’ decision to locate in Eastern Kentucky has the potential to be as significant as any economic deal ever made in the history of Kentucky.”

– Kentucky Governor Matt Bevin

² AERoready certification involves the analysis and validation of certain community attributes, such as property assessment, labor force availability, and aeronautical education and training opportunities, that are regarded as important for attracting aviation companies. For more details, see www.aeroready.us.

³ Appalachian Sky (2017).

⁴ Kentucky Skills Network (2017).

CHAPTER 3: OVERVIEW OF THE TRI-STATE AREA



To better understand how the Tri-State region's economy has functioned in the past and is expected to perform in the near future, this section examines the socioeconomic trends from 2006 through 2016. To capture the far-reaching impacts of Huntington Tri-State Airport, this analysis looks at six counties: Cabell, Putnam, and Wayne County in West Virginia; Boyd and Greenup County in Kentucky; and Lawrence County in Ohio. Typically, as population, employment, and income change in a particular market area, there is a corresponding change in demand for air carrier, air cargo and general aviation services. This is followed by a discussion of other transportation investments that are underway or recently completed in the area.

SOCIOECONOMIC TRENDS

Huntington is located primarily in Cabell County, which borders Wayne County to the north and east. It is the largest city in the Huntington-Ashland, WV-KY-OH Metropolitan Statistical Area (MSA). It is the second largest city in West Virginia behind Charleston, and is known for its commerce, heavy industry, and for being a vital rail-to-river transfer point. It is also home to Marshall University, which has an enrollment of approximately 13,000 students. A review of the population, employment, and per capita income of this region and surrounding area will set the stage for the economic impact analysis of the airport.

Population Trends

Table 3-1 shows the 2016 populations of the counties in the KYOVA region. As can be seen, Cabell County, which contains the City of Huntington, as well as the cities of Barboursville and Milton, has the highest population by a large margin. Population centers in Wayne County, home of the Tri-State Airport, include Kenova on the Ohio River adjacent to Huntington, Wayne, the county seat, as well as Fort Gay across the river from Louisa, Kentucky. Other population centers in the region include Ashland, Kentucky in Boyd County, and Ironton, Ohio in Lawrence County. Most of the developed area in the region is located in the Ohio River Valley and I-64 corridor. The overall MSA had a population of approximately 359,588 in 2016, ranking it 148th of 382 MSAs in the United States.

Table 3-1
2016 Populations in KYOVA Counties

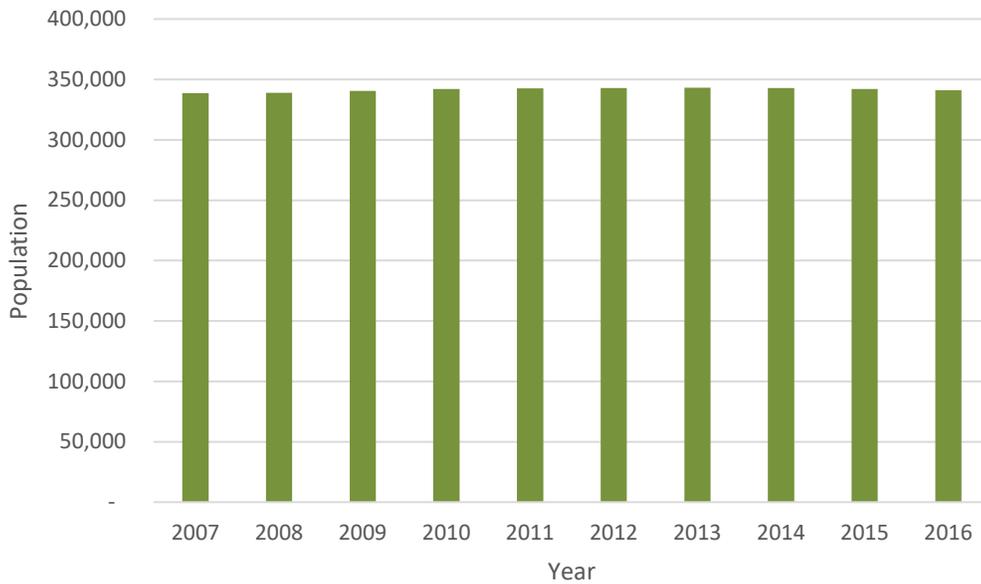
County	Population
Cabell County, WV	96,623
Wayne County, WV	41,237
Putnam County, WV	56,743
Boyd County, KY	48,716
Greenup County, KY	36,255
Lawrence County, OH	61,503
Total	341,077

Source: US Census Bureau, and American Community Survey.

The population of the KYOVA region from 2007 to 2016 is shown in **Figure 3-1**, which clearly shows a stable population trend for the past 10 years. Over the longer term, population in the region peaked with the 1980 census at approximately 350,000. Most of the individual counties peaked in that time frame, with Cabell County peaking a little earlier with the 1960 census, and Putnam County currently at its all-time high. At the regional level, the current population is down only 2.5 percent from the 1980 peak. Over the past 10 years, population has fluctuated within a

range of 4,000 people, with a peak population of just over 343, 000 and the 2016 population estimate being slightly higher than 2007.

Figure 3-1
KYOVA Planning Area Population, 2007 to 2016



Source: US Census Bureau, and American Community Survey.

Employment

In 2016, there were 136,931 jobs filled by adults 16 years of age and older in the KYOVA region, as shown in **Table 3-2**. Not surprisingly, the most populous county, Cabell County, also has the highest level of employment.

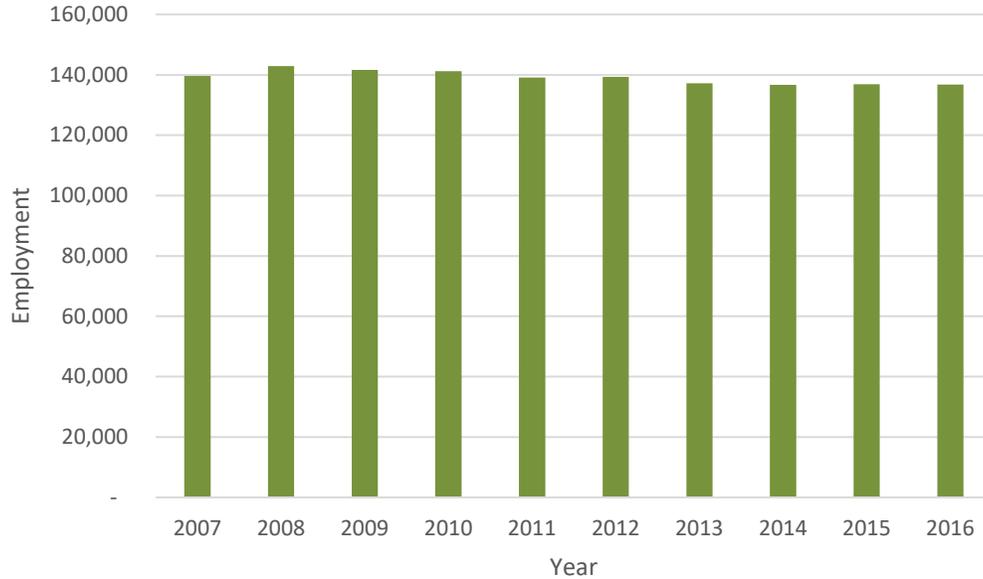
Table 3-2
2016 Employment in KYOVA Counties

County	Employment
Cabell County, WV	40,071
Wayne County, WV	14,551
Putnam County, WV	25,947
Boyd County, KY	18,364
Greenup County, KY	13,502
Lawrence County, OH	24,496
Total	136,931

Source: US Census Bureau, and American Community Survey.

Employment in 2016 is down from 139,594 in 2007, which is a decline of 2,829 jobs, or 1.9 percent. As shown in **Figure 3-2**, the workforce has declined from its peak of 142,891 in 2008. It has been relatively steady since 2013, never going higher than 137,234 nor lower than 136,687, a difference of only 547, or 0.4 percent.

Figure 3-2
KYOVA Planning Area Employment, 2007 to 2016



Source: US Census Bureau, and American Community Survey.

The top five employers in Huntington are:

- Marshall University
- St Mary's Hospital
- Marathon Ashland Petroleum
- Cabell-Huntington Hospital
- AK Steel

Other major employers in the KYOVA region include Marathon Oil, CSX railroad, and Toyota, as well as many other area hospitals.

As can be seen, Marshall University and the medical field are major contributors to employment in the area. They overlap in part, as biotechnology is a focus of Marshall University, as illustrated by the 2006 opening of their new \$75 million, 200,000-square foot Robert C. Byrd Biotechnology Science Center. In addition, the Huntington Area Development Council and Marshall University work in partnership to promote and develop the area's biotechnology sector.

AK Steel is also a top employer in the area, and it is a prime example of the metal working industry present in the area. The region is known to be a nationwide center of metal working, which includes other employers such as Special Metals, Steel of West Virginia, Martin Steel, and Huntington Steel. As noted in Chapter 2, Braidy Industries plans to open an aluminum mill in 2020, which will significantly add to the area's robust metal working industry.

Per Capita Income

Table 3-3 shows 2016 per capita income estimates for the KYOVA region, along with the average (weighted by population). As expected, per capita incomes are somewhat consistent across the region, with the highest incomes in suburban Putnam County and the lowest in more rural Wayne County.

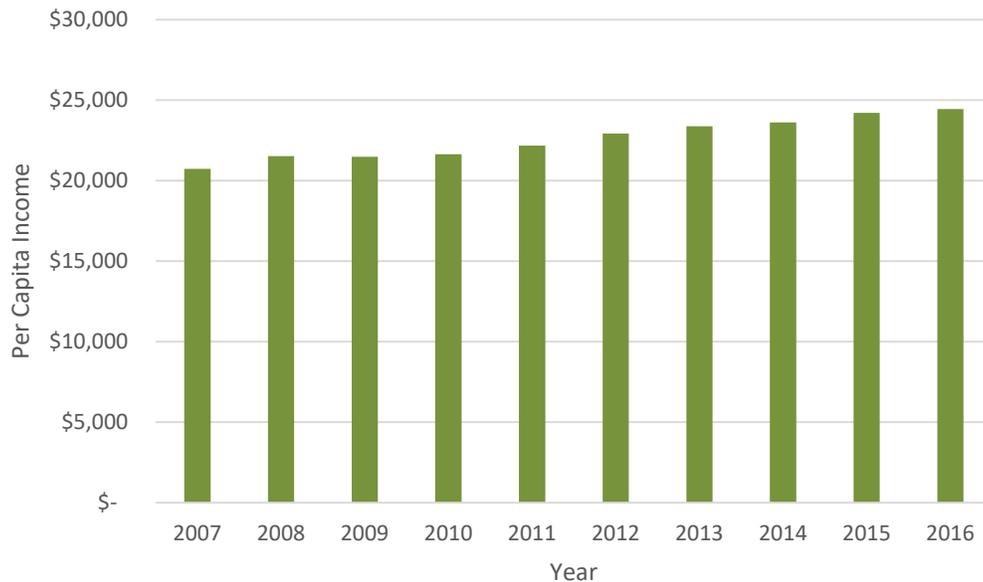
Table 3-3
2016 Per Capita Income Estimates in KYOVA Counties

County	Per Capita Income
Cabell County, WV	\$23,853
Wayne County, WV	\$20,450
Putnam County, WV	\$29,173
Boyd County, KY	\$25,939
Greenup County, KY	\$24,446
Lawrence County, OH	\$22,567
Average	\$24,456

Source: US Census Bureau, and American Community Survey.

Figure 3-3 shows the 10-year trend in per capita income for the region since the completion of the last economic impact study. As can be seen, 2016 per capita income is 18.0 percent higher than 2007, for a calculated annual compound growth rate of 1.9 percent. This outpaced nationwide inflation, as measured by the urban Consumer Price Index, which increased 15.8 percent, or 1.6 percent annually. However, these average per capita incomes still lag behind the 2016 national average of \$29,800.

Figure 3-3
KYOVA Planning Area Per Capita Income, 2007 to 2016



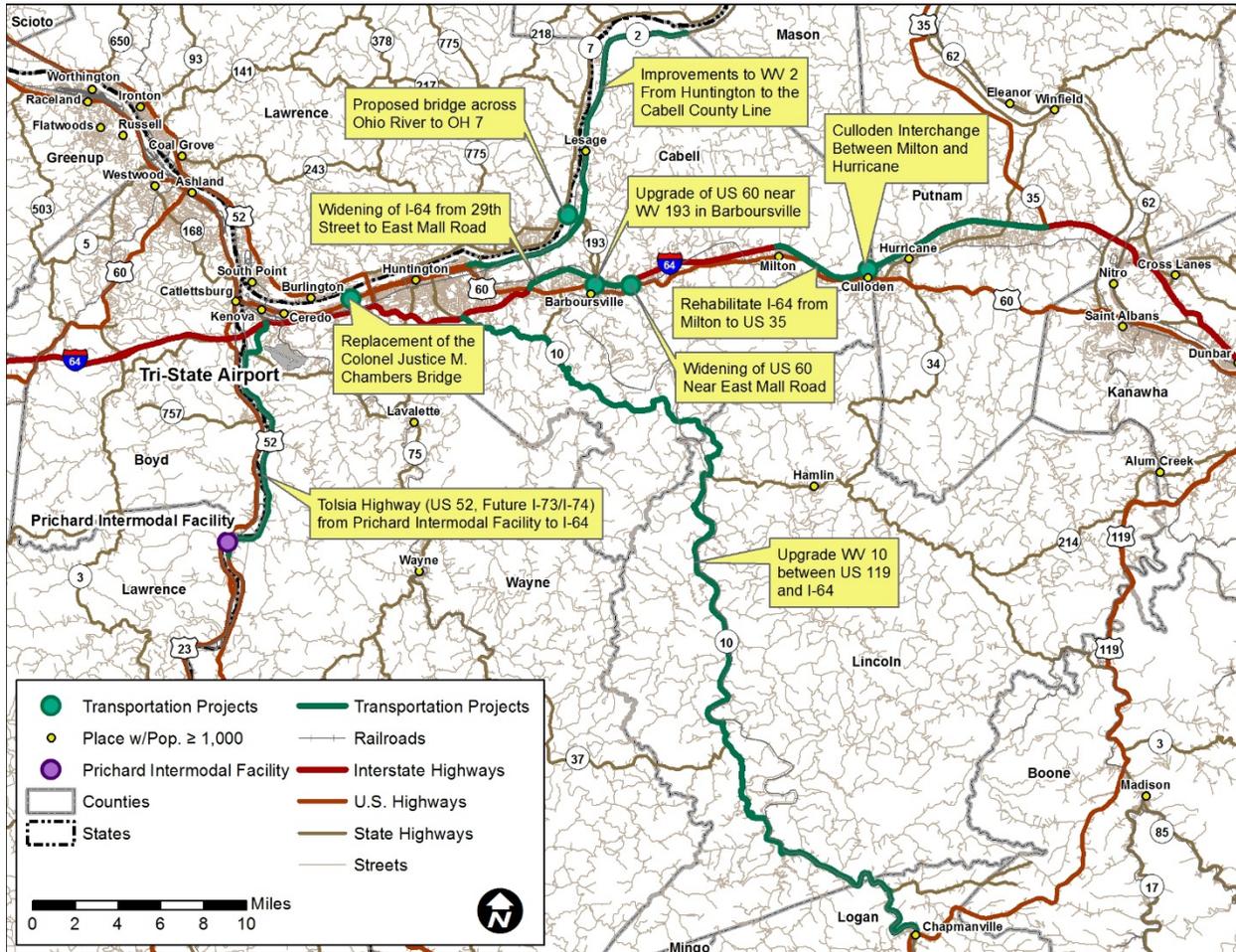
Source: US Census Bureau, and American Community Survey.

In summary, like many mid-western cities, the KYOVA region has seen a decline in population from past figures that were achieved in the 1950s to the 1980s. However, socioeconomic trends are still near their all-time highs, and, despite recent declines in employment, per capita income has shown stronger growth than the national average. Additionally, there are many viable industries and commercial enterprises that support the economy in this area. This includes traditional industries such as steel and metal working, and new emerging industries such as biotechnology, which is being led by Marshall University, the area's top employer and a nationwide leader in the industry.

OTHER TRANSPORTATION PROJECTS

There are several transportation projects of regional importance in the planning or design stages. The location and brief details are illustrated in **Figure 3-4**, with additional details following.

Figure 3-4
Multimodal Transportation Projects in the KYOVA Region



Source: CDM Smith.

On October 7, 2017, West Virginia voters approved West Virginia Amendment 1, the Bond for Roads and Bridges Measure, which approved the sale of up to \$1.6 billion in state bonds to fund road and bridge construction. Cabell and Wayne Counties have several high value projects planned to receive funding from the bond issue, including:

- \$170 million for widening of I-64 from 29th Street to East Mall Road and rehabilitate from Milton to US 35,
- \$150 million to construct the Tolsia Highway (US 52, future I-73/I-74) linking the Prichard Intermodal Facility (see below) to I-64,
- \$25 million to widen US 60 near West Mall Road,
- \$50 million for the new Culloden interchange between Milton and Hurricane,
- \$15 million to upgrade WV 10 between US 119 and I-64,
- \$10 million to widen and improve WV 2 from Huntington to the Cabell County line, and;
- \$8.5 million to replace the Colonel Justice M. Chambers Bridge (US 60).

The projects on I-64 and the Tolsia Highway in particular represent a major investment in the regional transportation network. This will improve both east-west and north-south mobility and safety across the metro area, resulting in higher levels of service, shorter travel times, and reduced crash rates.

Other major highway projects that are currently in the works include the upgrade of US 60 near WV 193 in Barboursville and a proposed new \$100 million bridge across the Ohio River that would extend WV 193 to connect to OH 7 just north of Proctorville. This structure is approximately five miles upstream of the next closest river crossing, reducing travel between the eastern (near Barboursville) and northern portions of the metro area by at least nine miles and 10 minutes.

Another major transportation-related investment was recently made as part of a public-private partnership between Norfolk Southern Railroad, the Federal Highway Administration (FHWA), and several states, including West Virginia. This partnership created the Heartland Corridor project, which increased the vertical clearances over railroad tracks along a designated route from the Port of Norfolk to Columbus and Chicago, thus accommodating double-stacked containers on the line. This included Mercer, McDowell, Mingo and Wayne Counties in southern West Virginia. The end result was an increase in the capacity of the rail lines, a reduction in current rail shipment times between these termini from four days to three days, and a reduction in tractor-trailer traffic. As part of this initiative, the Prichard Intermodal Facility was developed in Prichard, Wayne County, between the Big Sandy River and US 52. This 100-acre site is located adjacent to the Norfolk Southern Railroad and is used to transfer intermodal containers between the railroad and other modes of transport. It introduced intermodal shipping options to the area for the first time.

The airport itself is pursuing a \$35 million project to realign the airport access road and construct a new multimodal parking structure on the location of the existing parking lot. This is required to meet public and employee parking needs, as well as accommodate the need for expanded rental car facilities to meet passenger demand at the airport, which are growing priorities.

Finally, it is worth noting the Port of Huntington Tri-State is the largest inland port in the United States, encompassing 100 miles of the Ohio River, nine miles of the Big Sandy River, and 90 miles of the Kanawha River. This port moves over 80 million tons of cargo per year with an estimated value of \$5.3 billion. The Riverwalk project, which is along the Ohio River in Huntington within the limits of the port, is a \$100 million, three-phase development that includes amenities such as a 260-slip marina, dry dock facilities, a boardwalk, and a splash park.

CHAPTER 4: STUDY APPROACH

This chapter describes the approach taken to gather information needed to estimate the economic impacts of Huntington Tri-State Airport and the assumptions used in the model. Example calculations are used to illustrate how certain estimates were derived.

THE ECONOMIC MODELING PROCESS

The economic impacts of Huntington Tri-State Airport considered in this analysis were either estimated using data gathered from airport staff, on-airport tenants, users of the airport, or calculated using an input-output model. This input-output model, described in more detail below, provides three **measures** of economic impact, broken down into several **categories** of economic impact, and expressed as three related **types** of economic impact. Understanding these semantics will help to interpret the results of this study.

Measures of Economic Impact

This economic impact study expresses the results using three measures – employment, payroll, and output.

- Employment – Employment is based on the total of full-time jobs plus part-time jobs. In this analysis, two part-time positions are the equivalent of a single full-time position.
- Payroll – Payroll represents the costs associated with the annual salary, wages, and benefits earned by all employees.
- Output – Output is the quantity of goods and services generated annually by an airport, and its associated activities and businesses, expressed in dollars. Output is estimated using an organization’s annual sales, or its annual operating costs, which assumes that its output is approximately equivalent to what it expends.

It is important to note that payroll and output cannot be combined because elements of economic benefit related to payroll are also contained, to some extent, in the output estimate. Each of the three impact measures (employment, payroll, and output) stand alone as part of the quantification of an airport’s total economic impact.

Categories of Economic Impact

The three measures described above are used to evaluate a number of categories of economic impact. These categories are based on the source of economic activity and require various forms of inputs that are described below in detail.

- On-Airport Activity – This category includes airport tenants that are businesses with employees, such as airlines, fixed base operators (FBO), flight schools, charter outfits, flight departments, concessionaires, and airport restaurants. Also included are governmental agencies, such as public airport sponsors, air traffic control organizations, other Federal Aviation Administration (FAA) units, as well as other state and federal agencies that serve or use aviation. Output for on-airport activities is typically assumed to be the sum of annual gross sales. While this assumption works well for profit-oriented tenants, it must be modified for organizations that do not generate sales, such as government tenants or corporate flight departments. In order to estimate the impact of these important tenant-related activities, output is assumed to be the sum of all annual operating expenditures. While airlines do



generate sales, ticket revenue is usually transferred outside the area being modeled. This makes it difficult to assign that revenue to specific airports, so airlines are treated in a manner similar to organizations that do not generate sales.

- Capital Improvements – Each year, airports undertake capital improvement projects (CIP), such as runway rehabilitations or terminal improvements. In addition, on-airport businesses and other agencies invest in capital improvements. These projects employ people in jobs such as construction, architecture, engineering, and consulting. Output related to CIP is equal to the expenditures on those projects.
- Commercial Airline Visitors – This group includes estimated non-local passengers (visitors) arriving via commercial airlines. The annual spending of this category is treated as output.
- General Aviation Visitors – Impacts from general aviation visitors are produced by non-local passengers arriving via private or business aircraft. Similar to commercial airline visitors, the annual spending of this category is classified as output.



Types of Economic Impact

Data gathered from the categories described above were used as inputs for a linear input-output economic impact model. This model estimates three types of economic impacts associated with Huntington Tri-State Airport using each of the three economic impact measures described previously.

- Direct Impacts – Direct impacts account for the initial point where the money from aviation-related activity first starts circulating in the economy. This includes impacts that result from on-airport activity and visitor spending. On-airport impacts include the employment, payroll, and spending of businesses such as airlines, rental car companies, FBOs, corporate flight departments, and airport management and operations staff. Capital expenditures of these businesses and government organizations are also part of the direct impacts. Visitors contribute to direct impacts through their off-airport spending (any on-airport spending by visitors is included in the on-airport impacts), such as might take place at restaurants or hotels. Expenditures by visitors support the direct jobs and payroll of employees working at the establishments where the visitor spends money. Direct impacts serve as the inputs for the economic model.
- Multiplier Impacts – Multiplier impacts result from the re-circulation and re-spending of direct impacts within the economy. This re-spending of money can occur multiple times and takes two forms – indirect and induced. Indirect impacts occur when businesses spend their revenue on business expenses, whereas induced impacts occur when employees spend their earnings on goods and services. For example, as airport employees spend their salary for housing, food, and services, those expenditures circulate through the economy resulting in increased spending, payroll, and employment throughout the Tri-State. As this money is spent over and over again, some of it leaks beyond the boundaries of the Tri-State Area, and thus no longer benefits the residents of the region. The economic model uses parameters specific to West Virginia, Ohio, and Kentucky to estimate the leakage effect associated with these multiplier impacts, thereby tabulating only those impacts that benefit the people and businesses of the Tri-State region. Multiplier impacts are the output of the economic model.
- Total Impacts – Total impacts are the sum of all direct and multiplier economic impacts attributable to an airport or the system of airports.

Figure 4-1
Illustration of Economic Impacts



Source: CDM Smith.

Figure 4-1 shows how the categories of impacts flow through the types of impacts. The direct on-airport impacts equate to the jobs that can be seen on the airport, while the direct visitor impacts are measured in jobs that are found off the airport. Jobs associated with capital improvements are found both on and off the airport. Furthermore, all of the direct impacts help drive the multiplier impacts and contribute to the total impacts.

Direct impacts are measured through surveys of businesses, government units, and visitors. Because multiplier impacts are not as easy to measure as direct impacts, they are estimated instead. It is important to employ a reliable method of estimating multiplier impacts and one leading method used is the input-output model.

The Impact Analysis for Planning (IMPLAN) input-output model was used to quantify multiplier impacts in this study. IMPLAN is a linear model that estimates purchases and sales between hundreds of sectors of the economy. The U.S. Forest Service, in cooperation with several other government agencies, initially developed the IMPLAN system to generate regional non-survey input-output models for regions as small as a single county. This modeling process is considered one of the leading methods currently available for estimating the total economic impact of an industry and has been used to estimate economic impacts for individual airports and systems of airports throughout the country.

The IMPLAN model contains a large economic database used to generate input-output tables. It includes data from sources such as Dun and Bradstreet, the U.S. Department of Commerce, and the U.S. Census Bureau. IMPLAN multipliers and data tables specific to the industrial sectors of the Tri-State region were obtained and used in this analysis.

Proper use of this model involves inputting the best economic data available for the industry analyzed. Therefore, the information gathered during the early part of the study is critical.

DATA COLLECTION METHODS

Because of the diverse aviation activity that occurs on Huntington Tri-State Airport, a variety of data collection methods were used to obtain as much information as possible. The data collected was used as the basis for determining most of the direct impacts of the airport and provided input for the economic model that estimated the multiplier impacts.

Three distinct efforts were undertaken to collect data for the four categories of economic impact described previously, using both surveys tailored for the Huntington Tri-State Airport and information from databases structured with characteristics to match those of the Huntington Tri-State Airport. The methods used to collect information related to each category in this analysis are discussed in the following sections.

On-Airport Activity and Capital Improvements

The data collection effort for on-airport activity began with a survey of airport management. This survey solicited basic economic impact information – employment, annual payroll, annual operating expenses, and a three-year history of capital expenditures. It also asked about major users of the airport and the types of aviation activities and community events that took place on the airport. Finally, the survey sought a list of on-airport businesses and organizations, their point of contact, and their estimated employment levels.

Using the list of on-airport businesses, the study team contacted each organization, either in person or by email, requesting that they complete an airport tenant survey. These surveys requested each tenant to provide a description of their aviation services along with their basic economic impact information – employment, annual payroll, annual operating expenses, annual gross revenues (if applicable), and three years of annual capital expenditures. Responses to these surveys was overwhelmingly positive, with only a handful of non-respondents. For the non-respondents, estimates of economic activity were generally based on the employment numbers estimated by airport management.

Commercial Airline Visitors

Data was gathered from visitors to Huntington via the two commercial airlines serving the airport – American Airlines and Allegiant Air. A survey administered to passengers departing Huntington Tri-State Airport determined:

The image shows three overlapping survey forms from HTS Huntington Tri-State Airport. The top form is the 'AIRPORT MANAGEMENT SURVEY', which includes sections for contact information, employment (full-time and part-time employees), and expenditures (2017 and 2018). The middle form is the 'AIRPORT TENANT SURVEY', which asks for business or agency name, contact details, and the type of aviation activity (e.g., Fuel Supplier, Aircraft Sales/Rental, Flight Instruction, Aircraft Maintenance, Aerial Applicator, Air Freight/Cargo Center, Corporate Flight Department, Air Taxi/Charter Operator, Government). The bottom form is the 'AIRLINE PASSENGER SURVEY', which asks for travel details (airline, purpose, origin/destination), trip duration, and expenditures on lodging, food & beverage, rental, and other ground transport.

- The airline of use
- The passenger's trip purpose
- Whether the passenger was a resident or visitor of the Tri-State Area

For passengers identified as visitors, it was presumed that they were concluding their trip to Huntington and the following additional information was requested:

- Number of nights spent in the Tri-State region
- Number of people traveling with the respondent
- Expenditures of the group, broken down into lodging, food and beverage, retail, entertainment, on-airport rental car, off-airport ground transportation, and other

More than 350 passengers responded to the survey, providing data that was used to estimate visitor expenditures in the Tri-State region. This sample size yielded a margin of error of less than 5 percent. These estimates were positively validated against the in-house database of visitor spending that the study team has accumulated over many years of performing airport economic impact studies.

General Aviation Visitors

In addition to Tri-State visitors that arrive by commercial airline, many come to the area by way of general aviation aircraft. These visitors, whether traveling for business or pleasure, spend money on hotels, restaurants, and retail establishments, just as commercial airline service visitors do. However, due to the smaller number of general aviation visitors relative to commercial airline visitors, it was not possible to obtain a statistically valid sample size of general aviation visitors within the time constraints of the study. Therefore, the study team developed the estimate of general aviation visitor spending using data from other economic impact studies and FAA sources.

Taking data solely from nonhub airports in other studies, the study team built a custom database of more than 2,000 general aviation visitor survey responses. Estimates of general aviation visitor behavior were derived from this database and used in the development of the general aviation visitor expenditure estimate for Huntington Tri-State Airport.

The number of general aviation flights was also used to estimate the number of general aviation visitors. This data came from an FAA database, along with other information.

MODEL ASSUMPTIONS AND IMPACT ESTIMATE METHODOLOGIES

In addition to the data collected for this economic analysis, a number of assumptions were used in assessing the economic impacts of the Huntington Tri-State Airport. These assumptions, along with the general methodologies used in estimating each category of economic impact, are detailed in the following sections.

On-Airport and Capital Improvement Direct Impacts

The majority of the direct on-airport impacts came from data provided by the airport, the businesses, or the government agencies on the airport. In a small number of cases, incomplete or no data was provided. In these examples, the study team relied on employment estimates from airport management, or they developed an employment estimate from independent sources. Then, using an in-house database with the results from the economic impact analysis of thousands of U.S. airports, per employee averages of payroll and output were estimated based on the type of business and used to extrapolate the overall payroll and output of the organization.

As stated above, data on the past three years of capital improvements was gathered from the airport and its business tenants. This was done because these projects tend to occur irregularly and may take less than a year, or many years, to complete, resulting in peaks and valleys when assessing only a single year. To smooth out the economic impacts associated with the variability of capital improvements, a three-year average was used.

The same in-house database was used to estimate capital improvement expenditures where this data was not made available. As stated above, this occurred in a small number of cases and the majority of capital improvement data was provided.

The three-year average of capital expenditures was used as the capital improvement direct output. This average capital expenditure was then used with a ratio of employment to capital expense from the IMPLAN model to estimate employment associated with these improvements. An average per capita income derived from Bureau of Labor Statistics data was used to estimate the payroll associated with these jobs.

Commercial Airline Visitor Direct Impacts

The data gathered from the passenger surveys was analyzed and used to estimate the percentage of passengers from each airline that were visiting the Tri-State region. As expected, passengers flying on Allegiant Air were predominately locals traveling to Florida for vacation. The survey found less than 5 percent of passengers on Allegiant were visitors to the Tri-State Area. In contrast, the survey found a much larger percentage of American Airlines passengers were visiting the area – approximately 33 percent declared themselves visitors based on survey results. These percentages were checked against Bureau of Transportation Statistics (BTS) data. The BTS samples 10 percent of airline tickets from reporting carriers and this data can be used to estimate the percentage of visitors arriving or departing an airport. In both cases, the percentage of visitors determined by the passenger survey was within the margin of error when compared to the BTS data for Tri-State Airport.

Survey data was also used to estimate average spending per visitor for both American Airline and Allegiant Air passengers.



Estimates of jobs and payroll tied to commercial visitor spending were based on a ratio of employment to visitor expenditures from the IMPLAN model and an average per capita income derived from Bureau of Labor Statistics data.

General Aviation Visitor Direct Impacts

The direct economic activity produced by general aviation visitors using the Huntington Tri-State Airport was estimated through a series of assumptions and calculations that started with the



number of aircraft operations at the airport. Based on FAA data and assumptions used in other economic impact studies of general aviation activity, the number of GA aircraft bringing visitors to the Tri-State Airport was derived from the airport's total operations. A database of similar nonhub airports was used to estimate the number of visitors per arrival and what each visitor spent on average during their stay. The sum of these visitor expenditures was treated as direct output.

Estimates of jobs and payroll tied to general aviation visitor spending were based on a ratio of employment to visitor expenditures from the IMPLAN model and an average per capita income derived from Bureau of Labor Statistics data.

Multiplier Impacts

The initial direct economic impacts from financial transactions are not the only effects that take place within an economy. As explained earlier, initial transactions result in a cascade of follow-on impacts. For example, some of the money an airport rental car company earns renting cars (its direct output) goes to the local bank to pay off part of the loan on the company's fleet of rental cars, which creates economic output for the bank. The bank then uses some of its revenues to pay for local contracted security services, adding to the output. Eventually, these transactions result in the money leaking beyond the defined boundaries of the study – in this case, the Tri-State region. The number of times that a dollar of output, or a dollar of pay, or a job recirculates through the economy before it leaks is a multiple of the initial input from the airport; hence it is referred to as a “multiplier” impact. Figure 4-1 illustrates the complex interactions typically occurring in an economy that the IMPLAN model takes into account.

Multiplier impacts are estimated by entering the direct impacts into the IMPLAN input-output model and accounting for the different interactions that various categories of impact have within the area of study. The model determines how many times an impact is multiplied within the boundaries of the study. It should be noted that multipliers can vary somewhat from year to year as industries change suppliers and shipping processes, costs for raw materials and transportation fluctuate, and as new technologies and regulations impact industries.

The multipliers used in this analysis were developed specifically to measure the economic impacts that occur within different sectors of the Tri-State economy. **Table 4-1** summarizes the multipliers used for modeling the multiplier impacts of on-airport activities, capital improvement, and visitor spending. Note that on-airport activities were classified into one of three areas – aviation, concession, or government – based upon the nature of their operation. This was done to more accurately assess the degree to which each organization recirculated its economic influence within the region.

Table 4-1
Tri-State Region Multipliers by Economy Sector

Economy Sector	Employment Multiplier	Payroll Multiplier	Output Multiplier
On-Airport: Aviation ¹	2.01	1.53	1.37
On-Airport: Concessions ²	1.30	1.54	1.66
On-Airport: Government ³	2.02	1.95	2.15
Capital Improvement ⁴	2.67	2.44	1.83
Commercial Service Visitors ⁵	1.47	1.65	1.64
General Aviation Visitors	1.40	1.56	1.62

Source: CDM Smith and IMPLAN.

Total Impacts

Total impacts consist of the sum of the direct and multiplier impacts. When referring to Huntington Tri-State Airport’s economic impacts, this generally means the total employment, total payroll, and total output of the airport.

¹ Aviation multipliers are the weighted average of the Air Transportation, Aircraft Manufacturing, Aircraft Engine and Engine Parts Manufacturing, and Other Aircraft Parts and Auxiliary Equipment Manufacturing multipliers.

² Concessions multipliers are the weighted average of the Hotels and Motels, Full-Service Restaurants, Retail – Miscellaneous Store Retailers, and Business Support Services multipliers.

³ Government multipliers are the weighted average of the Other Federal Government Enterprises, and Other State Government Enterprises multipliers.

⁴ Construction multipliers are the weighted average of the Construction of Other New Nonresidential Structures, Asphalt Paving Mixture and Block Manufacturing, Cement Manufacturing, Ready-Mix Concrete Manufacturing, Maintenance and Repair of Nonresidential Structures, and Architectural, Engineering, and Related Services multipliers.

⁵ Visitor expenditures multipliers are the weighted average of the Hotels and Motels, Full-Service Restaurants, Retail – Miscellaneous Store Retailers, and Automotive Equipment Rental and Leasing multipliers. Weightings were different for commercial airline service and general aviation visitor multipliers to reflect the difference in their spending habits.

CHAPTER 5: Economic Impacts of Huntington Tri-State Airport



This chapter provides details on the economic impacts of employment, payroll, and output attributed to the Huntington Tri-State Airport. As described previously, these results are reported by type of economic impact and by category. Major sections of this chapter address the three types of economic impacts – direct, multiplier, and total. Tables within each major section show the economic impacts by the four categories of economic impact in order starting with the greatest impacts – on-airport, commercial airline visitors, capital improvements, and general aviation visitors.

DIRECT IMPACTS

The direct impacts for each of the four categories for Huntington Tri-State Airport are shown in **Table 5-1**, along with their combined total.

**Table 5-1
Huntington Tri-State Airport Direct Economic Impacts**

Category	Employment	Payroll	Output
On-Airport	438	\$23,380,000	\$37,739,000
Commercial Airline Visitors	196	\$4,381,000	\$13,543,000
Capital Improvements	56	\$2,103,000	\$7,984,000
General Aviation Visitors	3	\$68,000	\$435,000
Total Direct Impacts	693	\$29,932,000	\$59,701,000

Source: CDM Smith and IMPLAN.

The airport’s total direct impacts are responsible for 693 jobs with a combined payroll of \$29.9 million and output of more than \$59.7 million. A general description of what contributed to the impacts in each category follows.

On-Airport Direct Impacts

The on-airport impacts of Huntington Tri-State Airport accounted for 438 employees with a payroll of approximately \$23.4 million, producing more than \$37.7 million in economic output. These on-airport impacts are generated by the businesses and government organizations operating on the airport. For Huntington Tri-State Airport, the major contributors to this category are detailed below.

Airport Staff

The administrative duties of Huntington Tri-State Airport staff extend well beyond the typical management and oversight of the airport. Airport staff are responsible for running Huntington Jet Center, the airport’s FBO, which operates the general aviation terminal building and provides services to general aviation aircraft using the airport. Airport staff also provide safety and security services for the airport by staffing the airport police department and the airport rescue and firefighting service. Finally, airport personnel staff the ticket counter for Allegiant Airlines and perform ground handling duties and other necessary functions for the airline at the airport.



Airlines

Two passenger airlines serve Huntington Tri-State Airport – Allegiant Air and American Airlines. However, as noted above, Allegiant Air contracts with the airport to handle the necessary on-airport functions, so most of Allegiant’s impacts are captured by the impacts associated with the airport staff. American Airlines uses its own personnel, so its impacts are included here. In addition to these passenger airlines, FedEx regularly operates out of the airport and maintains full- and part-time staff at its facility.



General Aviation Businesses

At many nonhub commercial service airports, a private company serves as the airport’s FBO that services general aviation aircraft, crew and visitors. At Huntington Tri-State Airport, the airport staff fills that role. However, there are still a number of general aviation businesses on the airport that contribute to the economic impact. The most significant of these are corporate flight departments for various businesses operating in the Tri-State region. These operations, flying aircraft such as Beechcraft King Airs and Cessna Citation jets, provide timely transportation services for the businesses and owners they serve. Additionally, Attitude Aviation, which predominately operates out of Lawrence County Airpark in Ohio, provides a small maintenance facility at Huntington Tri-State Airport.



Terminal Concessions

Numerous private companies operate in the commercial terminal building under agreements with the airport. These include the airport restaurant – Gino’s Pizzeria & Pub, and the airport gift shop – Tudor’s Biscuit World, both operated under the same management. Several rental car companies operate in the terminal under airport concession agreements. Hertz and Enterprise each have their own check-in desk and office space, while the Avis and Budget brands work together from the same location in the terminal.

Federal Government Functions

The federal government provides services at Huntington Tri-State Airport. The Federal Aviation Administration staffs the airport air traffic control tower, which provides the important safety function of ensuring aircraft separation. The Transportation Security Administration (TSA) staffs the airport’s security checkpoints.

National Guard Armory

The West Virginia Army National Guard operates a National Guard Armory on the south side of the airport. The headquarters company and support company for the 2nd Battalion, 19th Special Forces Group are based at this location. While neither of these units are aviation focused, the Guard does have an agreement with the airport and operates on airport property, so they are included as part of the on-airport impacts. Due to their large budget and large number of soldiers, the National Guard is a significant contributor to the economic impacts reported in this study.

Commercial Airline Visitor Direct Impacts

The two airlines at Huntington Tri-State Airport enplane more than 100,000 travelers annually. However, only a small percentage, less than 16 percent as shown in **Table 5-2**, of these passengers are visitors to the region and are considered in the economic impacts attributed to the airport. This



is due to the unique service that Allegiant Air provides. Their destinations in Florida and South Carolina serve Tri-State Area residents seeking a southern vacation, but don't draw an equivalent number of visitors to the Huntington region. Since Allegiant comprises about two-thirds of the total enplanements, the low visitor percent decreases the overall average for the airport, resulting in a relatively low number of visitors for the given number of enplanements.

As detailed in Table 5-2, it is estimated that these visitors spent more than \$13.5 million in the Tri-State Area in 2017 (not including airline fares or rental car expenditures, which are included under the on-airport impacts). These expenditures (direct output) supported 196 jobs with a payroll of nearly \$4.4 million, as shown back in Table 5-1.

**Table 5-2
Huntington Tri-State Airport Commercial Airline Visitor Expenditure Estimate**

2017 Enplaned Passengers (estimated)	Percent Visitors	Commercial Airline Visitors	Spending per Visitor	Visitor Expenditures
102,323	15.9%	16,252	\$833	\$13,543,000

Source: CDM Smith and IMPLAN.

Capital Improvement Direct Impacts

Huntington Tri-State Airport and its associated businesses undertook capital improvements that resulted in supporting 56 jobs with a payroll of more than \$2.1 million. These capital improvements were valued at nearly \$8.0 million. The airport was responsible for the bulk of these improvements, using FAA Airport Improvement Program grants and passenger facility charge revenues to improve the access road, rehabilitate the terminal building, reconstruct its taxiway and lighting, purchase equipment, and fund various studies. Other businesses and organizations on the airport that carried out capital improvements also contributed to these impacts.

General Aviation Visitor Direct Impacts

Visitors using privately- or business-owned aircraft contributed an estimated \$435,000 in direct output through their spending off the airport in 2017. This supported an estimated three jobs and a payroll of \$68,000.

This estimate of general aviation visitor spending started with the total number of operations at the airport, as shown in **Table 5-3**. Based on

“Beyond the economic benefits of general aviation, the charitable and emergency services that helicopters and small planes provide cannot be understated. The mountainous terrain and winding roads can make it difficult to deliver goods across the state. When disaster strikes, local airports serve as a vital lifeline that connects communities to the resources they need.”

– State Senator Chandler Swope

assumptions regarding the number of general aviation itinerant operations, and the proportion of itinerant operations that bring visitors to the airport, it was estimated that nearly 760 general aviation arrivals carried visitors to the Tri-State region. The analysis of similar nonhub airports found that, on average, these aircraft had 3.7 visitors on board, and each of those visitors spent \$155 during their stay.

Table 5-3
Huntington Tri-State Airport General Aviation Visitor Expenditure Estimate

Total Operations	General Aviation Arrivals	Visitors per Arrival	General Aviation Visitors	Spending per Visitor	Visitor Expenditures
12,870	758	3.7	2,806	\$155	\$435,000

Source: CDM Smith and IMPLAN.

MULTIPLIER IMPACTS

When expenditures related to the direct economic impacts discussed above occur, this is only the initial point of entry of this economic activity. These impacts are re-spent over and over again, creating indirect and induced impacts, collectively termed multiplier impacts. Huntington Jet Center's fuel purchases support the jobs and economic activity associated with the fuel distributor. FedEx workers that load and unload cargo spend part of their paychecks on groceries, keeping local stores in business and their clerks employed. The restaurants frequented by airport visitors pay local utilities for services, providing employment for utility workers, and so on. Without the direct economic impacts provided by the airport, these multiplier impacts would not exist and many companies would have to scale back business, or even cease operations. **Table 5-4** shows the multiplier impacts for each category.



Table 5-4
Huntington Tri-State Airport Multiplier Economic Impacts

Category	Employment	Payroll	Output
On-Airport	436	\$20,666,000	\$34,049,000
Commercial Airline Visitors	94	\$2,855,000	\$8,624,000
Capital Improvements	51	\$1,378,000	\$5,779,000
General Aviation Visitors	1	\$39,000	\$268,000
Total Direct Impacts	582	\$24,938,000	\$48,720,000

Source: CDM Smith and IMPLAN.

Multiplier impacts account for 582 employees with more than \$24.9 million in payroll and more than \$48.7 million in economic output. These impacts are felt throughout the Tri-State region due to the re-circulation of the initial direct impacts.

TOTAL IMPACTS

The total economic impact of Huntington Tri-State Airport is the combination of direct impacts and multiplier impacts. **Table 5-5** shows the total economic impact of Huntington Tri-State Airport.

Table 5-5
Huntington Tri-State Airport Total Economic Impacts

Category	Employment	Payroll	Output
On-Airport	874	\$44,046,000	\$71,788,000
Commercial Airline Visitors	290	\$7,236,000	\$22,167,000
Capital Improvements	107	\$3,481,000	\$13,763,000
General Aviation Visitors	4	\$107,000	\$703,000
Total Direct Impacts	1,275	\$54,870,000	\$108,421,000

Source: CDM Smith and IMPLAN.

The total economic output of Huntington Tri-State Airport is \$108.4 million. The airport supports 1,275 employees, found both on and off the airport, that have a combined total payroll of nearly \$54.9 million.

On-airport impacts are the largest contributor among the four categories, followed by the impacts of the commercial airline visitors. A later section examines these relationships more closely and puts these results in context through various comparisons.

TAX IMPACTS

A direct result of the economic impacts stemming from the Huntington Tri-State Airport is the generation of sales and income taxes for West Virginia and Huntington. To estimate the sales and income taxes generated, the study team examined several categories of taxes. This analysis of tax impacts was conducted at a very high level, so the estimate of taxes generated should be regarded as an approximation of the actual taxes paid by employees and businesses associated with the airport.

West Virginia Sales Tax

West Virginia imposes a 6 percent sales tax on goods and services sold within the state. This rate was applied to general purchases made by businesses, and expenditures by visitors to the region.

Aviation Fuel Taxes

Aviation fuel sales are subject to the state's 6 percent sales tax, as well as an 11.7 cents per gallon variable rate tax. These taxes were applied to the estimated fuel sales at the airport to derive the approximate sales taxes generated.

Rental Car Taxes

In addition to the state sales tax, cars rented at the airport are also subject to a 10 percent airport access tax, a \$3 per day customer facility charge, and a \$1 per day West Virginia rental car tax. These various taxes were applied to all of the 2017 estimated rental car transactions at the airport to determine an estimate of rental car taxes.

Lodging Taxes

Hotels in Huntington levy a 6 percent lodging tax on guests, as well as a 1 percent occupancy tax on top of the 6 percent state sales tax. To determine the lodging taxes attributed to both commercial airline and general aviation visitors, these tax rates were applied to the estimated expenditures these groups made on hotels.

West Virginia Income Taxes

West Virginia imposes a progressive state income tax that ranges from 3 percent up to 6.5 percent. Using average salary for various groups of workers, the appropriate marginal tax rate was applied to the cumulative payroll for that group and an estimate of total income taxes was derived.

The net result of all these taxes is that employees and businesses tied to the Huntington Tri-State Airport pay approximately \$2.6 million to West Virginia and Huntington tax funds.

COMPARISON WITH 2006 RESULTS AND PEER AIRPORTS

While the total economic impacts of Huntington Tri-State Airport are significant, it often helps to put them in context through comparisons with past results and with peer airports. This section starts with an analysis comparing Tri-State Airport with other classes of airports. It then provides a comparison with the previous study, which was conducted in 2006.¹ It also compares Tri-State Airport's results with other nonhub airports, which the study team determined through the use of its in-house Airport Peer Assessment Tool, a proprietary database that includes the past economic impact studies CDM Smith has conducted on thousands of U.S. airports. A comparison is also made with Yeager Airport in Charleston, which is West Virginia's busiest airport.²



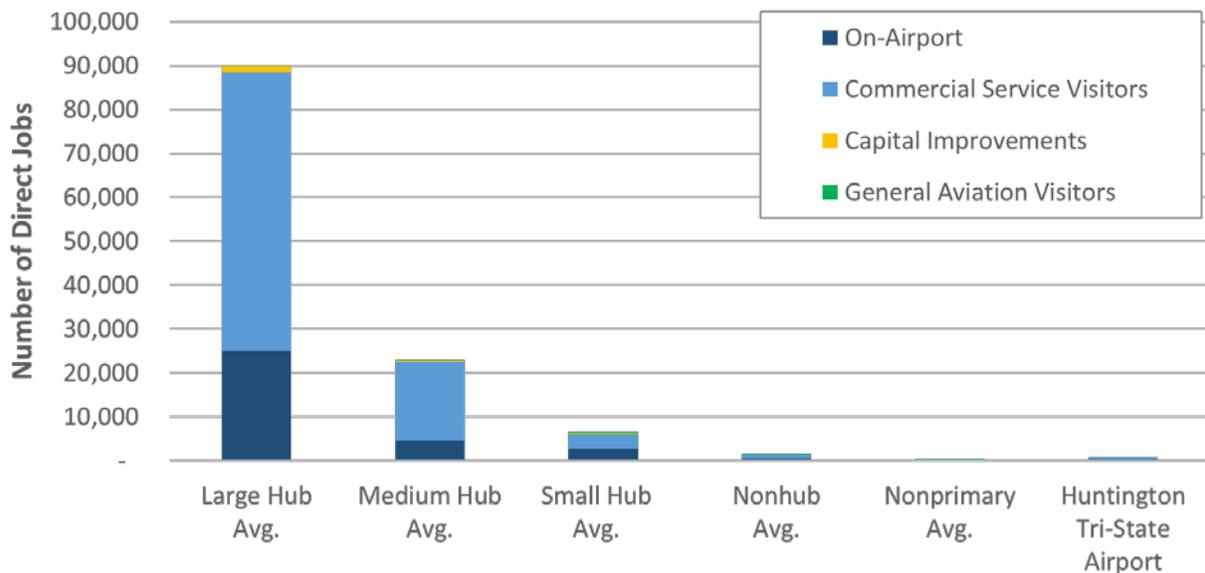
¹ *The Economic Impact of Tri-State Airport* was completed by Marshall University's Center for Business and Economic Research in May 2006.

² *The Economic Impact of Yeager Airport* was completed by Marshall University's Center for Business and Economic Research in October 2016.

Figure 5-1 shows how the direct jobs at Huntington Tri-State Airport compare to the average number of total jobs at other classes of commercial service airport. The classes of airports shown in Figure 5-1 are based on the number of annual enplanements. Large hub airports have more than 9 million enplanements. Medium hubs have between 2 million and 9 million enplanements. Enplanements at small hub airports range between approximately 400,000 and 2 million. Nonhub airports, which include Huntington Tri-State Airport, fall between 10,000 and 400,000 annual enplanements, while nonprimary airports report more than 2,500 enplanements, but less than 10,000.

Not surprisingly, the average number of direct jobs at the hub airports is significantly higher than at the other airports. However, what Figure 5-1 best illustrates is how significant the commercial airline visitor impacts are relative to the total. For large hubs, they comprise approximately two-thirds of the total average impact, and nearly three-quarters at the medium hubs. Even at small hubs, the commercial airline visitor impact is more than half of the total average.

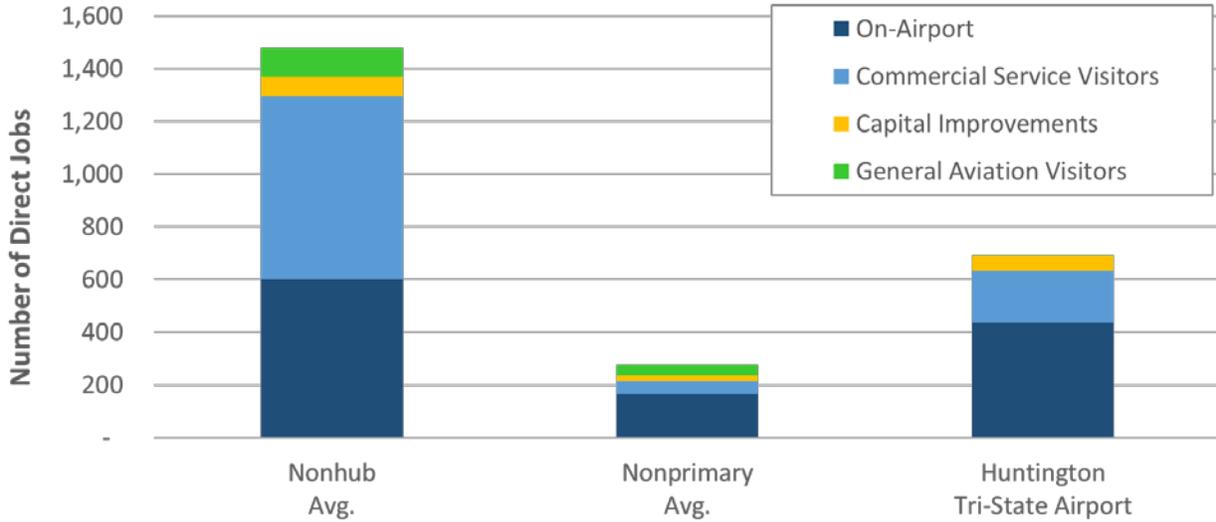
Figure 5-1
Comparison of Direct Jobs Among Classes of Airports



Source: CDM Smith.

In **Figure 5-2**, the data for the hub airports has been removed to adjust the scale so that the details at the smaller airports can be seen. The figure shows that the commercial airline visitor component is the largest of the four categories at nonhub airports, but that is not the case at Tri-State. The reason for this is the nature of air service at Huntington. Two airlines serve Tri-State – American and Allegiant. The passengers on a typical airline are between 30 percent and 50 percent visitors. Passengers flying on American fall within this band. Allegiant, however, serves a niche market, specializing in taking passengers to vacation destinations in Florida and South Carolina. As a result, only 5 percent of Allegiant’s passengers are visitors to the Tri-State Area. This is a great service for the residents of Huntington and the surrounding area, but it doesn’t translate into visitor expenditure impacts for the region. And, since Allegiant enplanes two-thirds of the total passengers at Huntington, the commercial airline visitor impact for the airport is understated relative to airports with similar passenger numbers.

Figure 5-2
More Detailed Comparison of Direct Jobs Among Classes of Airports



Source: CDM Smith.

When the total impacts attributed to Huntington Tri-State Airport are compared to the findings of the previous study, it is apparent that there has been significant growth since the 2006 study. Enplanements have increased from just under 40,000 in 2006 to more than 102,000 in 2017. **Figure 5-3** shows that total employment has grown since 2006, increasing by 59 percent from 803 jobs to 1,275 jobs.

Figure 5-3
Comparison of Total Jobs Among Previous Study and Peer Airports



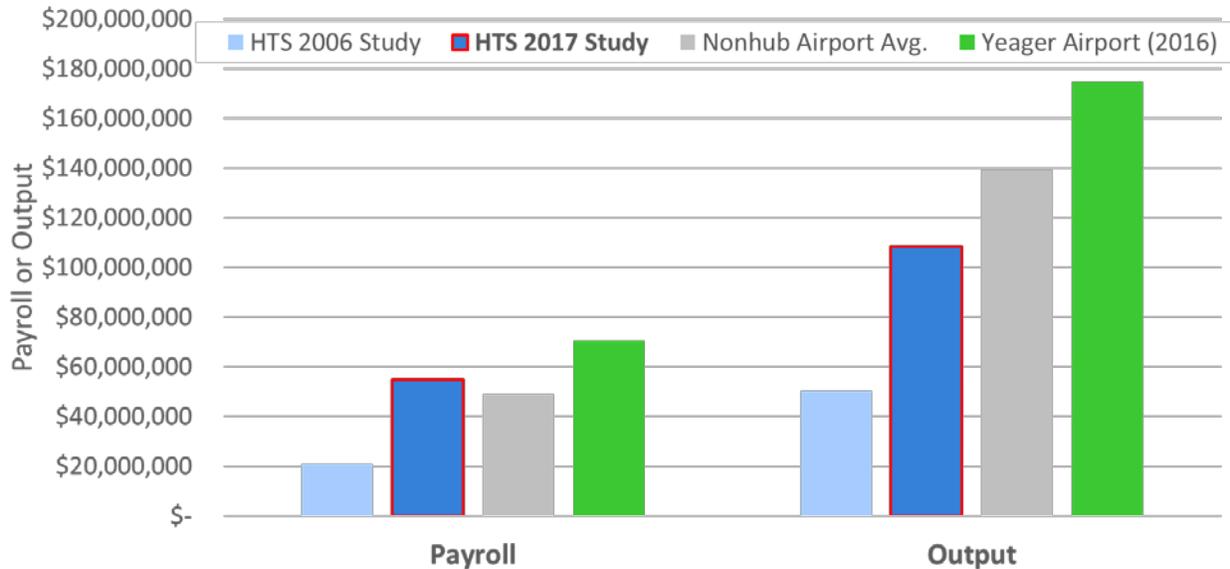
Source: CDM Smith and the Center for Business and Economic Research, Marshall University.

The total employment at Tri-State Airport lags behind Yeager Airport. This is not surprising since Yeager Airport has nearly twice as many enplanements as Tri-State Airport, and is served by four airlines. Tri-State’s total employment also falls short of the average number of jobs found at nonhub

airports. As stated previously, this is due to a significant portion of Tri-State’s enplanements not generating any local economic visitor impacts.

The comparison of payroll and output to the 2006 study is quite favorable, as seen in **Figure 5-4**. The total payroll at Tri-State Airport has increased 160 percent since the previous study. Total output is also up, with growth of 115 percent since the last study.

Figure 5-4
Comparison of Total Payroll and Output Among Previous Study and Peer Airports



Source: CDM Smith and the Center for Business and Economic Research, Marshall University.

It is noteworthy that Tri-State Airport’s payroll exceeds the average payroll at nonhub airports, but its output falls short of the average output at nonhub airports. Part of this is explained by the presence of air traffic control and TSA. Both of these occupations have higher than average compensation, but, unlike, for example, an aircraft repair facility where the high cost of airplane and engine components generates high output, they provide services that don’t generate a correspondingly high output.

These services are clearly beneficial for Huntington and it is a credit to management for maintaining them. For example, most airports don’t receive air traffic control services until they have at least 50,000 annual operations. Huntington, with slightly less than 13,000 annual operations, has done well to retain this valuable service. What Huntington doesn’t have that is often found at nonhub airports, is a based charter operation or aircraft maintenance and repair facility, both of which would help drive up output as well as payroll. The airport has been actively pursuing an aircraft maintenance business to anchor the planned Tri-State Aeroplex development, and this study illustrates one more benefit to doing so.

CHAPTER 6: QUALITATIVE IMPACTS



The ways in which an airport positively impacts its community and region go far beyond measurable economic impacts. Airports contribute greatly to the health, safety, and welfare of a region, adding to the quality of life through a variety of means not always obvious to the general public. Airports are gateways for residents and businesses to the rest of the world, essential nodes for emergency relief, places of education, economic development anchors, and community centers.

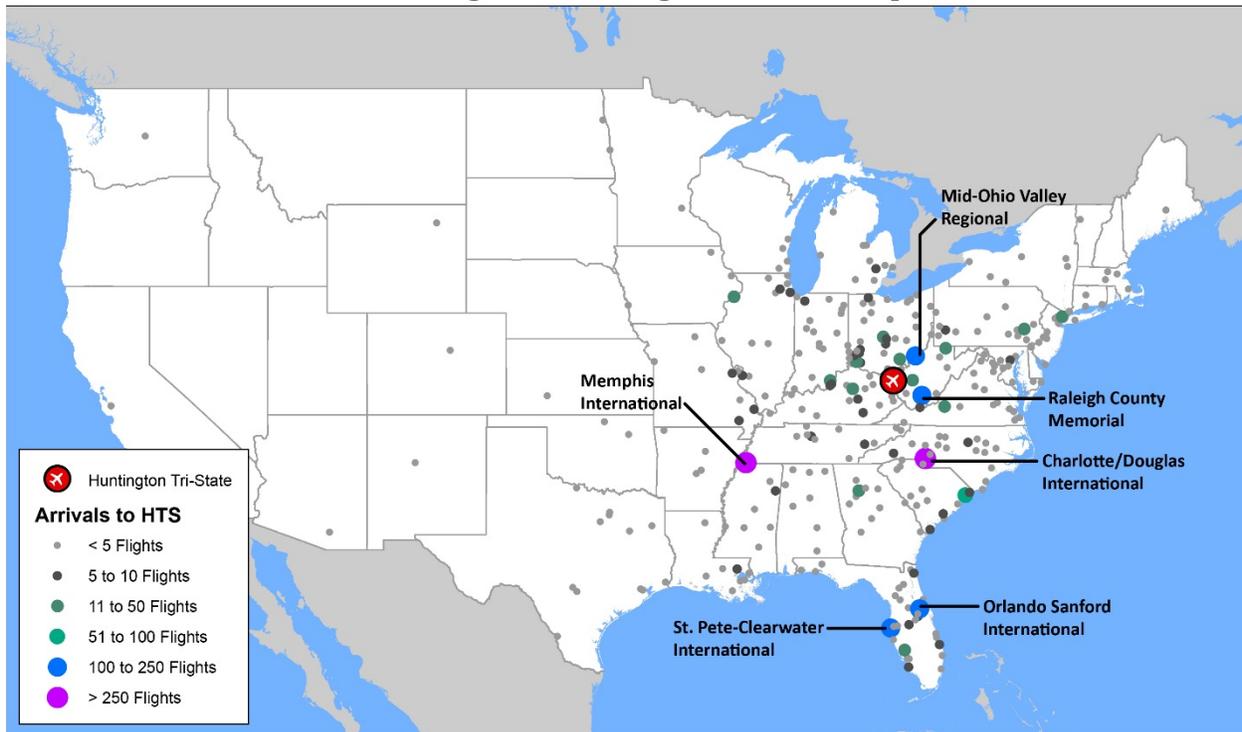
This chapter will illustrate many of the qualitative benefits of Huntington Tri-State Airport. Included will be testimonies from area businesses and organizations about the importance of the airport, and what it means for their operations in or near Huntington.

CONNECTING HUNTINGTON TO THE WORLD

Huntington Tri-State Airport is first and foremost a gateway between the Tri-State Area and the world. Scheduled commercial service flights to Charlotte/Douglas International Airport mean that Tri-State residents are only one connection away from a vast selection of domestic and international destinations. Seasonal flights to St. Pete-Clearwater International Airport and Orlando Sanford International Airport provide residents with access to tourist destinations in Florida.

Beyond just scheduled commercial service flights, however, is the large volume of general aviation (GA) activity that occurs at the airport. An analysis of instrument flight rules (IFR) data obtained from Flightwise.com reveals that in 2017, flights arrived at Huntington Tri-State Airport from over 320 airports in the United States (**Figure 6-1**). While these databases capture only a fraction of all flights arriving to or departing from an airport, they offer a good sample of activity.

Figure 6-1
2017 IFR Flights to Huntington Tri-State Airport



Source: CDM Smith and Flightwise.

IFR data revealed that the majority of flights to Tri-State Airport departed from other airports in the eastern United States or Midwest. However, the data shows some flights did take place between Tri-State Airport and airports in western states, including from airports as far west as California.

Many of the top arrival airports are those to which Tri-State Airport has commercial passenger service, with Charlotte/Douglas International Airport having nearly 900 flights in the Flightwise IFR database. Orlando Sanford International and St. Pete-Clearwater International, both Allegiant destinations, have a high volume of flight activity. However, other airports without passenger service have frequent flights to Tri-State Airport.

Memphis International Airport, with over 360 flights reported in the database, was the second most common departure airport to Tri-State Airport, with FedEx conducting scheduled air cargo flights along the route. Other airports with high activity to Tri-State Airport included Raleigh County Memorial Airport, where Mountain Air Cargo operates, and Mid-Ohio Valley Regional. Many of the flights to Mid-Ohio Valley Regional Airport are taken by Quest Diagnostics transporting medical lab samples. Quest Diagnostics also flies frequently from Tri-State Airport to Reading Regional Airport in Pennsylvania. Rocky Mountain Holdings, Inc., an air ambulance operator, logged numerous flights between Tri-State Airport and its Clark Regional Airport base in Jeffersonville, Indiana.



SERVING THE TRI-STATE REGION ECONOMY

The Tri-State region is home to a diversified economy ranging from heavy manufacturing to various service industries, all of which rely on Tri-State Airport for both regular and up-to-the-minute operations as well as the shipment of goods. Manufacturing is particularly strong in the region, with metalworks companies producing steel products, carbon steels, and nickel alloys. The region is also



home to three companies that produce petrochemical products and various other manufacturers of rubber products, mining equipment, and automobile parts. While large shipments from these companies are more likely to leave the region by way of freight shipping on CSX or the Ohio River, Tri-State Airport is invaluable for business trips by employees and clients. A survey

of Tri-State region businesses found one manufacturing company reporting that Tri-State Airport is a common arrival airport for both domestic clients and corporate officers from Europe.

Other sectors of the Tri-State region economy are equally likely to use Tri-State Airport for the transportation of employees, clients, and the shipment of goods. The region is home to two major customer service call centers, several educational institutions, oil and energy companies including Marathon Oil, and a large AT&T/DirecTV location, among many other businesses. Two shipping and

logistics companies – FedEx and UPS – are also located in the Tri-State region. The FedEx Shipping Center is located near Tri-State Airport, and uses the airport to ship freight.

Having heavy industry that uses the Ohio River for shipments, the Tri-State Area supports multiple marine equipment and support companies. During the survey of area businesses, one such company reported having a corporate jet located at Tri-State Airport, and flying regularly to cities in Louisiana, Tennessee, Kentucky, Missouri, and Pennsylvania.

Healthcare is also a major component of the Tri-State region’s economy. The region is home to several large hospitals, the Huntington Veteran’s Administration Medical Center, mental health institutions, and a medical research and development company.

“We use the airport when we are recruiting physicians...”

– Huntington Internal Medicine Group

During the survey of area businesses, a medical institution noted that they use Tri-State Airport when working with out-of-state vendors, or when medical staff travel to conferences. Tri-State Airport also supports regional medical institutions through patient transfer, physician transportation, and the shipment of medical supplies.

SERVING MARSHALL UNIVERSITY

With a student body of over 13,000, Marshall University is the third largest university in West Virginia. The university depends on Tri-State Airport for a wide variety of reasons and considers it its “first airport of choice.” The airport is a short 20-minute drive from the main Marshall campus in Huntington. In January of 2018 alone, Marshall professors, students, and student athletes flew on over 200 scheduled airline flights from Tri-State Airport. Most notably, professors use the airport to travel to conferences and other universities, while both matriculated and prospective students and their families may arrive in the region via the airport.



Membership in Conference USA means the university’s sports teams travel across several states for events. Conference member schools are located as far as Florida, Texas, and Louisiana, for example. Many Thundering Herd teams are transported via charter flights from Tri-State Airport. In addition,

visiting teams use the airport for home games in Huntington, while spectators fly to the region through the airport.

“As a university, travel is a vital part of our business, from our candidates who sometimes get their first impression of Huntington at the airport, to our faculty and our sports teams. Without the accessibility of HTS, our travelers would have to travel farther for flights and incur additional costs in many instances. We appreciate having an airport so close to our campus.”

– Marshall University Official

Marshall University’s student body uses the airport for far more than sports trips, however. The university’s Office of International Student Services was founded in 1993 with the mission of helping to diversify not just Marshall, but the Huntington region, while the INTO Marshall University program¹ helps to ensure that international students are prepared for education in

¹ INTO is a British-based private firm that partners with educational institutions to facilitate the enrollment and promote the success of international students at schools in the U.S., U.K., and China.

the United States. Marshall also has an extensive Study Abroad program, as well as their Teach in China program for domestic students. All of these programs require air travel, with Tri-State Airport the first choice for domestic and international students and their families.

TRI-STATE REGION TOURISM

Tri-State Airport is the most direct gateway for visitors to access the region's numerous tourist attractions. The region is home to three museums: Huntington Museum of Art, Heritage Farm Museum and Village, and the Museum of Radio and Technology. Camden Park is an amusement and water park located in adjacent Westmoreland that draws visitors not just for its permanent attractions, but also for events such as its Hot Summer Nights concert series. Due to its status as a historic town along the Ohio River, Huntington also contains several historic buildings and landmarks such as Memorial Arch. These attractions, in addition to municipal parks and regional outdoors activities, help to make the Tri-State Region a popular, low-key destination for travelers. Low-cost fares to Tri-State Airport help to support this tourist economy.



QUALITATIVE SUMMARY

The importance of Tri-State Airport to Huntington and the Tri-State region cannot be fully expressed through dollar amounts alone. The airport is the air transportation component of the region's four-mode system, which also includes the Ohio River, railroads, and interstate highway access. The airport's high level of aviation services makes it invaluable to area businesses for activities ranging from regular business trips, to client visits, to the movement of freight. It is the ideal gateway for visitors to the region's tourist destinations, and to Marshall University. The university cites the airport as a huge resource for traveling students, sports teams, and professors, and as a great first impression to prospective students and their families. Without Tri-State Airport, businesses and institutions in the Huntington region would be unable to compete as effectively as they do.

CHAPTER 7: SUMMARY



This study made use of a linear input-output economic model to estimate the employment, payroll, and output associated with Huntington Tri-State Airport. This is a methodology that follows FAA guidance and is widely used to assess individual airports and airport systems.

The results, shown in **Table 7-1**, demonstrate the economic value that the airport provides the Tri-State region. By supporting 1,275 jobs that are compensated by nearly \$55 million and producing an output of more than \$108 million, it is evident that the airport is a key economic engine for the region.

**Table 7-1
Huntington Tri-State Airport Economic Impacts**

	Direct Impacts	Multiplier Impacts	Total Impacts
Employment			
On-Airport	438	436	874
Commercial Airline Visitors	196	94	290
Capital Improvements	56	51	107
General Aviation Visitors	3	1	4
Total Employment	693	582	1,275
Payroll			
On-Airport	\$23,380,000	\$20,666,000	\$44,046,000
Commercial Airline Visitors	\$4,381,000	\$2,855,000	\$7,236,000
Capital Improvements	\$2,103,000	\$1,378,000	\$3,481,000
General Aviation Visitors	\$68,000	\$39,000	\$107,000
Total Payroll	\$29,932,000	\$24,938,000	\$54,870,000
Output			
On-Airport	\$37,739,000	\$34,049,000	\$71,788,000
Commercial Airline Visitors	\$13,543,000	\$8,624,000	\$22,167,000
Capital Improvements	\$7,984,000	\$5,779,000	\$13,763,000
General Aviation Visitors	\$435,000	\$268,000	\$703,000
Total Output	\$59,701,000	\$48,720,000	\$108,421,000

Source: CDM Smith and IMPLAN.

Furthermore, these numbers show how the airport has grown since the last economic impact study was completed in 2006. Compared to that previous study, the current results found employment increased 59 percent, payroll was up 160 percent, and output rose by 115 percent.

It is important to note that the impacts enumerated in **Table 7-1** do not include the qualitative benefits identified in this report, such as life-saving air ambulance flights, and physician transportation.

Marshall University benefits from the proximity of the airport to its campus, calling it the “first airport of choice.” The school’s faculty, sports teams, students, and alumni all appreciate the services that Huntington Tri-State Airport provides.

In addition to these benefits, a survey of Tri-State Area companies found anecdotal evidence that they rely on the airport to move people and ship goods. Hospitals commented on the importance of receiving drugs quickly by air, and Quest Diagnostics regularly flies medical tests in and out of Tri-State Airport, making rapid diagnosis possible. Other businesses stated that being able to fly

employees out of the airport, or bring clients to the Tri-State region through the airport, was extremely beneficial to their company.

Air service means local tourist attractions, such as the Huntington Museum of Art and Camden Park, can draw visitors from outside the region. Conversely, with Allegiant Air serving the airport, residents of the Tri-State region have access to vacation destinations in Florida and South Carolina at budget fares.

The study also detailed numerous multimodal facilities in the region. Recent approval for transportation funding means money is available to move ahead with planned transportation improvements, allowing the Tri-State Area to enhance and maintain crucial infrastructure components, of which Huntington Tri-State Airport is an important part.

The findings in this report clearly show that the Huntington Tri-State Airport is a valuable asset that generates significant economic impacts and important qualitative benefits for the region, its people, and businesses.

