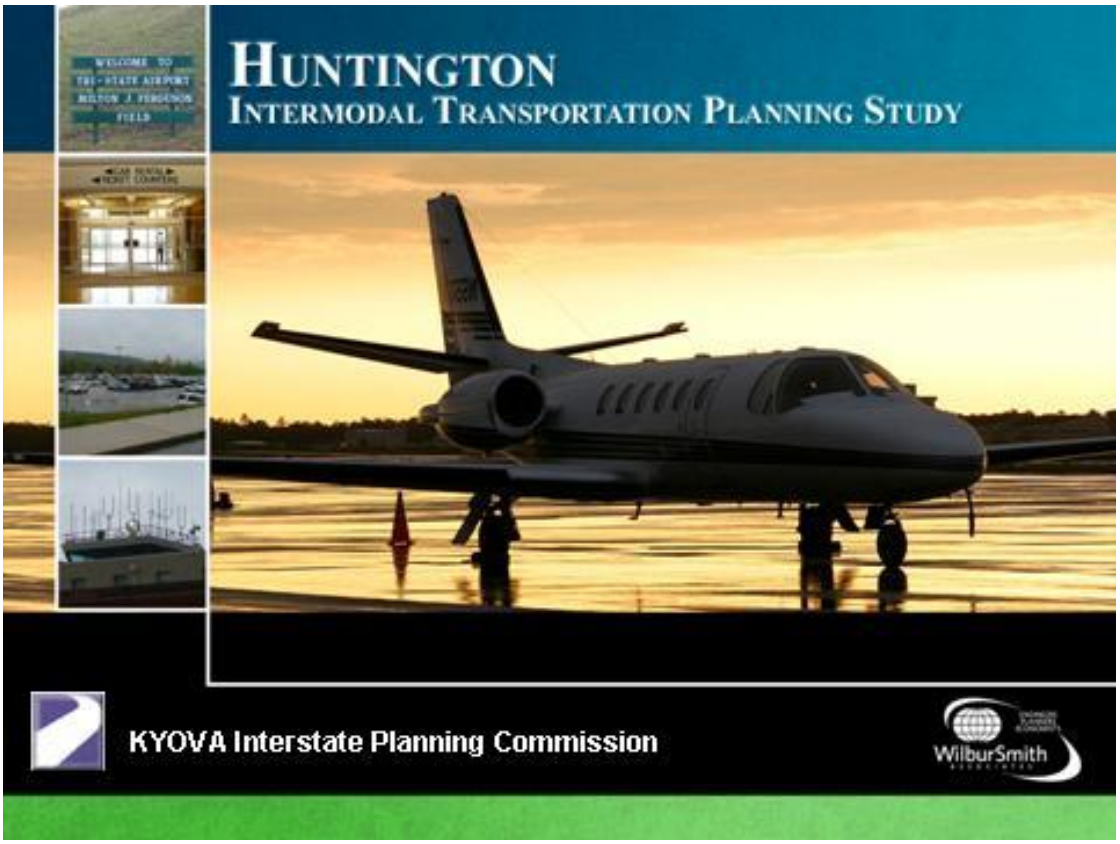
Huntington Intermodal Transportation Planning Study



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Executive Summary

This *Huntington Intermodal Transportation Planning Study* presents a comprehensive overview, analysis, and recommendations for developing an intermodal facility at the Huntington Tri-State Airport (HTS). The purpose for the *Study* is to provide the KYOVA Interstate Planning Commission, the Huntington Tri-State (HTS) Airport Authority, and concerned local, state, and national leaders with data and analysis, that evaluate and justify the need, costs, and benefits for developing an intermodal facility to be located at the HTS airport. The report also presents recommendations to advance the project.

The Huntington Tri-State (HTS) Airport serves a regional population of approximately 300,000 and a regional economy of $13 billion. Passenger enplanements at HTS are now growing. Flights are competitively priced and the airport is well positioned to continue to grow. Growing enplanements have created a severe parking shortage at the airport and threaten to negatively impact its continued growth. There are only 286 parking spaces at the airport. Its parking lot overflows several times a week. Estimates for parking needs exceeding 440 spaces in 2007, 537 spaces in 2017, and 663 spaces required by 2027.

Currently there is no public transit service to the Airport. The public, local leaders and the KYOVA and HTS Boards would like to construct an intermodal facility to functionally and physically accommodate public transportation services and to address issues of congestion, safety and parking shortages at the HTS.

This report recommends that in the short term an auxiliary parking facility be constructed and used for long-term parking; and ultimately an intermodal facility be constructed at HTS to serve the people of the Tri-State area and to support continued economic growth of regional industries. The estimated costs to design and construct an auxiliary parking facility and a permanent intermodal facility that will accommodate personal vehicles, public transportation services, improve safety, correct handicapped access and include the amenities desired by regional stakeholders is estimated at $18.6 million. Funding through municipal bonds alone could not generate adequate funds to repay this debt. Only limited local, state or federal funding is available to construct this type facility and provide auxiliary parking space during construction. The recommended funding option is a package of grants, loans and bonds from a variety of federal, state, and local agencies potentially including ARC, EDA, FHWA, FTA and others.

The HTS Airport has potential to grow and provide unique aviation-related economic development opportunities for the region. The quality of HTS facilities and services are critically linked to the economic health of the region. Stakeholders agreed that affordability and availability of flights are key factors that keep the HTS Airport viable. The region has already lost one major employer who cited the airport as a reason to leave the area. The region needs to act now or risk loosing jobs and businesses if nothing is done to address the needs at HTS Airport.

1 Introduction

This *Huntington Intermodal Transportation Planning Study* report presents a comprehensive overview, analysis and recommendations for the proposed development of an intermodal facility at the Huntington Tri-State (HTS) Airport. It summarizes and incorporates data and information from several interim reports and public involvement activities. It includes comments and ideas from KYOVA and WVDOT staff, regional transportation stakeholders and the citizens from the KYOVA region.

The Huntington Tri-State (HTS) Airport Board, the Tri-State Chamber Coalition, the KYOVA Interstate Planning Commission (KYOVA) and WV Department of Transportation (WVDOT) jointly funded and contracted with Wilbur Smith Associates (WSA) to produce this *Huntington Intermodal Transportation Planning Study*. The KYOVA Interstate Planning Commission is managing the study. KYOVA is a transportation policy-making organization made up of representatives from Lawrence County, Ohio; Cabell and Wayne Counties, WV; and the cities of Huntington, WV and Ironton, Ohio.

1.1 *Background*

The HTS Airport is a public-owned, public-use, non-hub airport that provides scheduled passenger service. It is located in Wayne County, WV, near the City of Huntington. Passenger growth at the airport had been slow since the 1980's. Several local officials and project stakeholders reported that the KYOVA region lost at least one major industry because of limited commercial flights available to and from HTS.

In 2006 the situation at HTS changed and provided the region with an opportunity for growth. Allegiant Air, LLC based in Las Vegas, NV began offering vacation packages and destination flights from the HTS airport to Florida locations. Air passenger enplanements increased approximately 72 percent from 2006 to 2007.[1] In 2008 FAA ranked it as the 233rd largest airport in the US based on enplanements. (This is up from 250th in 2007.) However, with this growth came problems. This increase in enplanements placed increased demand on airport facilities.

- Passenger drop-off and pick-up areas became more congested;
- Luggage areas are over burdened;
- Parking spaces at HTS are limited to 286 spaces for both short and long term parking. This limited parking leaves individuals traveling to/from the HTS Airport faced with challenges as to where to park their personal vehicles. This has resulted in vehicles parking outside the designated parking lot, adjacent to access roads, and on open space around the airport creating an unsafe situation;

[1] HTS Airport Authority, 2008

- No public transit is available to or from the HTS to help ease the problem.

The growth in scheduled flights has increased this problem. And, as the airport continues to grow, the problems continue to grow.

1.2 *Purpose for the Study*

The HTS Airport Board, the Tri-State Chamber Coalition, the KYOVA Interstate Planning Commission and WV Department of Transportation recognized the importance of the airport to:

- Supporting and sustaining regional businesses;
- Providing opportunities for economic growth; and
- Improving regional competitiveness.

They also recognized the need to:

- Improve parking and facility amenities for passenger travel; and
- Provide other transportation options to and from the airport.

They determined that there was a need for a comprehensive study of the HTS airport, its need for intermodal improvements, and its potential to foster economic growth in the region. The purpose for this *Huntington Intermodal Transportation Planning Study* is to provide the KYOVA Interstate Planning Commission, the Huntington Tri-State (HTS) Airport Authority and concerned local, state and national leaders with the data and analysis that justify the need, costs and benefits for developing an intermodal facility at the HTS airport.

1.3 *Huntington Intermodal Transportation Planning Study Process*

This *Huntington Intermodal Transportation Planning Study* was prepared using the following planning process: 1.) analyzing existing and future conditions, identifying problems and needs; 2.) seeking input from stakeholders, setting goals and identifying evaluation criteria; 3.) developing and comparing alternative solutions to address the problems and needs to achieve the goals defined by stakeholders; and, 4.) making recommendations and presenting a plan to advance recommendations. The process was iterative. Many of the activities took place simultaneously and, in many ways, build upon the information and understanding gained through other activities. The study process began in February 2008 and will be concluded with the acceptance of this document by the KYOVA Board at their November 2009 policy meeting.

1.3.1 Existing and Future Condition, Problems and Need

The Wilbur Smith Study (WSA) Team began the *Huntington Intermodal Transportation Planning Study* process by collecting data on current and future conditions at the HTS Airport and the region as a whole. That information is presented in **Section 2, 3 and 4** of this report. As part of the effort, a number of issues and problems with parking, lack of availability of public transit to the airport, and related issues were identified. Discussions and interviews with community leaders identified opportunities that could be available to the region if improvements were made at the HTS Airport.

1.3.2 Public and Stakeholder Input – Defining Goals and Evaluation Criteria

Extensive public involvement was incorporated into the *Huntington Intermodal Transportation Planning Study* process. Public involvement began early and included interviews with key stakeholders, a stakeholder opinion survey, and a number of project study meetings. **Section 5** of the report details activities and outcomes from public involvement activities.

Throughout the planning process the WSA Team worked with stakeholders to identify goals and objectives for the potential intermodal facility at the airport; to identify and evaluate amenities, alternative facilities, facility improvements, policies and programs to address goals and objective; and to identify evaluation criteria to select the most appropriate design concept for the proposed facility. Regional business leaders emphasized that local experience has demonstrated that efficient and affordable air service is critical to the economic health of region.

1.3.3 Identify and Evaluate Alternatives

The WSA Team developed and evaluated three alternative planning level design concepts and three other alternatives including the "no-build alternative." Amenities and financing options for the proposed new intermodal facility were also presented and evaluated. The evaluation process included a Design Charrette with project stakeholders identifying their goals for the HTS and desired amenities for a new facility. Their opinions were used to develop evaluation criteria to comparatively evaluate each alternative. The evaluation included comparing costs to construct; service options such as transit service, shuttles, taxi services; linkages to downtown Huntington; and the potential to enhance economic growth for the region. This evaluation is presented in **Section 7.**

1.3.4 Present Recommendations

Finally recommendations are presented in **Section 12** including the proposed facility design, auxiliary parking and traffic flow for construction, a recommended funding strategy and the next step and action items to move the project ahead.

1.4 *Overview of this Report*

The report includes twelve sections and seven appendices. It presents data and analysis about the region, perspectives from stakeholder and public involvement activities and recommendations on how to advance the proposed intermodal facility. The report:

- Evaluates growing passenger enplanements at HTS and their impact on airport facilities and the economy of the Tri-State region;
- Describes current and future short- and long-term public parking needs resulting from growing passenger enplanements;
- Analyzes the potential for integrating bus and other public transportation services to the airport to address parking issues and provide alternative methods to access the airport and its services;
- Explores the potential for economic development through increased air passenger and freight growth;
- Provides data, analysis, and related information that will be used to justify the need and costs and explain the benefits for developing a bus transit/air multimodal facility located at HTS;
- Recommends a conceptual design for a bus transit/air multimodal facility; and
- Recommends a funding and financing strategy and an implementation plan to advance the study recommendations.

The WSA Team also researched regional freight issues. This is presented in a separate ***Freight Planning Study*** report. An auxiliary parking and traffic analysis for the construction period and for operating the facility is presented in **Section 9**. A qualitative air quality analysis is presented in **Section 10**. **Section 11** includes a funding and financing analysis; and, **Section 12** presents a recommended implementation and action plan to advance the project.

2 The Planning Study Area

The *Huntington Intermodal Transportation Planning Study* area is shown on **Figure 2-1**. It includes Wayne and Cable Counties in West Virginia; Lawrence County, Ohio; and Boyd and Greenup counties in Kentucky. It includes the Huntington-Ashland-Ironton, WV-KY-OH, Metropolitan Statistical Area (MSA). The MSA is located along the Ohio River within the Appalachian Plateau region and is commonly referred to as the KYOVA Tri-State area. The KYOVA area is characterized by mountainous terrain with its urban population and most industry located along the river corridors.

Figure 2-1: Planning Study Area

Source: ESRI 2007 Data

2.1 *Demographic Characteristics of the Study Area*

The region includes a 2000 US Census population of 288,649 with a 2007 estimated population of 284,026. The largest cities in the area are Huntington, West Virginia (pop. 49,007); Ashland, Kentucky (pop. 21,981); Ironton, OH (pop. 11,416); Flatwoods, Kentucky (pop. 7,605); and South Point, Ohio (pop. 3,973).

Table 2-1 presents some demographics for the five-county study area and comparing this information to US averages. The percentages shown in red indicate a five county area average below the US average.

Table 2-1: KYOVA Tri-State Area Demographics

County Demographics (2000)	Lawrence, OH	Wayne, WV	Cabell, WV	Boyd, KY	Greenup, KY	Five County Average	US Total	Difference
General Characteristics								
Total Populataion	62,319	42,903	96,784	49,752	36,891	288,649	281,421,906	N/A
Males	29,899	20,993	46,229	24,363	17,758	48.2%	49.1%	0.9%
Females	32,420	21,910	50,555	25,389	19,133	51.8%	51.0%	0.8%
Person Age 65 and Older	8,966	6,411	15,499	7,758	5,389	15.3%	12.4%	2.9%
Caucasian	60,169	42,382	90,370	47,747	36,179	95.9%	75.1%	20.8%
Black or African American	1,302	54	4,150	1,267	212	2.4%	12.3%	9.9%
Hispanic or Latino	355	202	654	558	204	0.7%	12.5%	11.8%
Other Race	299	228	1,157	302	476	0.9%	10.1%	9.2%
Social Characteristics								
High School Graduate or Higher	31,530	20,614	51,527	27,056	19,023	76.7%	80.4%	3.7%
Bachelor's Degree or Higher	4,276	6,465	13,501	4,890	2,914	16.4%	24.4%	8.0%
Disabilitiy Status (age 5 years and over)	15,962	12,356	21,957	11,957	9,490	26.4%	19.3%	7.1%
Economic Characteristics								
In Labor Force (age 16 years and over)	25,978	17,339	44,851	21,365	15,517	53.3%	63.9%	10.6%
Median Household Income (1999 Dollars)	$29,127	$27,352	$28,479	$32,749	$32,142	$29,970	$41,994	28.6%
Families Below Poverty Level	2,715	2,064	3,518	1,636	1,289	13.6%	9.2%	4.4%

Source: US Census, American Factfinder, 2000.

Approximately 96 percent of the total area population is comprised of White or Caucasian decent. The Black or African American population is approximately two percent. This is a 20.8 percent difference compared to the racial trends of the US. The median household income level for the area is about $29,970 or roughly 29 percent below the US average of $41,994. Nearly 14 percent of all families in the area are below the poverty level, which is about four percent higher than the US average of 9.2 percent. And only about 16 percent of the total area population has a bachelor's degree or higher, which is about eight percent lower than the US average.

Table 2-2: Land Area – Study Area

County	Area (square miles)		
	Land	Water	Total
Cabell, WV	282	6	**288**
Wayne, WV	506	6	**512**
Lawrence, OH	457	2	**459**
Boyd, KY	160	2	**162**
Greenup, KY	347	8	**355**
Total	**1752**	**24**	**1776**

Based on county population from **Table 2-3** and land area from **Table 2-2**, the region's density is approximately 160 people per square mile. This is more than double the overall density of West Virginia that is 75 people per square mile and the overall US density of 79.6 people per square mile.

Although the region saw slight population growth of 0.16% during the nineties, the population has declined over the region by 1.45% between 2000 and 2006. Cabell and Wayne counties, West Virginia, have the greatest declines at more than 3% from 2000 to 2006. Lawrence County has grown by 1.36% during the same time period. Population information for the five counties is shown in **Table 2-3.**

Table 2-3: Population by County and City – KYOVA Region

County	1990 Population	2000 Population	Estimated 2006 Population	Percent Change 1990 to 2000	Percent Change 2000 to 2006
Cabell, WV	96,827	96,784	93,904	-0.04%	-3.07%
Wayne, WV	41,636	42,903	41,647	2.95%	-3.02%
Lawrence, OH	61,834	62,319	63,179	0.78%	1.36%
Boyd, KY	51,150	49,752	48,700	-2.81%	-2.16%
Greenup, KY	36,742	36,891	37,082	0.40%	0.52%
Total	**288,189**	**288,649**	**284,512**	**0.16%**	**-1.45%**

Source: Census Bureau *American Factfinder*

City	1990 Population	2000 Population	Estimated 2006 Population	Percent Change 1990 to 2000	Percent Change 2000 to 2006
Hungtingon, WV	54,844	51,475	49,007	-6.54%	-5.04%
Ashland, KY	23,622	21,981	21,570	-7.47%	-1.91%
Ironton, OH	12,751	11,211	11,416	-13.74%	1.80%
Flatwoods, KY	7,799	7,605	7,641	-2.55%	0.47%

Source: Census Bureau *American Factfinder*

Table 2-4 presents the number (63,175) and percent of employees by industry for the Cabell and Wayne counties in West Virginia and Lawrence County, Ohio. It indicates that four sectors employ 63 percent of the region's work force.

This includes:

- Health Care: 13,497 = 22 percent;
- Retail Trade: 10,976 = 17 percent;
- Accommodations and Food Service: 6,318 = 10 percent; and
- Manufacturing: 8,694 = 14 percent.

Mining and Forestry employment only make up about 683 people or about 1 percent of the three-county region's employment base. Similar to the nation as a whole the types of jobs in the KYOVA region are shifting to more service based employment. Health care, management, administration, and accommodations and food service are all growing while mining, manufacturing and forestry are continuing have fewer jobs.

Table 2-4: Employees by Industry and Projected Growth for the Cabell, Wayne and Lawrence Counties

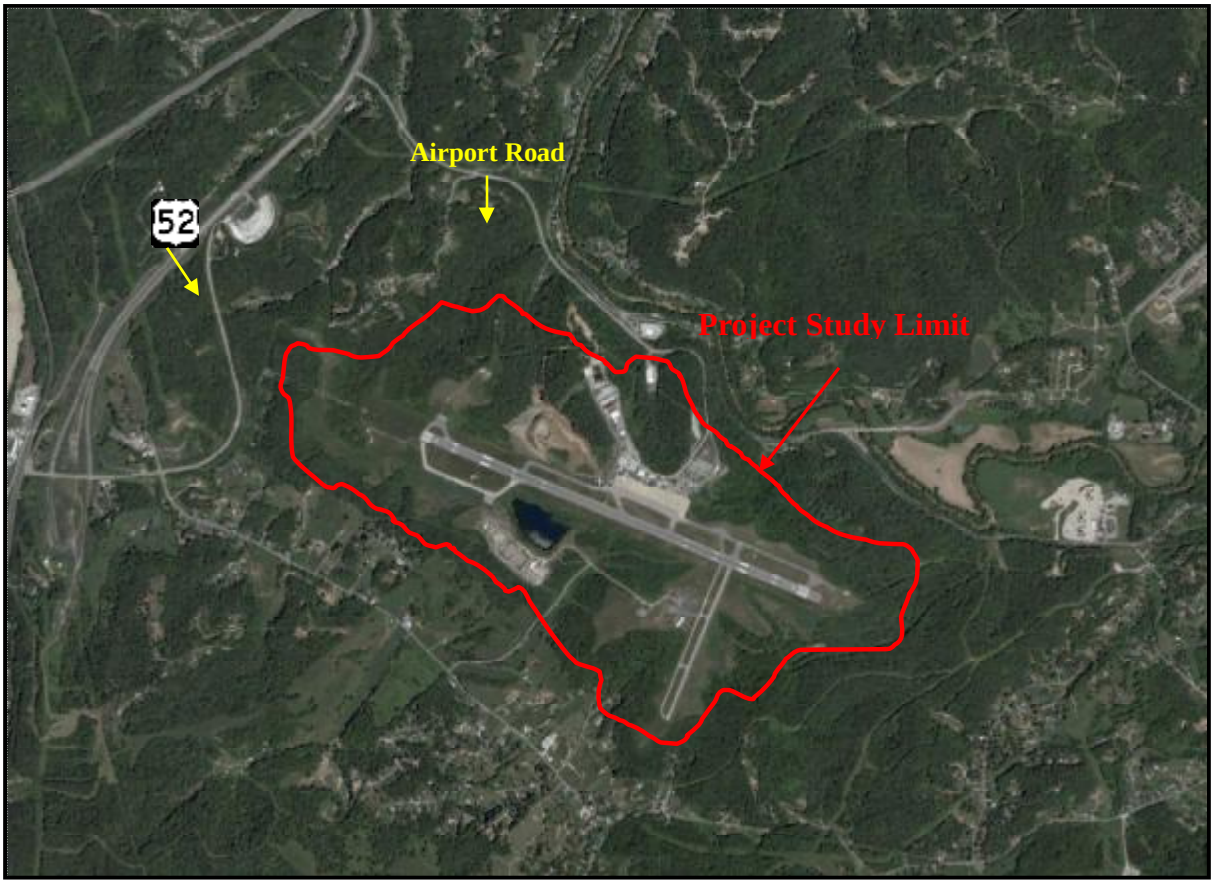
NAICS Industry Code and Description		Number of Employees			
		2000	2005	Change	% Change
11	Forestry, Fishing, Hunting, and Agriculture Support	20	18	-2	-10%
21	Mining	663	509	-154	-23%
22	Utilities	453	395	-58	-13%
23	Construction	3,487	3,324	-163	-5%
31	Manufacturing	8,694	6,889	-1,805	-21%
42	Wholesale Trade	3,199	2,687	-512	-16%
44	Retail Trade	10,976	11,422	+446	+4%
48	Transportation and Warehousing	1,256	1,863	+607	+48%
51	Information	1,193	1,033	-160	-13%
52	Finance and Insurance	2,907	2,192	-715	-25%
53	Real Estate and Rental and Leasing	804	671	-133	-17%
54	Professional, Scientific, and Technical Services	2,464	2,633	+169	+7%
55	Management of Companies and Enterprises	227	422	+195	+86%
56	Admin. and Support and Waste Manag., etc.	2,783	4,534	+1751	+63%
61	Educational Services	256	315	+59	+23%
62	Health Care and Social Assistance	13,497	15,236	+1739	+13%
71	Arts, Entertainment, and Recreation	548	725	+177	+32%
72	Accommodation and Food Services	6,318	6,968	+650	+10%
81	Other Services (except Public Administration)	3,224	2,892	-332	-10%
95	Auxiliaries (exc corp., subsidiary & regional mgt)	169	0	-169	-100%
99	Unclassified	37	39	+2	+5%
Total		63,175	64,767	+1592	+3%

Source: County Business Patterns, 2005

2.2 *The Proposed Project Area*

The Study evaluates the potential to develop an intermodal facility that will be located on the grounds of Milton J. Ferguson Field at the Huntington Tri-State (HTS) Airport. The proposed project areas is within the existing the HTS Airport property as shown on **Figure 2-2.** The airport is approximately 1,164 acres in size and includes the proposed project area's land and roadways.

Figure 2-2: Proposed Project Area



Source: Google Maps, 2007

3 Huntington Tri-State Airport – Existing Conditions

The Huntington Tri-State Airport is located in Wayne County, West Virginia, approximately nine miles west of the Huntington metropolitan area near the intersection of Interstate 64 and US Route 52. It is approximately 45 miles west of Charleston, West Virginia and within five miles of the Ohio and Kentucky state borders. It serves the three-state region's 300,000 citizens and an employment base of over 125,000 jobs in the Huntington, West Virginia / Ashland, Kentucky / Ironton, Ohio metropolitan areas including Cabell County and Wayne Counties in West Virginia, Lawrence County, Ohio and Boyd and Greenup Counties in Kentucky. **Figure 3-1** shows the general location of HTS.

Figure 3-1: Location of Huntington Tri-State Airport

Source: Tri-State Airport Authority, 2006

3.1 *Airport History*

In 1922, the local Chamber of Commerce formed its first aviation committee to initiate the development of an aviation facility in the Tri-State area. In 1929, the Embry-Riddle Company (predecessor of American Airlines) proposed to build an airport at their expense near South Point, Ohio assuming that various cities in the local Tri-State area all agree to its location. Except for Huntington, all cities in the area agreed on the airport's location. However, even without Huntington's agreement, an airport was built in Chesapeake, Ohio. This original airport continues to serve the region as the Lawrence County Airport, a General Aviation (GA) facility.

In response to the City of Huntington, the Chamber of Commerce continued its airport site-selection efforts and determined that the current location of HTS Airport was the most feasible for the region. In 1948, five local organizations agreed to form the Tri-State Airport Authority to help raise money and buy land for the airport site. The following year, the committee purchased 534 acres at the current site of the airport and began construction in 1950. HTS Airport was officially dedicated and opened on November 2, 1952.

The initial runway was constructed using federal and local funds to a length of 4,600 feet by 150 feet wide. In 1956 the runway was extended to 5,297 feet and in 1959 the existing terminal building began and was completed in 1961. In 1973, the airport underwent another major runway expansion project, eventually clearing approximately 4 million cubic yards of earth to expand the runway to 6,517 feet long and provided an additional 1000 feet of safety overrun on the west end and 400 feet on the east end. The earth used to extend the main runway was taken from a nearby hill, south of the main runway and east of the terminal; this is the current location of a second runway which measures 3,007 feet long by 60 feet wide.

Other expansions and improvements followed including expansion of the terminal building in 1979. A list of improvements funded in part by the Federal Aviation Administration (FAA) is shown in **Appendix A**.

The airport was initially intended as a General Aviation facility, but began offering scheduled commercial passenger service in 1956. The service quickly became popular and passenger enplanements steadily increased. By 1979 annual enplanements at HTS peaked at approximately 130,000 annually, and then slowly began to fall due to the passage of the Airline Deregulation Act. The Act, designed to lower costs and increase airline competition, led to heavy losses by many air carriers and forced the carriers to cut costs. One way to cut costs was to offer less point-to-point service in favor of the more concentrated hub-and-spoke service. As a result, passenger enplanements at many US airports, including HTS Airport, slowed and started to follow a downward trend. The downward trend of enplanements at HTS continued for the next twenty-five years, although in some years the airport witnessed small enplanement increases as well as decreases.

In 2006, the HTS Airport moved to considerably improve its commercial services and enplanements by attracting Allegiant Air, a low-cost carrier based out of Las Vegas. Allegiant Air began offering nonstop flights between HTS Airport and leisure destinations in Florida. The flights, which are offered several days each week, gained popularity and have since produced an increase in annual passenger enplanements.

3.2 *Overview*

The HTS Airport is a 1,164 acre publicly owned, public-use facility offering scheduled passenger airline service and providing air cargo and general aviation services. It is not a "hub" for commercial passenger airlines or for air cargo carriers. In 2007 it ranked as the 250th largest airport in the US based on enplanements. The HTS Airport has one terminal building containing three boarding gates, baggage claim area, restaurant/lounge, gift shop, ticket/rental car counters, and a conference and business center. Approximately 75 people are employed on the site.

HTS Airport is owned and operated by the Tri-State Airport Authority. Fifteen members are appointed to the Authority, representing the following:

West Virginia
City of Huntington (2) members
City of Kenova (1) member
City of Ceredo (1) member
Cabell County Commission (2) members
Wayne County Commission (2) members
Huntington Area Development Corp. (1) member
Huntington Regional Chamber of Commerce (1) member
Village of Barboursville (1) member

Kentucky
Boyd County Commission (1) member
City of Ashland (1) member
Ashland Alliance (1) member

Ohio
Greater Lawrence County Area (1) member
Chamber of Commerce & EDC

The airport contains two aircraft runways. The main runway generally runs in an east/west direction and measures 6,517 feet long by 150 feet wide. It has a weight capacity of 140,000 pounds for double-wheel aircraft and 230,000 pounds for double-tandem wheel aircraft. The secondary runway generally runs in a north/south direction and is 3,007 feet long by 60 feet wide. This runway has a weight capacity of 12,500 pounds for single wheel aircraft only.[2]

On average, 32,800 aircraft operations (take-offs and landings) occur each year. This includes a combination of scheduled services, general aviation transient aircraft, general aviation local aircraft, air taxi aircraft, commercial aircraft, and military aircraft.

[2] Flight Planning for General Aviation: Airport Information, Tri-State/Milton J. Ferguson Airport (2008); http://www.fltplan.com/AirportInformation/KHTS.htm.

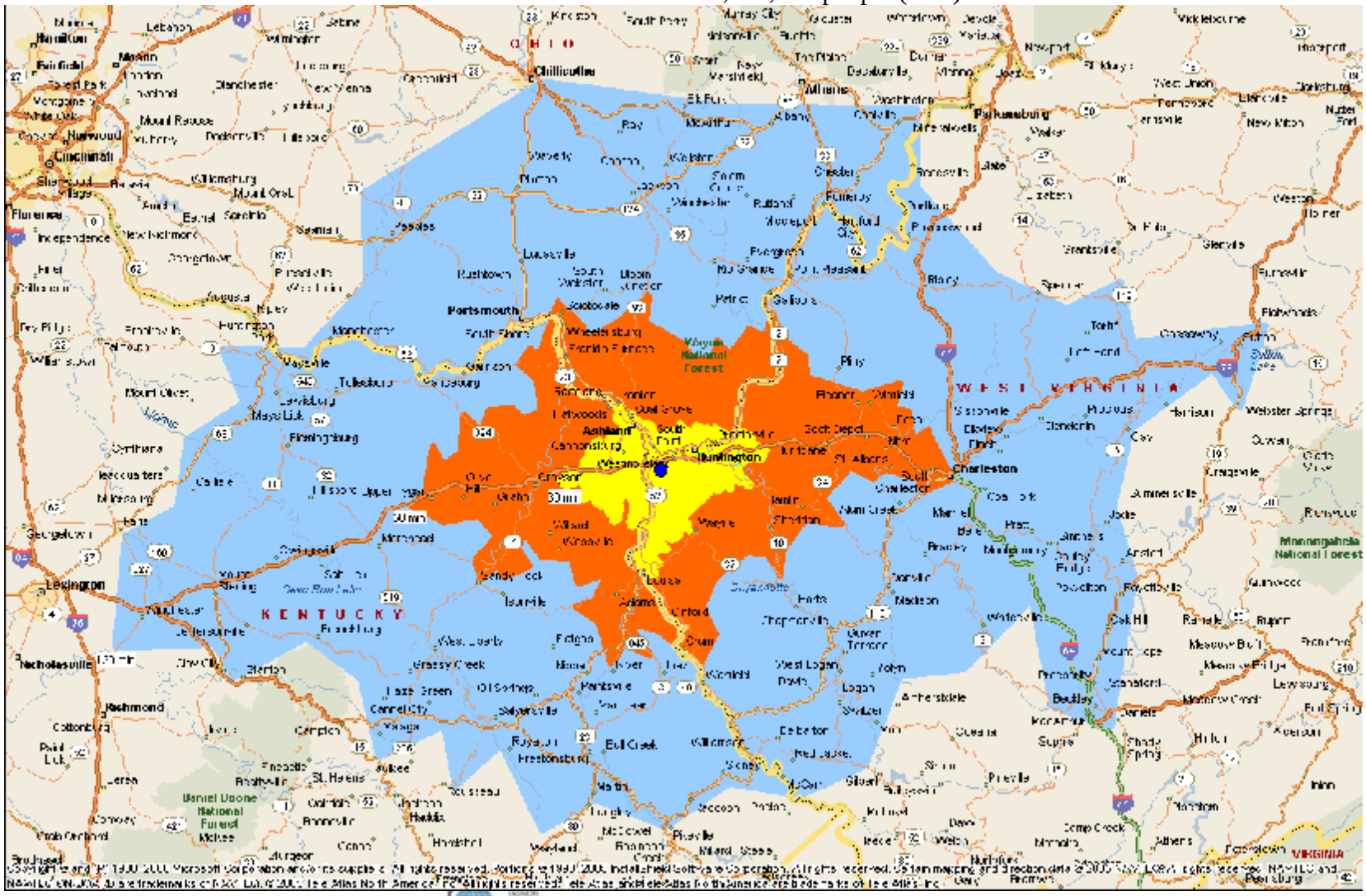
The airport has a single parking lot adjacent the terminal building that holds 286 vehicles, both for short and long term parking. The airport also includes three on-site rental car agencies (Avis, Hertz, and Enterprise), Yellow Cab and Express Cab taxi services, Pure Elegance limousine service, and shuttles to local hotels in Ashland, Kentucky and downtown Huntington, West Virginia. HTS is not served by public transit.

As shown on **Figure 3-2**, a population of 491,000 resides within a one hour drive time and almost 1.4 million people live within a two hour drive of HTS Airport. As stated a population of 300,000 is a representative estimate of the KYOVA regional area and HTS Airport market area.

Figure 3-2: Population and Drive time HTS Airport

One hour Drive Zone: 412, 257 people (yellow and orange)

Two hour drive Zone: 1,327,129 people (blue)



3.3 *Passenger Travel*

HTS offers scheduled passenger air service through US Airways Express, Comair (Delta Connection), and Allegiant Air. **Table 3-1** presents an example of scheduled commercial air passenger service from and to HTS for May, 2008.

Table 3-1: Schedule of Commercial Air Passenger Service – HTS

Arrivals - May 16 - 31, 2008

ARRIVALS

TIME	FROM	FLT.	DAYS	AIRLINE
8:50 AM	Orlando/ Sanford	737	TU,TH,SAT,SUN	Allegiant Air
8:59 AM	Charlotte	4168	M - F	US Airways
10:34 AM	Charlotte	4236	SAT/SUN	US Airways
11:27 AM	Cincinnati	6406	SUN - FRI	Delta Connection
12:36 PM	Charlotte	4363	M - F	US Airways
1:30 PM	Tampa / St. Pete	887	MON & FRI	Allegiant Air
3:39 PM	Charlotte	4236	MON - FRI	US Airways
3:46 PM	Charlotte	4143	SAT	US Airways
4:43 PM	Charlotte	4620	SUN	US Airways
6:17 PM	Charlotte	4143	SAT	US Airways
6:35 PM	Ft. Lauderdale	945	MON & FRI	Allegiant Air
8:32 PM	Cincinnati	6408	SAT	Delta Connection
9:45 PM	Charlotte	4242	SUN - FRI	US Airways
9:47 PM	Cincinnati	6408	SUN - FRI	Delta Connection

(Table 3-1 continued)

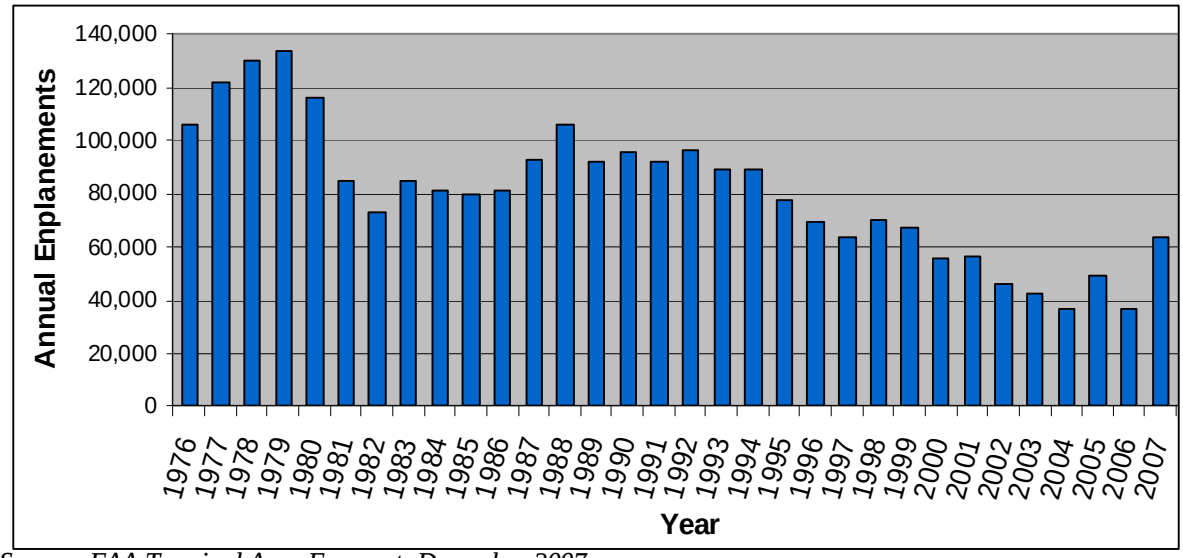
Departures - May 16 - 31, 2008

DEPARTURES				
TIME	DESTINATION	FLT.	DAYS	AIRLINE
6:30 AM	Charlotte	4117	SUN-F	US Airways
7:05 AM	Charlotte	4383	SAT	US Airways
7:05 AM	Cincinnati	6409	DAILY	Delta Connection
9:25 AM	Charlotte	4168	M - F	US Airways
9:25 AM	Orlando / Sanford	738	TU,TH,SAT,SUN	Allegiant Air
11:03 AM	Charlotte	4168	SAT & SUN	US Airways
11:47 AM	Cincinnati	6249	SUN - FRI	Delta Connection
1:30 PM	Charlotte	4363	M - F	US Airways
2:05 PM	Tampa/ St. Pete	888	MON & FRI	Allegiant Air
4:10 PM	Charlotte	4236	M - SAT	US Airways
5:05 PM	Charlotte	4620	SUN	US Airways
7:10 PM	Ft. Lauderdale	946	MON & FRI	Allegiant Air

Source: HTS, 2008

Since 1979, passenger enplanements at HTS Airport have cycled, although the long-term trend has been decreasing. **Figure 3-3** presents annual passenger enplanements at the airport over the past thirty years, from 1976 to 2007. This figure also shows that peak passenger enplanements were in 1979 (133,363) as well as the overall downward decline due to the Airline Deregulation Act of 1978. The figure also shows several instances where enplanement levels varied such as during the late-1980s and most recently between 2006 and 2007. **Table 3-2** shows enplanements at HTS Airport from 1991 to 2007.

Figure 3-3: Annual Enplanements at HTS Airport, 1976 to 2007



Source: FAA Terminal Area Forecast, December 2007

Table 3-2: HTS Passenger Boarding / Enplanements by Year

Airport Rank	Year	Enplanements	% Change from Previous Year
(selected years)	1991	92,181	NA
	1992	96,781	4.99%
	1993	89,389	-7.64%
	1994	89,234	-0.17%
	1995	77,474	-13.18%
	1996	69,824	-9.87%
	1997	63,970	-8.38%
	1998	69,926	9.31%
	1999	67,506	-3.46%
258	2000	57,277	-15.15%
	2001	48,659	-15.05%
255	2002	48,264	-0.81%
	2003	40.958	-15.14%
277	2004	41,419	1.13%
	2005	50,289	21.42%
284	2006	37,459	-25.51%
250	2007	62,364	66.5%

Source: FAA Passenger Boarding and All-Cargo Data, 2008.

From 2006 to 2007 total enplanements at HTS increased 66.5 percent. This is the largest amount of total enplanements at the airport since 1998. The increase is mainly due to Allegiant Air. In 2006, Allegiant Air began low-cost, nonstop service from HTS to leisure destinations in Florida. This also resulted in an increase in the number of enplanements on the airport's other major carriers, Delta Air Lines and US Airways Express. Although the airlines do not fly to the same destinations, the competitive prices offered by Allegiant have

resulted in the other HTS carriers lowering their rates and thus increasing their enplanements. The following represents a timeline of Allegiant Air's commercial flight offerings and start dates:

- November 2006: began Tuesday and Thursday service between HTS and Orlando
- November 2007: began Monday and Friday service between HTS and Fort Lauderdale/Hollywood
- February 2008 ; began Tuesday and Saturday service between HTS and St. Petersburg/Clearwater

Table 3-3: Passengers by Carrier – HTS

Tri-State Origin/Destination Passengers
By Carrier - 2007/2006

	2007	2006	% Chng.
US Airways	43,170	38,790	11%
Delta	32,100	23,230	38%
Allegiant	36,620	4,060	802%
	111,890	66,080	69%

Note: Total by carrier differs slightly from city total, due to irregular operations and flight diversions.

Source: HTS records

It should be noted that markets other than Orlando increased by 26% and all carriers serving Tri-State saw their passenger volumes rise which is an indication that Tri-State's marketing efforts were successful in increasing "awareness" of the airport and its services among market area residents.

3.4 *Comparison to other Airports*

The closest commercial airports to HTS include Charleston, West Virginia a 50 to 60 minute drive approximately 45 miles to the east; Columbus, Ohio to the north, a drive of approximately 140 miles and almost three (3) hours; and Lexington, Kentucky to the west, 126 miles from Huntington and over a two (2) hour drive. Interstate 64 runs through Huntington as well as Charleston and Lexington. Travel between Huntington and Columbus is via local highways (no interstate), thus there is a disproportionately longer travel time versus either Charleston, West Virginia, or Lexington, Kentucky.

As shown on **Table 3-4,** HTS air fares are competitive with the geographically closest airports of Charleston, West Virginia (CRW) and Columbus, Ohio (CMH). Allegiant Air offers regular direct flights and vacation packages to Florida vacation locations including Ft. Lauderdale, Orlando, and St. Petersburg that are 60 to 90 percent full. These direct flight

vacation packages have attracted travelers from as far away as Columbus, Ohio and Lexington, Kentucky.

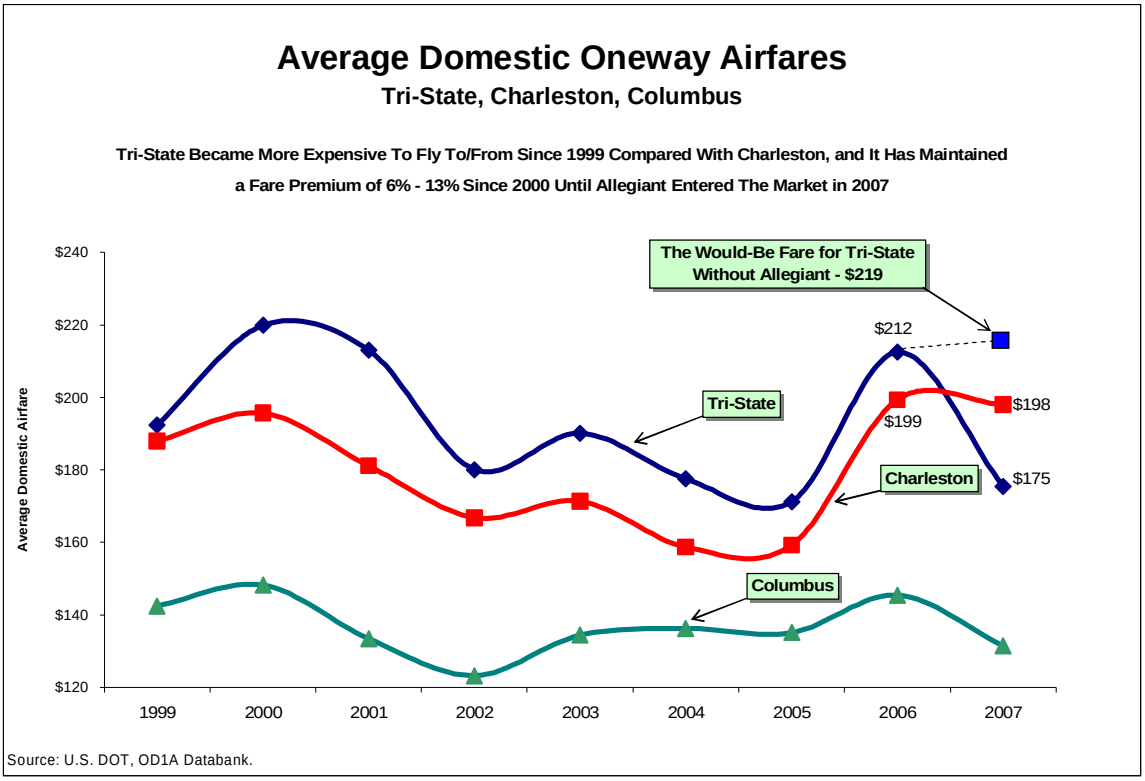
Table 3-4: Airfare Comparison

Fare Comparison vs. CMH & CRW for HTS's Top O&D Markets - CY 2007

Rank	Airport	Market	Tri-State - HTS	Columbus, OH - CMH	Chaleston, WV - CRW	HTS's Fare As Percent of CMH	HTS's Fare As Percent of CRW
1	SFB	Sanford	$83	$0	$0	N/A	N/A
2	FLL	Ft. Lauderdale	$125	$115	$157	109%	80%
3	MCO	Orlando	$159	$120	$150	132%	106%
4	ATL	Atlanta	$208	$225	$207	92%	101%
5	LGA	New York LaGuardia	$176	$98	$171	179%	103%
6	CLT	Charlotte	$113	$182	$173	62%	65%
7	TPA	Tampa	$211	$119	$174	177%	121%
8	LAS	Las Vegas	$219	$139	$207	157%	106%
9	IAH	Houston	$287	$184	$254	156%	113%
10	RSW	Fort Myers	$159	$143	$156	111%	102%
11	MIA	Miami	$181	$158	$162	114%	112%
12	EWR	New York Newark	$176	$126	$188	139%	93%
13	ORD	Chicago O'Hare	$198	$97	$179	205%	111%
14	JAX	Jacksonville	$190	$120	$201	158%	94%
15	LAX	Los Angeles	$235	$191	$215	123%	109%
16	BWI	Baltimore	$165	$78	$141	212%	117%
17	MCI	Kansas City	$185	$96	$176	193%	105%
18	DFW	Dallas/Fort Worth	$279	$156	$260	179%	107%
19	MSY	New Orleans	$239	$123	$223	195%	107%
20	PHX	Phoenix	$223	$148	$205	151%	109%
21	BOS	Boston	$202	$112	$158	180%	128%
22	PHL	Philadelphia	$319	$84	$178	379%	179%
23	PBI	West Palm Beach	$188	$122	$169	154%	111%
24	DEN	Denver	$305	$173	$258	176%	118%
25	DCA	Washington National	$221	$134	$119	165%	186%
26	BHM	Birmingham	$183	$129	$161	142%	114%
27	MEM	Memphis	$312	$142	$255	220%	122%
28	ORF	Norfolk	$186	$102	$151	182%	123%
29	MSP	Minneapolis/St. Paul	$300	$199	$249	151%	121%
30	SFO	San Francisco	$345	$206	$244	167%	141%

Figure 3-4 presents a summary of the average fare paid from 1999-2007 at HTS and its two major competitors the Charleston and Columbus Airports.

Figure 3-4: Airfare Comparisons 1999-2007



3.5 *Air Freight*

(NOTE: A copy of the *KYOVA Freight Planning Study and Regional Freight Profile* is provided in a separate document.)

HTS is not a hub for air cargo. Federal Express (Fed Ex) uses HTS as the regional distribution point for its Huntington operations. They use a Boeing 727 aircraft to fly between HTS and their Memphis, TN hub. They then distribute to Charleston, Parkersburg, and Beckley, West Virginia and Langley, Kentucky using four Cessna 208 aircraft. According to HTS Airport records, Fed Ex operates approximately 2,900 annual flights from HTS.[3]

There is limited information available on air cargo operations conducted at HTS. **Table 3-5** presents the information extracted from the 2003 Transearch Data on Wayne County air freight. According to the Bureau of Transportation Statistics (BTS) the total annual air freight for all West Virginia airports totals 4,306 tons in scheduled air freight, 128 tons in non-scheduled air freight and 4 tons of scheduled air mail. If the total for West Virginia is

[3] Information was accurate based on time of research. This may change.

4,438 tons[4] annually it is not unreasonable to assume that 205 tons could be shipped annually to and from HTS Airport.

Table 3-5: Wayne County Air Freight

STCC # (Commodity)	tons	
26 - Paper and Paper Products	13	terminating
34 - Fabricated Metals	10	terminating
37 – Transportation Equipment	9	originating
38 – Instruments, Photo and Optical Equipment	173	originating
total	***205***	

Source: 2003 Transearch Data

3.6 *Parking Conditions*

HTS currently maintains one main public parking lot located north of the terminal building. The main lot has 286 total public parking spaces; 87 spaces for short-term parking and 199 spaces for long-term parking. The lot also contains a 69-space employee lot (in addition to the public lot) at its northern most section. The employee lot is separated from the public parking area. Currently rental car vendors have 60 vehicle storage spaces in this additional employee lot.

The airport collects a flat five dollar parking fee for any available public space, regardless of short- or long-term. Currently, 80 to 95 percent of all passengers who park in the main lot stay overnight or long-term. The Airport also uses two reserve or "overflow" parking areas to handle excess vehicles from the main lot. The first overflow area is located at an old armory building on the airport's southwest side, and contains 44 spaces. This lot is over a mile away and not within walking distance of the terminal. The second overflow area is the rental car return lot, located next to the terminal building, and with passengers utilizing any available parking space.

The Allegiant Air passengers, combined with those who fly the existing carriers, cause the main parking lot to overflow four to six times a week. The main parking lot regularly overflows on Tuesdays, Thursdays, and Sundays when Allegiant Air flights arrive at 5:30 p.m. and depart at 6:05 p.m. Allegiant operates MD-80/83 aircraft capable of seating 150 passengers with an estimated 90 percent of the available seats sold.[5]

When the main lot overflows, approximately 20 to 40 vehicles must use one of the reserve lots. To accommodate the overflow vehicles, the airport owns and operates two free airport shuttle-buses that make 20 to 25 trips per day from the overflow area(s) to drop off/pick up

[4] USDOT – BTS; http://www.bts.gov/pubications/airactstats2000/
[5] HTS Airport Authority, 2008

passengers at the terminal building.[6] The shuttle-buses must compete for space at the terminal drop off/pick up area, which already has increased congestion due to larger amounts of passenger traffic. The HTS Airport Authority does not charge a parking fee for overflow lot users.

3.7 *Public Transit Services*

The current public transit service operator in the greater Huntington area is The Transit Authority (TTA). Located in Huntington, West Virginia, TTA provides the area with numerous bus routes, "Dial-A-Ride" services for the disabled and reduced fares for Marshall University students. TTA offers services Monday through Saturday from 6:00 a.m. to 11:15 p.m.

TTA's service is designed to primarily serve markets that exist near downtown Huntington. Recently service was extended to provide a bus to Ironton, Ohio. TTA is also working with the Charleston, West Virginia transit authority and began bus services between the downtown areas of these two urban areas.

[6] HTS Airport Authority, 2008

4 Huntington Tri-State Airport - Future Conditions

The recent rise in enplanements at HTS is expected to continue. On average, future enplanements are projected to rise another 72 percent over the next twenty years, from roughly 62,300 in 2007 to roughly 107,400 by 2027.[7] The projections are based upon historical data, current air service activity, previously approved forecasts, and external Tri-State area market conditions. This means that unless the current parking problem at HTS is corrected, the problem will continue to grow and may become worse over time.

4.1 *Commercial Passenger Enplanement Forecast*

Due to the number of internal and external factors impacting the domestic aviation industry since the *2003 HTS Master Plan Update*, updated forecasts of commercial passenger demand were developed. Enplanement forecasts were based upon a combination of market area demand for the Huntington Tri-State Airport (HTS) and local and national trends. To the extent possible, the passenger demand forecast is unconstrained, which assumes that all appropriate infrastructure is in place, no acts of terrorism or natural disasters would occur, and no further consolidation of the commercial airline industry would occur.

4.1.1 Planning Considerations

A range of (low, medium and high) forecasts were developed to account for the fluctuations and unforeseen external events which could impact short and long-term commercial passenger demand at HTS. Future levels of demand were referenced to planning levels; therefore, facility requirements will be tied to planning levels rather than a specific year. The base year used for this analysis was Calendar Year 2007 which is the last complete full year of enplanement and operational activity at the time this study was underway.

In determining the size and configuration of parking facilities at HTS, historic passenger traffic volumes were evaluated and compared to the individual characteristics of the airport and market area to provide a realistic forecast of future commercial service activity. Basic considerations included: service area, passenger characteristics, airline station characteristics, and aircraft fleet mix.

Air Service Area

Tri-State's service area is defined by the location of other commercial service airports in addition to services and destinations provided. Because of its location, the airport serves population within northwest West Virginia, southern Ohio and eastern Kentucky. It is located within the KYOVA metropolitan planning service area which consists of Lawrence County, OH, Cabell and Wayne Counties, WV, Huntington, WV and Ironton, OH.

[7] The LPA Group Incorporated, 2008.

With the addition of Allegiant Airways in late 2006, the airport expanded its market area due to its lower fares and non-stop services to Orlando, Ft. Lauderdale, St. Petersburg, Charlotte, Atlanta and Cincinnati. However, HTS is competing with larger commercial service airports in Ohio (i.e. Cincinnati) and Kentucky (i.e. Lexington), which impact its passenger market. Still travelers continue to patronize HTS as a result of convenience, lower fares, nonstop destinations, jet service, etc. Therefore, these factors were considered in the development of the passenger enplanement forecast.

Passenger Characteristics

There are two categories of commercial passengers: business and leisure. Business passengers typically travel with less luggage, arrive just prior to their flight, and are more likely to use terminal public facilities and concessions, including rental car, taxis and airport shuttles, as well as short and long-term parking facilities. Leisure travelers, defined as those traveling for personal reasons, typically travel with more luggage, generate a larger number of visitors and greeters, and are less likely to use airport facilities (i.e. parking and rental car) except during peak travel seasons. HTS caters to both business and leisure travelers equally due to access to several airport hub (i.e. Cincinnati and Charlotte) and vacation destinations (St. Petersburg, Ft. Lauderdale, Orlando, etc.). As a result, the characteristics and ratio associated with these two passenger types influences the type and level of airport facilities over the twenty-year forecast period.

Airline Station Characteristics

Airlines are categorized into three types: Origin/Destination, Through Airport and Transfer Airport. HTS is categorized as an Origin/Destination airport due to the high percentage of total originating passengers to enplanements (approximately 100 percent), the prevalence of turn-around flights and airline destinations. This flow of passengers between aircraft and ground transportation generates the need for airport facilities including ticketing counters, baggage handling services, and parking facilities. Further, passenger load factors at O and D airports typically range from 65 to 90 percent. At HTS, the load factors from 2004 through 2007 ranged from 71% to 99%.

Aircraft Fleet Mix

Passenger enplanements, commercial operations and associated airport facilities are impacted by changes in the aircraft fleet mix. Commercial service at HTS is currently provided by Comair (Delta Airlines Connection), US Airways Express/America West, and Allegiant Air. Delta (ASA) initiated jet service in 2002 using the 50-seat Canadair RJ 200ER. Prior to this, HTS was serviced with a combination of 19 and 30 seat turboprop aircraft. Today, the airport is served by Allegiant Air, Delta/Comair, US Airways Express, and Federal Express with jets with the exception of US Airway's DHC-8.

Table 4-1: Fleet Mix at HTS

Allegiant Air	MD-80 and MD-83
Delta/Comair Connection	CRJ 200 ER (50 seats); CRJ-700 (70 seats) & CRJ-900 (76 seats)
US Airways Express	DeHavilland DHC-8 (37 seats) & CRJ-200 (50 seats)
Federal Express	Converted B-727

Source: HTS, 2008

Although record fuel prices are impacting the market, regional carrier capacity is still expected to grow primarily due to increasing numbers of 70 to 90 seat regional jets and the retirement of most turboprop and smaller regional jets. This trend is expected to continue, and, therefore, was factored into the commercial passenger enplanement forecast.

4.1.2 Historic Passenger Demand

The following section summarizes available historic data from local sources, FAA data, DOT databases, and airport records. The information includes historical enplanement and operational data for the five and ten years preceding the base year (2007) set for this study. The primary source of airport passenger data was obtained from monthly enplanement data filed by the airlines to the FAA with copies provided to airport management.

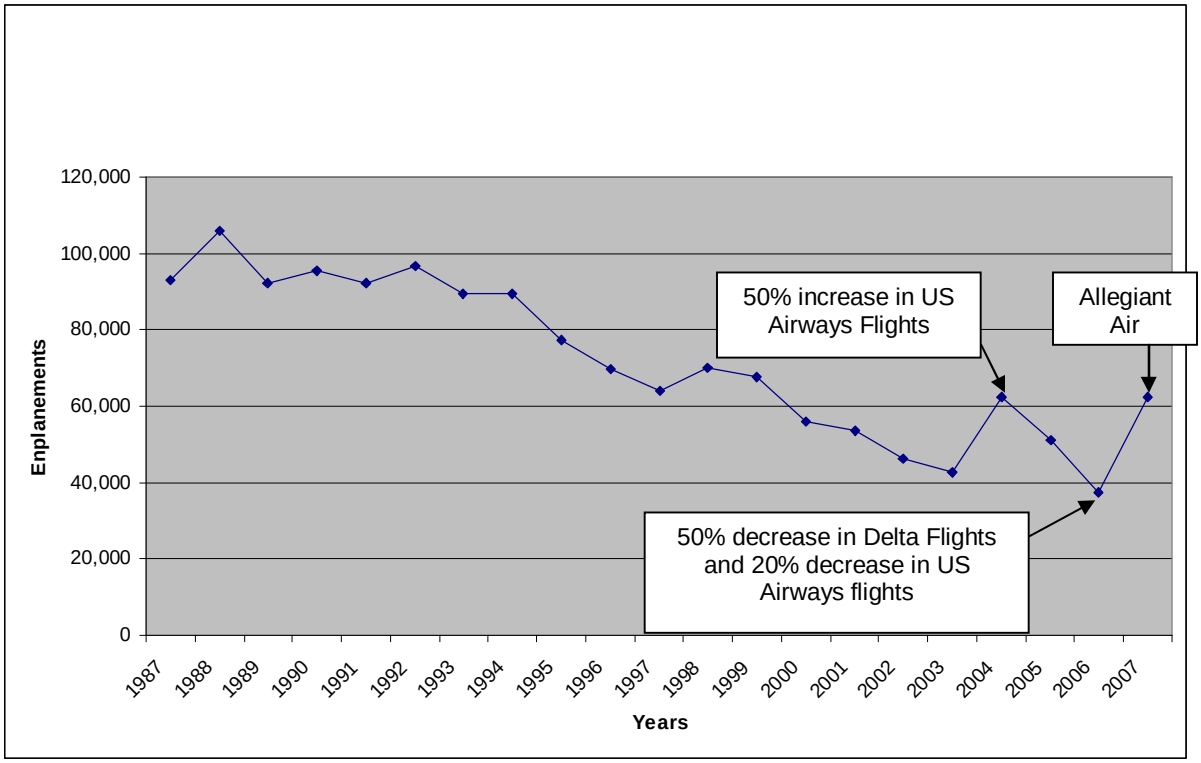
A review of historical demand since the late 1980's has consistently shown volatility in passenger enplanements. As illustrated in **Table 4-2** and **Figure 4-1**, following the post-deregulation period of the late 1980's, passenger enplanements have trended downward until 2004 where enplanements increased by 46 percent over the previous year.

Table 4-2: Historic Passenger Enplanements Huntington Tri-State Airport

Year	Commercial Passenger Enplanements
1987	92,845
1988	106,018
1989	92,290
1990	95,586
1991	92,181
1992	96,782
1993	89,389
1994	89,234
1995	77,474
1996	69,824
1997	63,970
1998	69,926
1999	67,506
2000	55,777
2001	53,558
2002	46,266
2003	42,679
2004	62,416
2005	51,041
2006	37,405
2007	62,329

Sources: Airport Records, DOT T-100 database, Airport 5010 Database, 2008 Terminal Area Forecast, and The LPA Group Incorporated, 2008

Figure 4-1: HTS Commercial Passenger Enplanements 1987-2007



Source: The LPA Group Incorporated, 2008

Service levels at HTS were driven by the airlines determinations to provide service and at what levels as shown in 2004. As shown in Table 4-2, annual passenger traffic decreased from 2000 through 2004. However, in 2004 and again in 2006, passenger enplanements increased significantly primarily as the result of increased service and expanded route structures as well as the introduction of new carrier service (Allegiant Air).

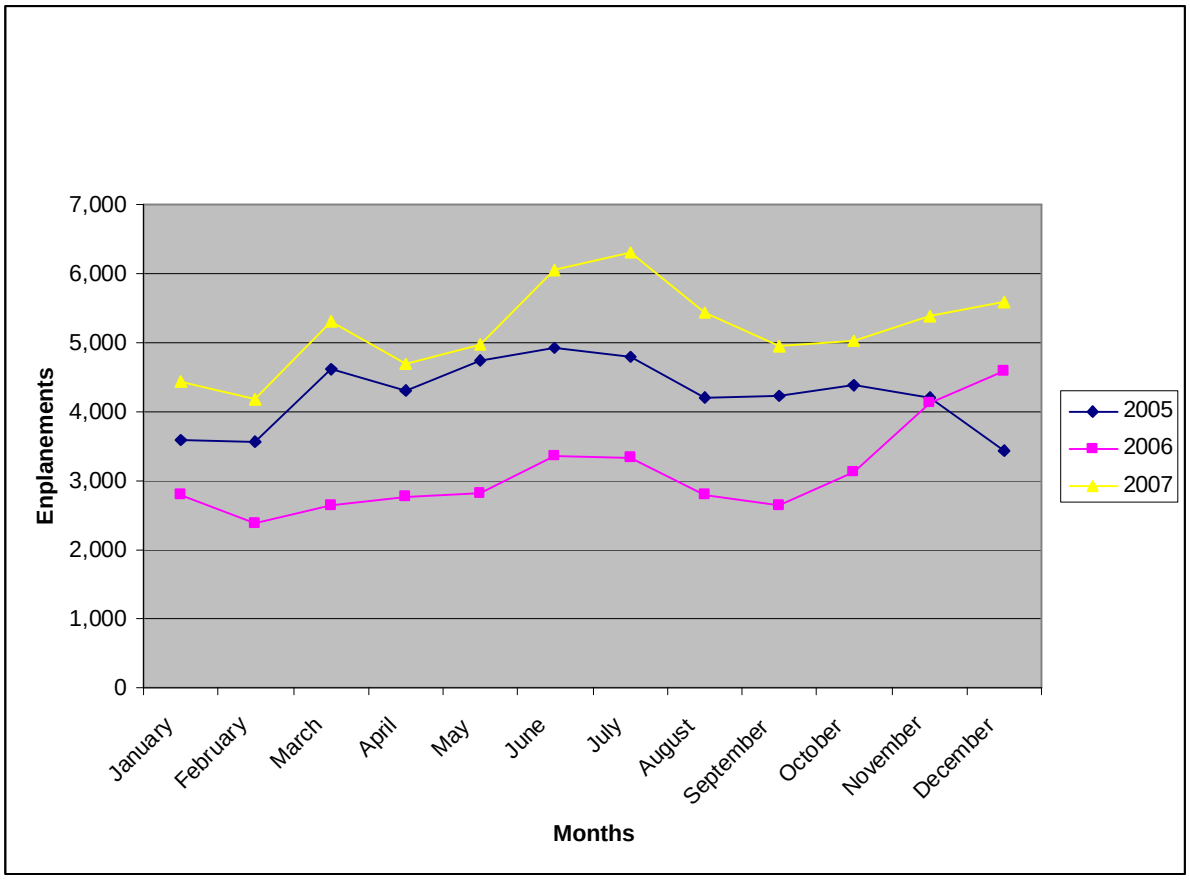
As shown in **Table 4-3** and **Figure 4-2**, peak monthly operations typically occur in July coinciding with various national holidays and summer vacation.

Table 4-3: Monthly Passenger Enplanements Huntington Tri-State Airport

Month	2005	2006	2007
January	3,592	2,785	4,436
February	3,566	2,385	4,183
March	4,627	2,653	5,304
April	4,315	2,780	4,687
May	4,753	2,810	4,978
June	4,929	3,353	6,059
July	4,799	3,325	6,312
August	4,212	2,800	5,431
September	4,225	2,649	4,948
October	4,381	3,128	5,027
November	4,208	4,139	5,386
December	3,434	4,598	5,578
Total	**51,041**	**37,405**	**62,329**

Sources: Airline Monthly Data Reports, HTS Historic Records, 2008

Figure 4-2: Historic Passenger Enplanements 2005-2007



Source: The LPA Group Incorporated, 2008

4.2 *Previous Aviation Activity Forecasts*

Previous aviation forecasts were reviewed in preparing this forecast. Prior to this study, at least two master plan updates were completed. This *Huntington Intermodal Transportation Planning Study* uses 2007 as the base year and forecasts passenger enplanements through the year 2027.

4.2.1 Master Plans

Both the 1990 and 2003 Master Plans annual passenger enplanement projections are provided in **Table 4-4**. The forecasts were extrapolated through the year 2027 to provide a basis of comparison to forecasts generated as part of this study.

Table 4-4: Master Plan Update Forecasts from 1990 and 2003

	Annual Enplanements	
Year	1990 MPU	2003 MPU
1988[1]	104,000	106,018
1993	132,700	89,389
1998	153,800	69,926
2000[2]	163,167	55,777
2008	206,700	75,177
2010	221,394	81,500
2015	262,863	90,638
2020	312,100	100,800
Extrapolated by LPA		
2027	396,902	123,997
Annual Average Growth Rates		
1988-2000	3.82%	-5.21%
2000-2020	3.30%	3.00%
2020-2027	3.49%	3.00%

Notes:
[1] 1998 base year for 1990 MPU.
[2] 2000 base year for 2003 MPU.

Source: The LPA Group Incorporated, 2008

The 1990 Master Plan predicted a 3.82 percent average annual growth in commercial passenger enplanements from 1988 through 2000. However, in reality, the airport saw an average annual decline of 5.21 percent for that period. As stated in the 2003 master plan, strong aviation growth was prevalent in the late 1980's. However, with the onset of the Persian Gulf War and an economic recession in the 1990s, the aviation industry was hard hit.

In the late 1990s, passenger enplanements increased. However, like all airports around the country, Tri-State Airport was impacted by the events of September 11, 2001. Although passenger activity from 2006 to 2007 increased dramatically due to the introduction of Allegiant Air, forecasts of future demand, at least during the short-term, should remain

conservative due to the volatility of the aviation industry as a whole, primarily related to fuel prices, security and employment issues, as well as mergers and bankruptcies which has caused a contraction in commercial aviation nationwide.

4.2.2 FAA Terminal Area Forecast

The FAA Terminal Area Forecast (TAF) is prepared annually and is used to project future traffic levels for the US. TAF projections are typically based upon a top down regression analysis applying several independent national economic variables. However, often at general aviation and smaller commercial service airports, a statistical correlation between such independent variables as population, per capita income and employment does not exist. In these cases, the TAF relies on historical data.

The 2001 FAA TAF projected an annual growth rate of approximately 3.3 percent for passenger enplanements, whereas the 2007 TAF projected an annual growth rate of 1.75 percent from 2006-2025. The 2001 TAF did take into account fluctuations in activity since 1988 as well as external impacts associated with the Gulf War and economic recession of the 1990s.

The 2007 FAA TAF, however, accounts for the impacts of the September 11, 2001 Terrorist Attacks, the Iraq War, as well as the impacts of airline consolidation and higher fuel prices. This may account for the conservative projection of passenger enplanements and commercial operations over the twenty-year planning period. 2007 TAF projections extend to the year 2025, but have been extrapolated to 2027 to provide a comparison with projections developed in this analysis.

Table 4-5: FAA Terminal Area Forecasts 2001 and 2008

	Annual Enplanements	
Year	**2001 TAF**	**2007 TAF**
2000[1]	55,777	55,777
2006[2]	69,205	37,122
Forecast		
2012	83,347	40,186
2017	96,701	44,233
2022	113,688	48,703
2027	133,660	53,626
Annual Average Growth Rate		
2000-06	3.66%	-6.56%
2006-27	3.18%	1.77%

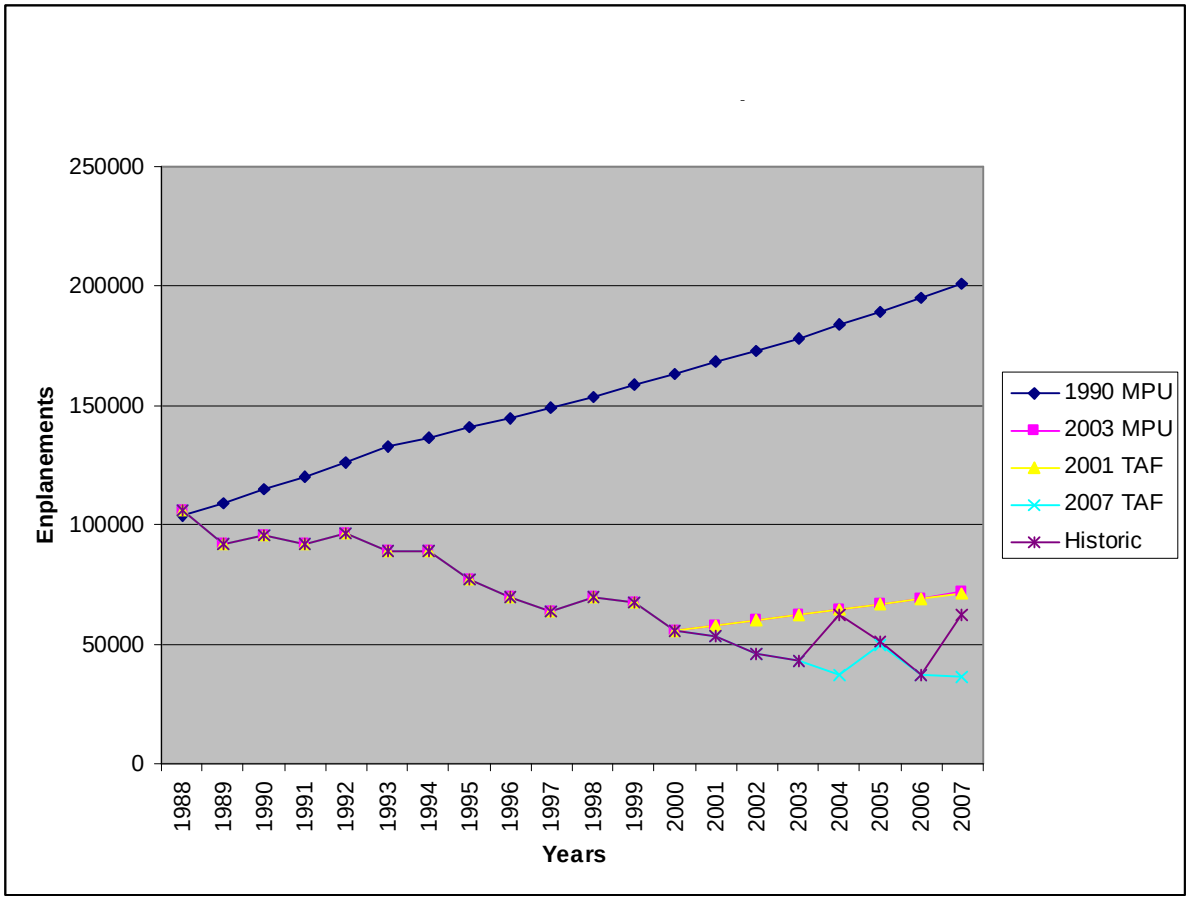
Notes:
[1] 2000 was base year for 2001 FAA TAF.
[2] 2006 was base year for 2007 FAA TAF

Sources: 2003 Airport Master Plan Update, FAA 2007 Terminal Area Forecast, and The LPA Group Incorporated, 2008

4.2.3 Accuracy of Earlier Forecasts

A comparison of previous forecasts (including the 2007 TAF) and historical passenger enplanements is provided in **Figure 4-3**. It is informative to note that earlier forecasts projected over 200,000 annual passenger enplanements by the year 2007, which is approximately 138,000 greater than actual enplanements. Further, although fluctuations in activity have occurred between the years 2001-2007, the forecasts developed in the 2003 Master Plan Update and in the 2001 FAA TAF exceed the historical 2007 passenger enplanements by less than 10,000 enplanements.

Figure 4-3: Historic and Forecast Annual Enplanements



Source: The LPA Group Incorporated, 2008

4.3 *Forecasting Approach*

Two of the primary considerations that can influence activity forecasts at an airport include historical trends and industry trends. By tracing historical trends, it is possible to determine the impact that economic fluctuations, as well as changes in the market or in airline business

practices have had on activity at an airport. Likewise, applying recent or anticipated industry trends can allow educated assumptions to be made as to how a market may be served or activity may be affected in the future. These considerations play a key role in the forecast of enplanements and operations presented in this chapter.

A key element in the forecast process is the identification of national and local trends that enhance the potential for new or expanded service by existing commercial operators, as well as the potential for the airport to secure new service and users. Several sources of data were utilized to identify both national and local trends. In addition to the historic data and previous studies conducted, national and local industry information was collected from the current FAA Aerospace Forecasts, the FAA Terminal Area Forecast, airline reports, and industry periodicals.

Using the information gathered, assumptions were made with respect to how aviation activity may change in the future based on trends emerging in the aviation industry. This included evaluating HTS's role in the nation's aviation transportation network. Along these lines, many different factors were considered which might influence the course in which activity at an airport develops. The primary goal of the analysis was to develop an approach that gives reasonable consideration to these factors while at the same time providing a rational basis on which to base the forecast process. In addition to aviation trends, local demographics were also explored. In developing the various forecasts for HTS, the historic and projected demographics of the region were analyzed to identify potential factors that could impact the level or type of aviation activity at HTS. This data is primarily used to develop a series of linear and multiple regression analyses as appropriate for the commercial forecasting efforts.

Regression Analysis

Regression analysis is the strongest scientifically based method available to establish: first, the existence of a relationship between demand for aviation travel services and changes in the local economy that drive this demand; and, second, the overall strength of that relationship. That the relationship exists can be seen in the fact, for example, that as growth occurs in one or more of the social and economic variables selected (population, employment and income), growth also occurs in tandem with the demand for aviation services.

In employing various combinations of socio-economic data sets to historic enplanement data, all models resulted in a lower than desired statistical correlation. Based upon US Census Bureau of Economic Analysis and data provided in the KYOVA 2005 Long-Term Transportation Study, although there has been a shift in employment from heavy manufacturing to specialty and white collar industries, population within the area has continued to decrease at average annual rate of .08 percent. However, per capita income from 1996 to 2006 has increased by more than 4 percent annually. Based upon economic data and fluctuations in airport enplanements, no correlation could be determined. Therefore, regression analysis was not used as a forecast methodology for defining future activity levels at HTS.

4.4 *Passenger Enplanement Forecast (2007-2027)*

Eight estimates based upon a combination of historic data, top-down forecasts prepared by the FAA from a national perspective, and bottom-up or local forecast perspective were developed in an effort to provide a viable forecast of passenger enplanement demand over the twenty year planning period. The projections are shown in **Table 4-6.**

Table 4-6: Projected Commercial Enplanements

Year	Adjusted Local TAF	Adjusted NPIAS	National Domestic Enplanement	Long-Term Economic Growth	Market Share		Historic Linear Projection	Adjusted 2003 Master Plan Forecast
			FAA Aerospace Forecast	US GDP	National	Statewide		
Historic								
2006	37,405	37,405	37,405	37,405	37,405	37,405	37,405	37,405
2007	62,329	62,329	62,329	62,329	62,329	62,329	62,329	62,329
Forecast								
2008	63,538	62,874	63,264	64,132	63,039	63,406	63,326	64,897
2012	68,612	65,103	73,429	71,650	70,890	67,910	67,475	73,411
2017	75,529	68,000	88,143	81,972	81,975	74,012	73,046	81,642
2022	83,143	71,026	105,262	93,181	94,724	80,684	79,077	92,322
2027	91,524	74,187	124,742	104,910	109,494	87,967	85,606	107,042
Annual Average Growth Rate								
2007-12	1.94%	0.87%	3.33%	2.83%	2.61%	1.73%	1.60%	3.33%
2012-17	1.94%	0.87%	3.72%	2.73%	2.95%	1.74%	1.60%	2.15%
2017-22	1.94%	0.87%	3.61%	2.60%	2.93%	1.74%	1.60%	2.49%
2022-27	1.94%	0.87%	3.45%	2.40%	2.94%	1.74%	1.60%	3.00%
2007-27	1.94%	0.87%	3.53%	2.64%	2.86%	1.74%	1.60%	2.74%

Sources: FAA Aerospace Forecast, Fiscal Years 2008-2025, Long-Term FAA Aerospace Forecasts, 2020, 2025, and 2030, Airport Records, and The LPA Group Incorporated, 2008

The first four columns represent forecasts prepared by or for the FAA from a national perspective. As such, they are "top-down" forecasts, and are prepared for the purpose of estimating future FAA air traffic control and other infrastructure costs to present annually in federal budget appropriations bills before Congress.

As noted in **Table 4-7**, the 2007 NPIAS and TAF forecasts for HTS were adjusted to provide a more accurate comparison with existing and future conditions. As shown in **Table 4-6**, both the NPIAS and TAF underestimated the number of passenger enplanements by 24,882 and 25,809, respectively.

Table 4-7: Adjusted FAA NPIAS and TAF Forecasts 2007-2025

Year	2007 NPIAS	Adjusted 2007 NPIAS	2007 TAF	Adjusted 2007 TAF
Base Years				
2006	37,122	37,405	37,122	37,405
2007	37,447	62,329	36,520	62,329
Forecast				
2012	39,113	65,103	40,186	68,612
2017	40,854	68,000	44,233	75,529
2022	42,672	71,026	48,703	83,143
Extrapolated				
2027	44,571	74,187	53,626	91,524
Average Annual Growth Rate				
2007-12	0.875%	0.875%	1.93%	1.94%
2012-17	0.875%	0.875%	1.94%	1.94%
2017-22	0.875%	0.875%	1.94%	1.94%
2022-27	0.875%	0.875%	1.94%	1.94%
2007-27	0.875%	0.875%	1.94%	1.94%

Sources: FAA 2007-2011 National Plan of Integrated Airport System Forecast, FAA 2007-2025 HTS Terminal Area Forecast, Airport Historic Data, and The LPA Group Incorporated, 2008

Applying the growth factors predicated in the forecasts results in a more realistic forecast of passenger enplanements.

The latter two enplanement forecast columns in **Table 4-7** are locally focused forecasts that take into account local and regional social-economic trends, actual historical traffic counts and other local details that are of necessity not included in the federal perspective, looking downwards from the national-scale picture.

The Market Share forecast is a hybrid of the top-down and the bottom-up approaches, in that it applies local historical trends in demand for aviation services to national and statewide estimates of enplanement demand. In doing so, the Market share forecasts assumes aircraft enplanements will grow in proportion to the national or statewide trends. However, the number of enplanements, while estimated realistically according to current trends documented by airport counts, is estimated somewhat lower than the most

optimistic of the federal forecasts, but also more optimistically than the adjusted TAF and NPIAS federal forecasts.

This fractionally lower ratio is based on the historical ratio relationship between Tri-State and the national market. Therefore, local considerations play a significant influence on the Market Share Forecast as well. This is important in light of the fact that the FAA shows extreme optimism for the Regional/Commuter segment of the air travel industry for the duration of this study's planning period, ending in 2025.

Since most future events influencing airline bookings and other air travel services are unknowable, a range of scenarios was developed based upon the forecasts highlighted in **Table 4-7.** This will allow airport management to make critical decisions relative to expenditures for facility improvements, based on which of the scenarios most closely matches actual airline activity variables. Examples of such variables of particular concern to the operators include the number of aircraft passenger seat bookings, service improvements, schedule frequencies, fleet composition, and related information.

A range of forecasts generally defines the upper and lower limits of the market. Between these boundaries is a set of possible scenarios estimating the number of passengers likely to fly in any given year. Thus, forearmed with a set of reasonable possibilities, airline operators as well as airport management have the ability to plan flexibly, whether to ramp up or to hold the line on equipment and/or facility improvements based upon the range of passenger demand. Demand is often dependent on economic cycles that cannot be foreseen; therefore, the range of possibilities, each of which has an airport improvement project schedule linked to it, provides needed flexibility in the face of the unforeseeable.

Three forecast scenarios for enplanements, (low, medium and high,) were developed for HTS based upon historic data, air service activity, previously approved forecasts and external market conditions. Due to the volatility of the commercial aviation industry, it is anticipated that growth may remain conservative throughout the short-term forecast period. Still, since development is tied to a planning level rather than a specific year, it provides the airport authority planning, construction and funding flexibility. The high, medium and low growth forecasts were developed using the following approaches:

- The low forecast consists of median composite forecast of the multiple forecast methodologies shown in **Table 4-8.** This resulted in an average annual growth rate from 2007-27 of approximately 2.3 percent and passenger enplanements of 98,217.
- The medium and preferred forecast was determined by applying the average of the average annual growth rates for the FAA TAF, US Market Share, FAA Aerospace Forecast, and US GDP for key years to historic enplanement activity. Each of these forecasts to some extent consider national and local aviation trends as well as such external factors including fuel demand, job losses as well as the decrease in personal discretionary spending.

- The high growth scenario applies the unadjusted FAA Aerospace domestic growth rate to 2007 actual passenger enplanements. The high growth assumes that demand for aviation transportation will continue at the national growth rate, and short-term economic impacts (i.e. job losses, inflation, etc.) will not impact growth over the planning period.

Projected enplaned demand at HTS is shown in **Table 4-8** and **Figure 4-4**. It is recommended that passenger facilities, at least in the short-term, be based upon the medium growth forecast since it is based upon an exponential smoothing of demand in relation to national trends and external conditions.

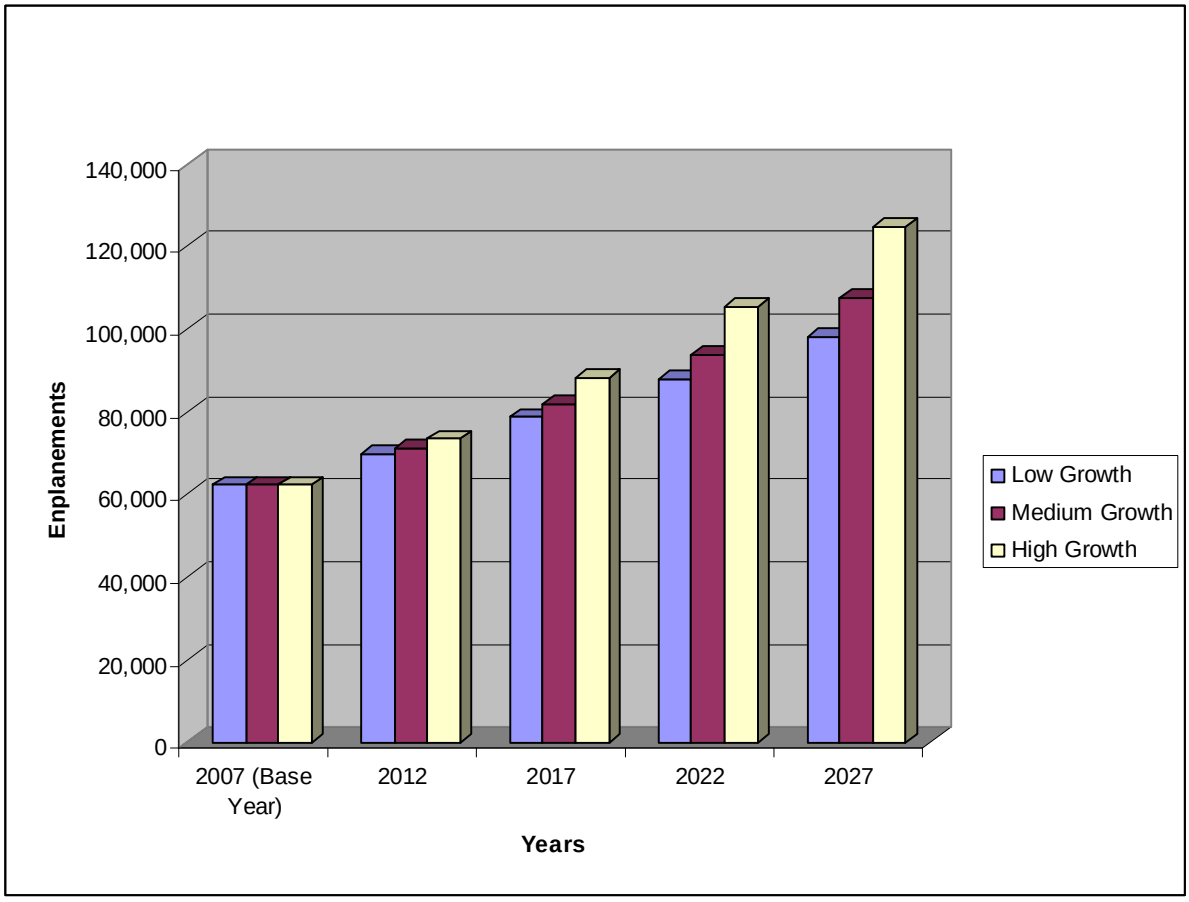
Table 4-8: Range of Passenger Forecasts Huntington-Tri State Airport

	Forecast		
Year	**Low Growth**	**Medium Growth**	**High Growth**
2007 (Base Year)	62,329	62,329	62,329
2012	69,751	71,127	73,429
2017	78,585	81,783	88,143
2022	87,732	93,832	105,262
2027	98,217	107,449	124,742
Percent Annual Change			
2007-12	2.28%	2.68%	3.33%
2012-17	2.41%	2.83%	3.72%
2017-22	2.23%	2.79%	3.61%
2022-27	2.28%	2.75%	3.45%
2007-27	2.30%	2.76%	3.53%
Percent Total Change			
2007-12	11.91%	14.12%	17.81%
2012-17	12.67%	14.98%	20.04%
2017-22	11.64%	14.73%	19.42%
2022-27	11.95%	14.51%	18.51%
2007-27	57.58%	72.39%	100.14%

Sources: Airport Records and The LPA Group Incorporated, 2008

The HTS Medium Growth (Preferred) forecast is a hybrid of the top-down and the bottom-up approaches, in that it applies local historical trends in demand for aviation services to national estimates. In doing so, the preferred forecast assumes aircraft enplanements will grow in proportion to the national trend. However, the number of enplanements, while estimated realistically according to current trends documented by airport counts, is estimated somewhat lower than the most optimistic of the federal forecasts, but also more optimistically than very conservative forecasts.

Figure 4-4: Forecast of Annual Commercial Passenger Enplanements



Source: The LPA Group Incorporated, 2008

4.5 *Summary Enplanements*

Forecasts of commercial passenger enplanements will be used in the development and justification of various commercial facilities at HTS. Although the medium forecast is recommended, if a significant increase in passenger enplanements occur either associated with the introduction of new services or changes in the fleet mix, then development based upon the high forecast may be used.

It is the position of the FAA that forecasts developed as part of an airport study should not deviate by greater than 20 percent over the long-term unless significant justification is provided. In the case of HTS, the unadjusted TAF shows a deviation of more than 100 percent in the year 2027. Whereas applying the FAA TAF growth rates to the historic 2007 enplanements, forecast operations are within the approved deviation range as shown in **Table 4-9**. Therefore, the proposed enplanement forecast is to be used for development of short and long-term commercial facilities in this report.

Table 4-9: Commercial Passenger Service Comparison of FAA TAF and Airport Forecasts

	Year	Medium Airport Forecast	2007 TAF	Percent Difference	Adjusted 2007 TAF	Percent Difference
Passenger Enplanements						
Base yr.	2007	62,329	36,520	70.67%	62,329	0.00%
Base yr. + 5yrs.	2012	71,127	40,186	76.99%	68,612	3.66%
Base yr. + 10yrs.	2017	81,783	44,233	84.89%	75,529	8.28%
Base yr. + 15yrs.	2022	93,832	48,703	92.66%	83,143	12.86%
Base yr. + 20yrs.	2027	107,449	53,626	100.37%	91,524	17.40%

Source: FAA TAF, 2007 and The LPA Group Incorporated, 2008

4.6 *Potential Air Freight Growth*

(NOTE: A copy of the *KYOVA Freight Planning Study and Regional Freight Profile* prepared by Wilbur Smith Associates is provided in a companion, separate document.)

The Huntington area does possess several attributes attractive to air freight and air cargo carriers. These include excellent airfield facilities, a base of local cargo volume, good interstate access, and a ready supply of labor interested in part-time employment (specifically Marshall University students).[8]

Based on recent information from Fed Ex, it does not appear that they intend to significantly expand their air cargo operations in the Huntington area.

Based on national trends in air freight, it is anticipated that some growth in the volume and value of air freight can be anticipated at HTS. National projections for the state of West Virginia indicate airfreight to grow to 8 times its weight and value by 2035. This growth is however proportionate to similar freight growth for other modes in the state.[9]

4.7 *Estimated Future Parking Needs*

Using enplanement projections, terminal operations, rental car facilities, and existing peak conditions, it is estimated that the Huntington Tri State Airport will need 484 parking spaces by 2012, 537 spaces by 2017, 596 spaces by 2022, and approximately

[8] Tri-State Airport Master Plan Update, August, 2003 p. 2-14.
[9] Federal Highway Administration Freight Analysis Framework (FHWA FAF[2])

663 spaces by 2027. This is more than double current capacity. Current demand is also estimated to exceed the need. **Table 4-10** presents a table showing parking requirements including all assumptions used in calculating the space needs estimates.

Table 4-10: Projections of Parking Needs

	Parking Requirements				
	2007	2012	2017	2022	2027
Annual Enplanements[1]	62329	71127	81783	93832	107449
Avg Day Peak Month Enplanement[2]	204	233	268	307	352
Parking Space Capacity[3]	286	286	286	286	286
Passenger Parking Space Demand[4]	306	349	402	461	528
Parking Shortage	20	63	116	175	242
Rental Car Spaces[5]	60	60	60	60	60
Employee spaces[6]	75	75	75	75	75
Transit/car pool[7]	0	0	0	0	0
Total Parking Spaces needed (Public, Passengers, Rental Cars, Employees)	**441**	**484**	**537**	**596**	**663**

Note:
[1] Based on LPA Forecast 2008
[2] Based on 2007 peak month data
[3] Exisiting public parking lot spaces
[4] Assumes 1.5 spaces/ADPM enp
[5] Assumes rental car companies do not expand
[6] Assumes no gate/terminal expansion
[7] Assumes no car pooling will occur

Source: The LPA Group and WSA Aviation Practice calculations, 2008

** 285 parking spaces were used to perform the calculations; it is reported throughout this report that there are actually 286 spaces available. This discrepancy does not significantly impact the overall space need calculations.*

5 Stakeholder and Public Involvement

The WSA Team worked with the project Owner (KYOVA), the HTS Airport Authority, and WVDOT planning staff to develop a Public Involvement Plan (PIP) for the project study. This included identifying a Steering Committee and specific Stakeholder members to be involved throughout the project. Ideas, opinions, concerns, and comments from the HTS Airport Authority, WVDOT and KYOVA staff, and project stakeholders were solicited throughout the planning study process. Their information and input has been incorporated into the development of this *Huntington Intermodal Transportation Planning Study* report and its recommendations.

5.1 *Public Involvement Plan (PIP)*

In April, 2008 a PIP was developed for the study and approved by the project Owner. A copy of the PIP is included as **Appendix B** to this report. The PIP was designed to both inform and receive input about the study from airport users and citizens in the KYOVA regional area. The public involvement process included establishing both Steering and Stakeholder committees as well as holding a public open house to review the draft planning study report and recommendations. The PIP was considered a living document and was adjusted or modified as the study progressed to best meet the needs of the region. The PIP and its modifications were followed throughout the study process.

5.1.1 Methods for Gathering Information and Involving Stakeholders

The PIP included gathering information and involving the Steering Committee and Stakeholders in a variety of ways. These included:

- **Stakeholder Interviews:** Eighteen (18) Stakeholders and Steering Committee members were contacted by phone or in person and interviewed to solicit their ideas, opinions and concerns relative to the HTS and the proposed Huntington Intermodal Facility.

- **Stakeholder Survey Questionnaire:** An opinion survey was used to understand Stakeholders' issues, concerns and vision for the study and proposed intermodal facility. The surveys were hand delivered or mailed to approximately 50 individuals and organizations.

- **Steering Committee / Stakeholder Meetings:** Stakeholder and Steering Committee meetings were held to provide information, to gather concerns, and to review and comment on draft reports. Meetings coincided with project milestones such as KYOVA TAC and Board meetings. New information was presented and input requested at each of these meetings.

- **Design Charrette:** A four-hour interactive Design Charrette was held on August 20, 2008. All Stakeholder and Steering Committee members were invited to attend. The Charrette was more of a working session than a meeting. The Project Team, including the LPA Group who is a subconsultant to WSA on facility design and HTS airport issues, provided conceptual designs. The twenty participants were asked to break into groups to brainstorm and draw what they would like to see in an intermodal facility. Through this, the WSA Team narrowed the goals and objectives and developed metrics for evaluation of alternate concepts.

- **Public Meeting / Open House:** A Public Meeting for the study was held on September 24, 2009 from 3:00-7:00 P. M. in the terminal of the HTS Airport. The meeting used an Open House format. The purpose for the Open House was to present to the public with the draft Intermodal Transportation Planning Study including the refined design concept and alternatives recommended for the proposed intermodal center.

- **Final Steering Committee Meeting:** During the November 2009 KYOVA Board meeting, the KYOVA Board and Steering Committee will review and approve the study and agree on the Implementation Plan as recommended in **Section 12**. Upon approval, the study report and plan will be incorporated into the KYOVA Long Range Plan (LRP.)

- **Website:** To help inform the public of the project, WSA provided information to KYOVA to post on their website throughout the duration of the study. Meeting minutes, draft and final reports, and other relevant materials were provided in a format that can be downloaded from the KYOVA website.

5.1.2 Steering and Stakeholder Committees

A Planning Study Steering Committee was selected to guide the study and ensure that each task was completed to meet the purpose and need of the study. The Steering Committee helped to identify the Stakeholder Committee. A complete list of Steering Committee members and project Stakeholders is provided in **Appendix C**.

The Stakeholder Committee included individuals and organizational representatives such as local city and county officials, the HTS Airport Authority, KYOVA, WVDOT, representatives of the FAA, Federal Transit Authority (FTA), The Transit Authority (TTA) for the Huntington area, current and prospective users and potential operators of air and bus routes, business owners that may locate inside the proposed intermodal facility, and any other entity that may be affected by the project. WSA worked with the Steering Committee, project Stakeholders, and the public to understand their overall goals, vision, and need for the proposed intermodal facility.

5.2 *Steering Committee / Stakeholder Interviews*

WSA together with KYOVA staff developed an interview questionnaire to help define the basic parameters and goals for the study and potential HTS Intermodal Project. The questionnaire was used to interview key Steering Committee members and Stakeholders by telephone and in face-to-face interviews. Eighteen (18) interviews were conducted during March through May, 2008. This diverse group included: local elected officials; HTS Airport Board members and staff; The Transit Authority (TTA) for Huntington board members and staff; KYOVA Board members and staff; WVDOT modal staff from Highways, Aviation and Public Transit, FTA regional office staff; and economic development agency directors representing the Huntington area, Lawrence County and Ashland metropolitan areas in West Virginia, Ohio, and Kentucky. **Appendix D** includes a copy of the questionnaire and a complete copy of the interview findings.

Overall, interviewees agreed that the HTS Airport is critically important to the economic health of the region. The Airport has potential to grow and provide unique aviation-related economic development opportunities for the region; and, its growth and strength will support the economic health of the region. Interviewees agreed that affordability and availability of flights are the key the factors that keep HTS viable. All agree that modernization of the facility including improved intermodal connectivity and expanded parking would help. Interview findings are incorporated throughout this report.

5.3 *Stakeholder Questionnaire*

In order to receive input from the entire Steering Committee and all project Stakeholders (including those who were not interviewed by telephone or face-to-face) a survey questionnaire was developed and provided to these individuals. The survey included questions similar to those asked in the interviews. Surveys were sent via US Mail or handed directly to Stakeholders and community leaders attending the April, 2008 KYOVA Board Meeting. Over 50 survey questioners were distributed. They were to be completed and returned by Mid-May, 2008. Unfortunately only 14 surveys were returned. A complete summary of the responses is provided in **Appendix E**.

While there were only a limited number of survey responses, their comments are consistent with the findings from the telephone and face-to-face interview conducted and described in the accompanying report. In general stakeholders who completed the survey believe:

- The HTS Airport is important to the area;
- Respondents support public transportation and view it as beneficial to the region and the environment;
- Most respondents felt that improved connectivity between the HTS Airport and downtown Huntington using pubic transportation including taxis and hotel shuttles is needed;

- Most respondents felt that more parking spaces are needed at the HTS Airport;
- Handicapped access to the terminal is a concern and needs improvements;
- Respondents believe the facility should be paid for with a mix of government grants, loans, and parking user fees.

5.4 *Design Charrette Summary*

A half-day Design Charrette was held Wednesday, August 20, 2008 from 8:30 to 11:30 a.m. at the KYOVA Conference Room, 720 Fourth Avenue, Huntington, WV. The Charrette was facilitated by WSA and LPA Team members and included participation from twenty (20) members of the Steering and Stakeholders Committees. The purpose for the Charrette was to identify goals and objectives and develop metrics for evaluation of alternative design concepts for the proposed intermodal facility. The Charrette included a presentation of the study findings to date. The LPA Group presented three alternative design layouts for the proposed facility. Participants were asked to break out into work-groups and discuss the design concepts. Each group reported back to the entire group on what they felt is needed to develop and operate a successful intermodal facility at the HTS Airport. Information on the Charrette and the conceptual designs presented is provided in **Appendix F**.

Conclusions from the Charrette included information used to develop metrics for evaluating (**Section 8.1**) the alternative solutions, concepts, and development of the specific project requirements. The Charrette concluded with a discussion on anticipated design approaches for three conceptual designs.

5.5 *Meetings*

A variety of Steering Committee meetings and Stakeholder meetings were held for this planning study. The first joint meeting took place as part of the April 24, 2008 KYOVA Board meeting. As the Design Charrette included both Steering Committee and Stakeholder involvement, it is counted as a second meeting for each group. On March 6, 2009 a meeting will be held to present the draft planning study. The agendas, meeting minutes, sign-in sheets, and comment forms from each Steering Committee/Stakeholder Meeting can be found in **Appendix F**. A final meeting with the Steering Committee to approve the final document and include it in the KYOVA Long Range Plan is being held in conjunction with the November 2009 KYOVA Board meeting.

In addition to the March 6, 2009 presentation, an Open House was held on September 24 from 3:00 – 7:00 P.M. at the HTS Airport Terminal for the local community to review the concepts, selection, rationale, and present the draft study report. The a meeting summary, sign-in sheets and comment forms from the Meeting are provided in **Appendix G**.

During the September 2009 Open House Meeting, display boards and a power point slide show were presented to the public. They were asked to provide input on these concepts

and final recommendations from this study. Attendees agreed with the findings from the study and its recommendations. Twenty-one individuals signed in as attendees and 17 written comments were received. Comment forms were distributed by KYOVA staff to interested stakeholders in the area as well as HTS Airport patrons during the event. A number of the 17 comment forms came from individuals who did not attend the meeting but were interested and concerned citizens.

6 Economic Development Risks and Opportunities

As mentioned in **Section 5.2**, the eighteen Study Steering Committee Members and Stakeholders interviewed consistently identified efficient and affordable air service as a key to economic growth in the KYOVA / Huntington, Tri-State region. Regional businesses and industries depend on HTS for passenger and air-freight services to link their businesses to broader markets. Interviewees mentioned that many businesses like the small town feel of the airport that allows for ease in accessing flights. Several also mentioned that the region has already lost one key industry headquarters office in part because of the limited flight schedule, services and facilities at the Huntington Tri State Airport. If no improvements are made, the region may risk losing other key businesses, major employers, and industries.

"Efficient/available and affordable" air service is defined by local business leaders as:

- Efficient/available – relates to scheduled flights; it means that it is easy to get from Huntington to a number of other major cities or hubs without having to take more than one connecting flight. (This is seen as an issue that has reduced the HTS Airport's competitiveness.)
- Affordable – relates to the cost to fly; it means that the flights are priced competitively to other airports within a reasonable driving distance. (It was felt that the HTS is fairly competitive.)

Efficient and affordable air service also provides a benefit for visitors and citizens of the region who use the airport for personal travel. Expanding services, improving access and affordability, while maintaining the feel of a small airport, enhances the overall quality of life for businesses and residents of all three states in the Huntington area.

Based on the comments from the interviewees, it can be stated that the HTS Airport is critically important to the economic health of the region. The Airport has potential to grow and provide unique aviation-related economic development opportunities for the region; and, its growth and strength will support the economic health of the region. Interviewees agreed that availability and affordability of flights are the key the factors that keep HTS viable. All agree that modernization of the facility including improved intermodal connectivity and expanded parking would help. A summary of their comments follows.

6.1 *Economic Potential*

All eighteen stakeholders and Steering Committee interviewees discussed the direct link between the services provided at the HTS Airport and the economic viability of the region. They felt the airport could serve as a catalyst to promote regionalism and economic growth. Several mentioned the Marshall University study on the Economic

Impact of the Airport demonstrating that the airport supports approximately 1,100 jobs and has an annual economic value of approximately $50 million to the Tri-State regional area.

Several individuals mentioned that Ashland Oil, a major industry and employer in the region, left the region to relocate near Covington, Kentucky / Cincinnati, Ohio. Interviewees explained that Ashland Executives specifically stated that the lack of good air service was a critical factor in their decision to leave. The Cincinnati Airport, located in Kentucky is a hub for both passengers and freight.

Many interviewees agree that a lack of adequate parking spaces and an inefficient system for claiming baggage upon return flights are issues that need to be addressed.

6.2 *Potential for Tourism Growth*

Local economic development experts interviewed believe there is the potential for "reverse tourism" at the airport by getting Allegiant Air to create vacation packages for people flying to Huntington from destinations like Florida. The vacation packages could provide flights to HTS and offer hotels near activities such as whitewater rafting, hiking, Pullman Square, and Marshall University.

One local development director has already been approached by a charter bus tour service that is interested in locating in the Tri-State area. This service would partner with the airport and potentially locate at HTS to bring in tourists via the airport who would transfer to their charter buses to do West Virginia Wild and Wonderful type tours. Charter bus service functionally and physically using a new intermodal airport facility would qualify the facility for FTA funding. See **Section 11.4**.

Also, for over forty years the Huntington Passenger Rail organization annually attracts thousands of visitors from across the US for their Huntington to Hinton, WV day trips. Many of these visitors fly in and need transportation from the airport to the Amtrak station or local hotels. Currently hotel shuttles try to fill this need.

6.3 *Potential for Air Freight Growth*

Air cargo is typically light-weight, high-value, time-sensitive commodities. Items such as electronic components, mail, periodicals, pharmaceuticals, and component parts for precision instruments such as eye glasses or optical and photographic equipment fall into this category. Based on research conducted for the *KYOVA Freight Planning Study and Regional Freight Profile* (provided in a separate document) a number of regional businesses either produce or need this type commodity. These commodities (**See Table 3-5**) currently make up the majority of commodities originating or terminating via Air Cargo in Wayne County.

Based on national trends in air freight, it is anticipated that some growth in the volume and value of air freight can be anticipated at HTS. One of the primary sources used for reliable projections for air freight growth is the Federal Freight Analysis Framework. It projects continued growth in Air Freight.[10] These national projections for the state of WV indicate airfreight to grow to 8 times its weight and value by 2035. This growth is however proportionate to similar freight growth for other modes in the state.[11]

Based on WV state freight data in the *KYOVA Freight Study*, pharmaceutical make up one of the highest values of freight originating or terminating in WV. If the businesses and industries that are dependent on the timely shipment of these commodities are to continue to prosper and grow, air cargo services must remain a viable transportation option at HTS Airport.

[10] http://www.ops.fhwa.dot.gov/freight/freight_analysis/faf/state_info/faf2/pdfs/wv.pdf
[11] Federal Highway Administration Freight Analysis Framework (FHWA FAF^2)

7 Evaluation Metrics, Alternative Solutions, Evaluation, and Recommendations

This section summarizes the goals, needs, desired amenities and conditions articulated by the stakeholders and the public for improving the HTS Airport so it can adequately support regional economic development growth in the Tri-State area. These goals, needs, desired amenities and conditions are presented as metrics or criteria to evaluate alternative solutions that may meet these goals and address the needs identified by this study. This section also presents the recommended alternative concept that best realizes the region's goals and addresses the metrics.

7.1 *Evaluation Metrics / Evaluation Criteria*

As part of the Public Involvement Plan (PIP) for the *Huntington Intermodal Transportation Planning Study*, key Steering Committee Members and Stakeholders were interviewed, surveyed, and met with to understand their ideas, opinions, and vision for the Huntington Tri-State (HTS) Airport and the proposed intermodal center. A public Open House Meeting was also held to confirm these perspectives. The PIP is discussed in **Section 5** of this report.

These interactions produced an understanding of the problems and need at the HTS Airport and a list of desired amenities, features, and improvements stakeholders feel are needed to create a facility or condition that will support their long term goals and needs for HTS and to improve the region's economic competitiveness. **Appendices D, E, and F** presents specific comments by project Stakeholders and Steering Committee members. **Appendix G** includes comments from the public.

Their comments are summarized and presented here as evaluation metrics or criteria to be used to select the recommended alternative that best achieves the goals and needs for the region relative to the HTS Airport.

Evaluation Metrics / Criteria 1: Improve Region's Economic Competitiveness

Evaluation Metrics / Criteria 2: Provide Adequate Parking to Meet Current and Future Need

Evaluation Metrics / Criteria 3: Include Amenities Comparable to Similar Facilities throughout the USA

Evaluation Metrics / Criteria 4: Provide Connectivity to Downtown Huntington

Evaluation Metrics / Criteria 5: Incorporate and Integrate Public Transit Services

7.1.1 Evaluation Metrics / Criteria 1: Improve Regional Economic Competitiveness

Stakeholders interviewed consistently identified efficient and affordable air services as a key to economic growth in the KYOVA / Huntington, Tri-State region. (See **Section 6**) Regional businesses and industries depend on HTS for passenger and air-freight services to link their businesses to broader markets. If no improvements are made, the region may risk losing or inhibiting the growth potential of key businesses, major employers, and industries that depend on HTS for passenger and air freight services. Improvements at HTS may attract new business and industry to the region. All agree that modernization of the facility including improved intermodal connectivity and expanded parking would help.

Criteria used in evaluating if the alternative solution improves regional economic competitiveness include:

- Ability to retain affordable and available flights
- Improvements to intermodal connectivity
- Overall modernization (this will improve HTS image to business community)
- Integration and improvements to air cargo services and facilities

7.1.2 Evaluation Metrics / Criteria 2: Provide Adequate Parking to Meet Current and Future Need

There is a parking shortage at HTS. Space for public parking is limited to 286 spaces for both short- and long-term parking. The parking lot overflows two to three times per week. Congestion is now occurring at the terminal drop-off/pick-up area. This has resulted in a safety issue with many vehicles parking outside the designated parking lot, adjacent to access roads and on open space around the airport.

Criteria used in evaluating if the alternative provides adequate parking include:

- Provides spaces in a safe, convenient to access location
- Provides the needed additional parking spaces
  - 441 spaces are presently needed
  - 484 spaces will be needed by 2012
  - 537 spaces will be needed by 2017
  - 596 spaces will be needed by 2022
  - 663 spaces will be needed by 2027

7.1.3 Evaluation Metrics / Criteria 3: Include Amenities Comparable to Similar Facilities throughout the USA

The present terminal facility was built in 1959 with an addition completed in 1979. It is located on the top of a mountain with steep grades on all sides. The airport surface

parking spaces are all located in a single lower parking lot that is roughly fifteen feet below the terminal floor level. This location makes ADA access and general pedestrian access difficult. To access the terminal from the parking lot passengers must climb stairs or negotiate a circuitous handicap ramp that is long and in a far corner of the lot. Luggage handling facilities are out of date.

Criteria used in evaluating if the alternative includes amenities comparable to similar facilities include:

- Level walkways or elevators designed to provide for the handicapped and individuals transporting luggage to and from the terminal;
- Sheltered or covered walkway access from parking to the terminal;
- Covered spaces for shuttles and taxis loading/unloading, amenities, and design features such as bus shelters, waiting areas, etc. to accommodate public transportation services, passengers, and vehicles;
- Separate drop-off and pick up areas to eliminate current congestion issues;
- Overall modernization especially the luggage handling systems for returning flights and connectivity to baggage claim area.

7.1.4 Evaluation Metrics / Criteria 4: Provide Connectivity to Downtown Huntington

The Huntington region and its businesses annually attract thousands of visitors to the region for business and pleasure. Major employers such as Marshall University, area hospitals, CSX and other businesses use HTS for their medical specialists, managers and employees and potential employees to access to the region. Tourist activities including special events on the river and railroad and the Convention Center attract visitors from across the nation. These visitors need to get to Downtown Huntington area and may not have someone who can pick them up in a passenger vehicle. Alternative transportation to and from HTS is important to the region remaining economically competitive.

Criteria used in evaluating if the alternative provides connectivity to downtown Huntington include:

- Provide designated space for buses and taxis services between HTS and downtown Huntington
- Improve access to the rental car facilities

7.1.5 Evaluation Metrics / Criteria 5: Incorporate and Integrate Public Transportation Services

Public transportation services are not currently available to HTS. From the outset of this study one of the goals for the proposed improvements at HTS was to include integrating public transportation facilities and services to the airport. Most Stakeholders contacted mentioned that they believe public transportation offered from HTS to downtown Huntington would benefit both local business people and tourists. Services could also

provide employees that work at HTS Airport with an alternative mode choice to get to work. Integrated public transportation was also viewed as beneficial to the environment.

A recent study by the Transportation Research Board, and published in *ACRP Synthesis 5; Airport Ground Access Mode Choice Models*, 2008, stated that the decision / choice of which mode of transportation a passenger will use to get to and from an airport depends on:

- The passenger, including their income level and their trip purpose (business or non-business)
- Travel time and cost, including
  - travel time
  - wait time
  - walking distance
  - cost
- Modes available including personal car, rental car, hotel shuttle, taxi, etc.

The same can basically be said for an employee's mode choice. It follows that providing public transportation services that connect the HTS to employment sites and residential areas near downtown Huntington, Pullman Square, and Marshall University that is equal or more time efficient, less costly, and requires less walking distance and waiting time would be used by residents and visitors to the Huntington area. The current public transit service operator in the Greater Huntington Area is The Transit Authority (TTA). The integration of service would also provide an alternative form of transportation to and form the airport and a simple source of revenue for TTA. Public Transit services could be scheduled to coincide with peak air service landings and take-offs.

Criteria used in evaluating if the alternative properly incorporates public transportation services include:

- Provides convenient, competitively priced, timely access to and from the terminal building via some form of reliable public transportation services
- Improves connectivity for both business and leisure passengers from HTS to downtown employment locations, residential areas in and near downtown, and downtown retail areas with Marshall University
- Includes amenities such as bus shelters and waiting areas protected from the elements.
- Improving local quality of life by helping to reduce congestion at the terminal and air pollution

7.2 *Other Challenges and Issues*

In addition to the addressing the safety, congestion, and parking needs, and providing modal options, the HTS Airport faces other challenges and issues that need to be considered in evaluating the six alternative solutions.

7.2.1 Air Service Issues

Residents in the Tri-State market area now have quality service (nonstop flights with large jet equipment at highly affordable prices) to three premier leisure destinations: Orlando, Tampa and Fort Lauderdale. The same cannot be said for the area's business community. The most glaring service deficiency for Tri-State area business passengers focuses on the northeast corridor, including the New England states south to the Washington, D.C. area. Today, Tri-State business passengers have flight options through two hubs – Cincinnati (Delta) located west of Tri-State and Charlotte (US Airways) located south of Tri-State. Therefore, any passengers destined to major commerce points east of Tri-State e.g. New York, Washington D.C., Boston, Philadelphia, must route circuitously (go west or south to go east) to get to these points. As an illustration of the importance of the northeast corridor, the four cities in the above example have a combined population of approximately 45 million people, accounting for about 15% of the total population of the US. Lacking direct service to this major commerce corridor is a clear deficiency that Tri-State is seeking to address.

New service from Tri-State to Cleveland, Philadelphia or Washington Dulles would help address today's service deficiency. A fourth hub, Detroit, although slightly more circuitous than the other three, would also be a viable option.

At this time, there is little likelihood that a carrier would start a new service from Tri-State without a revenue guarantee to reduce the financial risk inherent with that service.

Criteria used in evaluating if the alternative addresses air service issues include:

- Will the alternative make the HTS Airport more likely to attract additional air service

7.2.2 Funding Challenges

The region has limited funding available to meet the transportation needs. Funding through municipal bonds repaid by parking fees would not generate adequate monies to repay the funds needed to construct a facility or make landside improvements at the HTS. The only viable funding option includes the support of a Federal or State grants.

Criteria used in evaluating if the alternative addresses funding challenges include:

- Is the alternative the most cost effective

7.3 *Alternative Solutions*

Six alternative solutions were developed and are suggested for evaluation. They include: three facility design concepts developed by the LPA Group consultant team; the option of just building a second surface lot (as recommend by WVDOT staff); the option of constructing a new facility in phases; and the no-build/do nothing alternative.

7.3.1 Three Design Concepts

As part the Design Charrette those in attendance were asked to divide into teams to discuss what they felt the project design should accomplish. These are summarized below.

1. Design must compliment the terminal and fit into the Master Plan.
2. Short term and near term parking needed.
3. Satisfy ADA requirements.
4. Well lit, comfortable space required.
5. Improve relationship with baggage claim.
6. Provide access for emergency vehicles.
7. Provide bus drop-off area with waiting area.
8. Tie into baggage claim if possible.
9. Provide covered area for upper deck parking.
10. Limit the inconvenience of passengers during construction.
11. Provide covered pedestrian walkways.

Three conceptual schemes (A, B and C) were developed by the LPA Group to incorporate the features as agreed to in the Design Charrette. Due to the extreme slopes surrounding the site it became readily apparent that structured parking was the only solution that could meet their demand needs. Three different layouts are presented as **Figures 7-1, 7-2, and 7-3,** each with a varying configuration.

Figure 7-1: Design Concept A

(NOTE: See separate file for Figures 7-1 through 7-3)

Figure 7-2: Design Concept B

(NOTE: See separate file for Figures 7-1 through 7-3)

Figure 7-3: Design Concept C

(NOTE: See separate file for Figures 7-1 through 7-3)

Each design includes re-using the existing parking lot site. This affords the ability to create a very efficient garage floor plan. A four bay scheme utilizing a center sloped ramp with parking on it is both cost effective and attractive as the sloped floor is concealed. With this configuration 168 cars per level are achieved for a total of 672 spaces. By locating it as close as possible to the terminal and the exit road ease of access is provided for buses, as well as the future Baggage Claim Area. In addition it allows an area to accommodate landscaping and the requested holding area for bus travelers. This holding area, labeled on the drawings as a circulation tower, is connected to the parking structure via at grade or elevated walkways. An elevator is planned in the tower so that passengers on the west side of the structure may utilize the circulation tower to exit curbside in front of the terminal. Office space and waiting areas for public transportation may also be housed in the circulation tower.

The layout will accommodate several construction types. For budgetary reasons and ease of construction a precast concrete structure with a field topping will provide a cost effective and durable solution. As part of this the exterior skin will be a combination of precast concrete panels with brick inlay and barrier cables. In this solution ½" thick brick components are actually cast into the precast panels. This will provide a very aesthetically pleasing solution that compliments the terminal building and is very durable.

Protection for pedestrians and the cars on the top level will be provided by using simple curved metal trusses with a standing seam metal roof. This will provide a clean attractive response to the curved canopy at the terminal drop off area. Two of these will also extend over the driveway to provide protected access to and from the Terminal.

7.3.2 New Surface Lot and Shuttle Service

The fourth proposed alternative for evaluation includes just building a new surface parking lot and running shuttles busses from the new facility to the terminal. This facility would be located as proposed in **Figure 9-1**, labeled auxiliary parking lot. The new surface lot could be designated for long term parking and include a lower per day rate than the existing lot. When this new lot becomes over crowded, a new parking structure or facility would be re-evaluated. This alternative could provide additional parking spaces but would not include any of the other amenities or improvements. It would also require the addition of a permanent shuttle bus, drivers, and a second staffed payment booth at the entrance of the parking lot, and related ongoing maintenance and operating expenses.

7.3.3 Phased construction

The fifth proposed alternative includes constructing only the first two floors of the parking garage but constructing it to be structurally be able to have an additional floor added in future years as they become warranted.

7.3.4 No-build or Do Nothing Alternative

The final alternative is to do nothing, or remain in the status quo conditions continuing to maintain the existing parking site and surrounding uses.

7.4 *Estimated Costs*

The total estimated cost for a new intermodal facility including all the desired amenities and options is $18.6 million. The cost breakout is presented in **Table 7-1.** It includes engineering and design work, contingencies, all optional requested amenities, a 12 month escalation estimate of 8 percent. The garage structure represents approximately $11.7 million of this cost. The estimate also includes a breakout of costs for the circulation tower, site preparation and improvements for the auxiliary parking, the requested canopies and surface parking behind the proposed parking deck structure. These estimates include but are not limited to costs such as excavation, constructing a retaining wall, paving, and stripping the new spaces.

A precast concrete structure with a field topping is recommended as the most cost effective and durable solution. As part of this the exterior skin is a combination of precast concrete panels with brick inlay and barrier cables are suggested and included as part of the budget estimates. In this solution ½" thick brick components are actually cast into the precast panels. This will provide a very aesthetically pleasing solution that compliments the terminal building and is very durable.

Table 7-1: Cost Estimate for new Intermodal Facility at HTS

Garage Structure:	$9,850,000.00
672 parking spaces	
Waiting/Circulation Tower:	$675,000.00
4121 Sq.Ft. (Includes - elevator, office space, waiting areas etc.)	
Garage Canopies:	$1,685,000.00
38,665 Sq.Ft. (top level - optional)	
Bus Drop Off Canopy:	$132,000.00
4018 Sq.Ft.	
Main Entry Canopies:	$275,000.00
5000 Sq.Ft.	
Surface Parking Behind Garage Deck:	$575,000.00
(Includes - excavation, paving, stripping, access road, etc)	
Surface Parking Across Entrance Road:	$2,500,000.00
(Includes excavation, retaining wall, paving, stripping, access road, etc.)	
Subtotal	$15,692,000.00
10% Contingency	$1,500,000.00
12 Month Escalation - 8.0%	$1,375,360.00
Total	**$18,567,360.00**

Source: Prepared by The LPA Group, October 24, 2008.

7.5 *Comparison of Alternatives to Evaluation Criteria/ Metrics*

Table 7-2 lists the six alternatives including the alternative to do nothing or "the no-build alternative" considered. It compares each alternative to how well it meets the evaluation criteria and incorporates the desired amenities identified by the Stakeholders. Scoring is represented by pluses for meets criteria and minuses for does not meet criteria. Costs are compared on a scale of from most to least cost.

Table 7-2: Evaluation of Alternative Concepts to Evaluation Criteria

Alternatives		1. Improves Economic Competitiveness	2. Provides Adequate Parking	3. Amenities: Level walkways; Improves handicapped access	3. Amenities: Covered Walkways to Terminal	3. Amenities: Overall Modernization	4. Connects to Downtown Huntington	5. Integrates Public Transit	5. Bus drop-off and waiting area	Cost
1	Concept A	+	until 2027	+	+	+	+	+	+	2nd most costly
2	Concept B	+	until 2027	+	+	+	+	+	+	2nd most costly
3	Concept C	+	until 2027	+	+	+	+	+	+	2nd most costly
4	Construct only auxiliary lot	-	until 2017	-	-	-	+	+	-	Least cost
5	Construct only 2 floors and add levels as needed	+	until 2017	+	+	+	+	+	+	Most costly
6	No build	-	-	-	-	-	-	-	-	Maintenance costs

Source: WSA generated table, 2008

NOTE: The cost for Alternative Solution 6 – no build alternative - actually will include the amount the Airport Board is currently paying for a shuttle to its remote parking as well as the lost revenue for the vehicles parking at the remote lot.

7.6 *Recommendation – Reasoning / Justification*

Based on the evaluation matrix presented in **Table 7-2,** only Conceptual Alternatives 1, 2, or 3 - constructing a new intermodal facility fulfill the goals, meets the needs and incorporates the desired amenities as articulated by the Steering Committee and Stakeholders.

Alternative 4 - building the auxiliary parking is a significantly less costly approach ($2.5 million plus 10% or $250,000, plus 8% escalation = $2,970,000). Transit service could be included to the existing terminal. However, it does not do anything else to meet goal or incorporate the amenities desired by the region. It only addresses a short term parking need. It would require a permanent and long term addition of a shuttle service operation on the HTS airport property and a second parking lot attendant to collect parking fees. This is not included in the cost estimates. It does not improve handicapped access nor does it provide sheltered areas for pick-up, drop-off or waiting areas for public transportation.

Alternative 5 – building a two level structure that can be expanded upward as needed is the most costly alternative. All the components of the facility would need to be completed and the base structure would need to be designed to support an additional level or levels when needed. Costs for an additional level will most likely escalate over time resulting in a more expensive project over the life of the facility. The option for adding horizontally to the structure instead of vertically would also be more costly than just building it all at the same time.

Alternative 6 – the "no build alternative" does not meet any of the goals and needs. However, if desired, public transportation service could be included to the existing terminal. Again this does not do anything else to meet goal or incorporate the amenities desired by the region. It leaves the problem unsolved; the needs not addressed, and put the region in a risky situation to even maintain its current airport service levels.

7.7 *Recommendation – Advance Alternatives 3 and 4*

Of the three alternative design concepts, Scheme C (**Figure 7-3**) is recommended primarily due to its relationship to the terminal, the site, and baggage claim. **Figures 7-4, 7-5, and 7-6** present additional design details for this recommended alternative. Alternative 3 is recommended as the long term solution.

In the short term, Alternative 4 - building only the auxiliary lot - has merit, could move ahead without full funding, and would meet the airport's needs until 2017. It is recommended that Alternative 4 be advanced immediately as a short term solution to meet the current need until funding becomes available to build the new facility.

7.7.1 Option to Reduce Cost of Alternative 3

The design concept and the costs reflect providing the amenities requested by Stakeholders. One way to reduce the project cost may be to eliminate some features. For example: eliminating the top level garage canopies could reduce the overall project cost by approximately $ 2.0 million.

Figure 7-4: Recommended Design Concept - Proposed Site Plan

((NOTE: See separate file for Figures 7-4)

Figure 7-5: Proposed Floor Plan

(NOTE: See separate file for Figures 7-5)

Figure 7-6: Proposed Concept - Elevation View

(NOTE: See separate file for Figures 7-6)

8 Purpose and Need Statement for NEPA

This section is intended to provide a Purpose and Need Statement that can be submitted to comply with the National Environmental Policy Act (NEPA) requirements to advance the proposed project. Details supporting this information are contained in this the other sections of this study.

The purpose for this *Huntington Intermodal Transportation Planning Study* is to provide KYOVA and the HTS Airport Authority with a document which contains data, analysis, and related information that justify the need and demonstrates purpose and benefits for developing an intermodal facility located at HTS airport.

8.1 *The Purpose and Need*

The Huntington Tri-State (HTS) Airport is the 250th (2007) and 233rd (2008) largest US commercial airport and serves a regional population of approximately 300,000 and a regional economy of approximately $13 billion annually. Airport enplanements have grown from approximately 48,700 in 2001 to approximately 62,000 in 2007 and 83,531 in CY 2008. Currently, the only way for passengers to access the airport is by personal vehicle.

While the increase in passenger enplanements is a positive for HTS and the region, it has placed greater demand on the current facilities that exceed their capacity. As explained in **Sections 3 and 4** of this report, several problems have resulted from this:

- Congestion is now occurring at the terminal drop-off/pick-up area.
- There is a parking space shortage. Space for public parking is limited to 286 spaces for both short- and long-term parking. The parking lot overflows two to three times per week. (See **Figure 8-1**.)
- This has resulted in a safety issue with many vehicles parking outside the designated parking lot, adjacent to access roads and on open space around the airport.
- Reliable public transportation is not available as an option for HTS passengers.
- The present facility is located on the top of a mountain with steep grades on all sides. The airport surface parking spaces are all located in a single lower parking lot that is roughly fifteen feet below the terminal floor level. This location makes ADA access and general pedestrian access difficult.

As described in **Section 4.7**, estimates for future parking needs based on projected enplanements are:

- 441 spaces are presently needed
- 484 spaces will be needed by 2012
- 537 spaces will be needed by 2017
- 596 spaces will be needed by 2022

- 663 spaces will be needed by 2027

Figure 8-1: Conditions at Huntington Tri-State Airport Parking Lot

Parking lot at HTS, WSA photo 2008

Further, the viability of the HTS Airport is critically important to the economic health of the Huntington tri-state / KYOVA region. Efficient and affordable air service is a key to economic growth in the Tri-State area. Regional businesses and industries depend on the airport for passenger and air-freight services to link their businesses to broader markets. Efficient and affordable air service also provides a benefit for visitors and citizens of the region who use the airport for personal travel. Expanding services, improving access and affordability, while maintaining the feel of a small airport, enhances the overall quality of life for businesses and residents of all three states in the Tri-State area. The region has already lost one major employer who cited the HTS Airport services and problems as their reason for leaving the area.

8.2 *The Proposed Project Solution*

Recognizing congestion, safety, handicap access, lack of modal choice, and parking needs, as well as the critical need for efficient and affordable air services to the economic competitiveness of the Huntington region, a new intermodal facility has been determined to be needed at the HTS Airport. (See **Sections 7.5, 7.6, and 7.7**) The Policy Board of the KYOVA Interstate Planning Commission, the HTS Airport Board, Tri-State Chamber Coalition and WVDOT are encouraged to support the need to make the landside operations at the airport more efficient for travelers and air freight users by approving this study and its recommendations and including it as a recommended project in the KYOVA Long Range Plan.

The proposed facility would include a covered multi-level parking garage, with improved handicap parking and access; it would functionally and physically integrate public transportation facilities and services, and provide facilities for drop-off and pick-up for smaller air cargo. It would include elevators and covered walkway access to the terminal.

Roadway access and safety would be improved by eliminating congestion and parking on access roads. A new, modern facility would improve the image of the airport for businesses and visitors to the region. It would improve the overall efficiency of all types of traffic movement on the landside of the HTS Airport.

9 Parking and Traffic Analysis

The HTS Airport must continue to function both during and after construction. Passenger cars, public transportation vehicles, and air cargo trucks must be able to enter and leave the airport property without experiencing unnecessary or long delays because of construction traffic that may threaten the economic viability of the Airport.

9.1 *Create Auxiliary Parking*

To satisfy the need for minimum passenger, air cargo, and general aviation (GA) traffic inconvenience, the LPA Group reviewed potential adjacent sites for auxiliary parking. The "Boot Hill" area afforded the only area that could be fairly easily graded for parking, and would provide sufficient spaces within a reasonable distance, with shuttle assistance.

Another advantage to this location is that it can be easily converted into a future Rental Car Maintenance Site with fueling, car wash, and light maintenance facilities and/or a private package service such as UPS. Finally this area could be completely constructed prior to starting any of the other work.

Figure 9-1 shows the proposed location and layout for the auxiliary parking facility. It is estimated that the development of this auxiliary parking facility would require approximately $ 3 million of the $18.6 million needed for the proposed project. ($2.5 million plus 10% or $250,000, plus 8% escalation = $2,970,000). These estimates include but are not limited to costs such as engineering, excavation, constructing a retaining wall (to protect environmental features), paving, and stripping the new spaces. This cost could be reduced by as much as $400,000 by omitting asphalt pavement, curbing, landscaping, etc. until such time as the site is developed for its ultimate future use.

9.2 *Traffic Analysis and Patterns*

Site traffic was estimated for two different scenarios: During construction utilizing an auxiliary parking lot and for the design year (2030) utilizing the proposed parking garage. The Average Daily Traffic (ADT) for 2008 based on counts provided by KYOVA is 1800. A peak hour factor of 0.12 was developed to correspond to the enplanements shown in **Section 3.6** of this report. Directional distribution was determined using the Institute of Transportation Engineers Trip Generation Manual, Seventh Edition for Commercial Airports with 55% of the design hour traffic entering the airport and 45% leaving. It is assumed that 90% of all traffic will go to the garage. Of that traffic, 40% will go to the terminal first to drop off passengers. Of the 10% of traffic that does not go to the garage, half go to the terminal and the remaining portion will go to the business beyond.

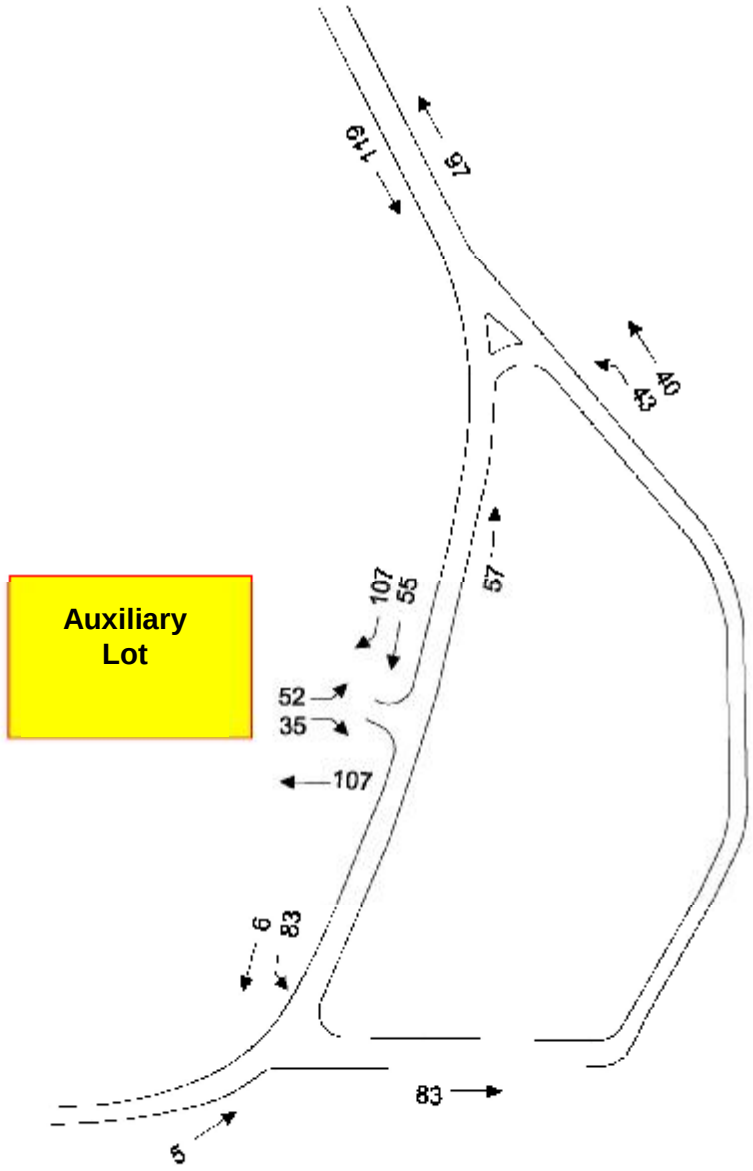
Figure 9-1: Proposed Auxiliary Parking Area

Source: The LPA Group, 2008

9.2.1 Traffic Patterns during Construction

During construction, traffic using the current parking lot will be redirected to an auxiliary lot as shown in **Figure 9-1**. Design hour traffic for the facility utilizing the auxiliary parking lot is shown in **Figure 9-2**. These traffic volumes were used to determine the need for turning lanes and traffic control devices.

Figure 9-2: Design Hour Traffic during Construction



Peak hour traffic signal warrants were reviewed however, without a major street volume over 300 vehicles per hour a signal warrant cannot be met.

Turn lane warrants were also reviewed for the turn into the auxiliary parking lot. For a right turn lane warrant to be met advancing traffic must exceed 250 vehicles in the design hour. Advancing traffic is only 162 and therefore the right turn lane warrant is not met. There is already a left turn lane into the terminal and that was not reviewed.

9.2.2 New Traffic Patterns for the New Facility

Traffic patterns for the proposed garage were reviewed for a 2030 design year. A growth factor was applied to the existing traffic which is consistent with high growth in enplanements shown in **Table 4-8**. Design hour traffic for the facility utilizing the proposed garage is shown in **Figure 9-3**. These traffic volumes were used to determine need for turning lanes and traffic control devices.

Figure 9-3: Design Hour Traffic for Proposed Garage

Peak hour traffic signal warrants were reviewed, however, without a major street volume over 300 vehicles per hour a signal warrant cannot be met.

Turn lane warrants were also reviewed for the left turn into the proposed parking garage. For a left turn lane warrant to be met opposing traffic must exceed 100 vehicles in the design hour. Opposing traffic is only 10 and therefore the left turn lane warrant is not met.

We also reviewed the impact of traffic on operations at the terminal. FAA Advisory Circular 150/5360-9 Planning and Design of Airport Terminal Facilities at Non-Hub Locations states that the average dwell time at curbside will be between 3 and 5 minutes for this type of facility. Many airports have placed stricter restrictions on curbside dwell time since 9/11. Maintaining 5 minute average dwell times in the design hour will require 14 spaces, 3 minute average dwell times will require 8 spaces. The existing curbside area is functioning with 8 spaces which provides for 6 minute average dwell times with today's volumes. Greater than 3 minute dwell times during the design hour can be accommodated by creating spaces outside the crosswalks or permitting double stacking in one of the thru lanes.

10 Air Quality / CMAQ Analysis

The construction of a new intermodal facility at the Huntington Tri-state Airport is anticipated to provide an overall improvement to regional air quality. A quantitative air quality analysis was conducted as part of the *Huntington Intermodal Transportation Plan.* The analysis evaluated the impact of this new facility on air quality and to estimate the reduction in emissions if an intermodal center is constructed with airport shuttle service to downtown Huntington.

10.1 *Existing Parking Conditions*

HTS currently maintains one main public parking lot located north of the terminal building. The main lot has 286 total public parking spaces; 87 spaces for short-term parking and 199 spaces for long-term parking. The lot also contains a 69-space employee lot (in addition to the public lot) at its northern most section. The employee lot is separated from the public parking area. Currently rental car vendors have 60 vehicle storage spaces in this additional employee lot.

The airport collects a flat five-dollar parking fee for any available public space, regardless of short- or long-term. Currently, 80 to 95 percent of all passengers who park in the main lot stay overnight or long-term. The Airport also uses two reserve or "overflow" parking areas to handle excess vehicles from the main lot. The first overflow area is located at an old armory building on the airport's southwest side, and contains 44 spaces. This lot is over a mile away and not within walking distance of the terminal. The second overflow area is the rental car return lot, located next to the terminal building, and with passengers utilizing any available parking space.

When the main lot overflows, approximately 20 to 40 vehicles must use one of the reserve lots. To accommodate the overflow vehicles, the airport owns and operates two free airport shuttle-buses that make 20 to 25 trips per day from the overflow area(s) to drop off/pick up passengers at the terminal building.[12] The shuttle-buses must compete for space at the terminal drop off/pick up area, which already has increased congestion due to larger amounts of passenger traffic. The HTS Airport Authority does not charge a parking fee for overflow lot users.

Currently TTA does not offer shuttle service from the airport to downtown Huntington. TTA's service is designed to primarily serve markets that exist near downtown Huntington. Recently service was extended to Ironton, Ohio. TTA is also in the process of working with the Charleston, West Virginia transit authority to begin bus services between the downtown areas of these two urban areas.

[12] HTS Airport Authority, 2008

Using enplanement projections, terminal operations, rental car facilities, and existing peak conditions, it is estimated that the Huntington Tri State Airport will require 484 parking spaces by 2012, 537 spaces by 2017, 596 spaces by 2022, and approximately 663 spaces by 2027. This is more than double current capacity. Current demand is also estimated to exceed the need.

10.2 *Study Area Air Quality*

The proposed facility will be located in Huntington, West Virginia which is a "**non-attainment area**" for Ozone and fine Particulate Matter (PM2.5). Non-attainment areas are geographic areas, defined by the Environmental Protection Agency (EPA), where air quality does not meet the National Ambient Air Quality Standards (NAAQS).

The Huntington intermodal center is currently an unfunded project but is included in the conforming 2009-2035 Huntington Regional Long Range Transportation Plan (LRTP), which was adopted on May 8, 2009.

The Huntington Tri-State (HTS) Airport enplanements have grown from approximately 48,700 in 2001 to approximately 62,000 in 2007 to over 83,500 in 2008. Currently, the only way for passengers to access the airport is by personal vehicle. While the increase in passenger enplanements is positive for HTS and the region, it has placed greater demand on the current facilities that exceed their capacity. The effect of this growth is an air quality concern that has the potential to worsen in the future.

The following contribute to the air quality in the study area:

- Congestion at the terminal drop-off/pick-up area.

- According to FAA Advisory Circular 150/5360-9 Planning and Design of Airport Terminal Facilities at Non-Hub Locations states that the average dwell time at curbside will be between 3 and 5 minutes for this type of facility. Many airports have placed stricter restrictions on curbside dwell time since 9/11. Maintaining 5 minute average dwell times in the design hour will require 14 spaces, 3 minute average dwell times will require 8 spaces. The existing curbside area is functioning with 8 spaces that provides for 6-minute average dwell times with today's volumes. Idling for more than 5 minutes also contributes to pollution from exhaust at or near the terminal.

- Space for public parking is limited to 286 spaces for both short- and long-term parking. The parking lot overflows two to three times per week that leads to increased idling time. The estimates for future parking needs based on projected enplanements are:

- 441 spaces are presently needed
- 484 spaces will be needed by 2012
- 537 spaces will be needed by 2017
- 596 spaces will be needed by 2022
- 663 spaces will be needed by 2027
- 630 spaces will be needed by 2027 with proposed transit shuttle service

Although an auxiliary parking facility can alleviate some of the existing congestion in the short term, with the continued growth in enplanements, there is a definite need for a facility that can serve the needs of long-term parking as well as other deficiencies such as public transit and improved handicap access. The estimated cost to design and construct an auxiliary parking facility and a permanent intermodal facility is $18.6 million. Funding through municipal bonds alone could not generate adequate funds to repay this debt. Only limited local, state, or federal funding is available to construct this type facility and provide temporary parking space during construction. The recommended funding option is a package of grants, loans and bonds from a variety of federal, state, and local agencies potentially including ARC, EDA, FHWA, FTA, and others.

The construction of the intermodal facility is expected to improve operation and ease parking demand. In addition, if the local transit agency TTA provides shuttle services from the intermodal center, it will reduce the vehicle mile traveled to and from the facility.

10.3 *Congestion Mitigation and Air Quality Program (CMAQ)*

One of the potential funding sources identified for the facility is the Congestion Mitigation and Air Quality Program (CMAQ) fund. In 1991, ISTEA established this program that has been reauthorized by each successive highway-funding act, including SAFETEA-LU. The funding is intended to help Non-attainment and maintenance areas to meet and maintain their National Ambient Air Quality Standards (NAAQS). CMAQ funds are used for transportation projects that will result in measurable reductions in carbon monoxide (CO), ozone precursors which are volatile organic compounds (VOC) and nitrous oxide (NOx), and particulate matter (PM).

CMAQ funds are allocated to each state based on their population in non-attainment and maintenance areas, and the severity of their air quality problems. The funding falls under two categories; 1) flexible portion and 2) mandatory portion. The flexible portion accounts for 60.9% of the funds and may be used statewide in a manner similar to Surface Transportation Program (STP) funds and the remaining 39.1% is the mandatory portion and can only be used for qualifying projects in eligible counties. Since Huntington is part of a non-attainment area, transportation projects are eligible to apply for funding. Typically, an alternate funding source, such as the State or local

government, must generally match the eligible federal funds, usually at a rate of 80% federal (CMAQ) and 20% non-federal funds.

The Huntington intermodal facility is a project that has been identified by KYOVA Interstate Planning Commission to apply for CMAQ funds. As part of the CMAQ application process, transportation projects should demonstrate emission reduction strategies. These strategies should include contribution to attainment, pollution reductions, and improved operations.

10.4 *Emissions Estimates*

In order to demonstrate emission reduction strategies, KYOVA Interstate Planning Commission is planning to introduce transit shuttle service from the proposed multimodal center at the airport to downtown Huntington and nearby hotels. The following assumptions and methodology are used to calculate emissions estimates.

- Total of 663 parking spaces will be required by 2027 for the Huntington Tri-State Airport.
- Assumes that the new intermodal facility will be constructed to serve the long term needs.
- Assumes that the local transit agency will start shuttle services to and from the intermodal facility to downtown Huntington and nearby hotels.
- Assumes five percent (5%) of the total personal vehicle usage can be replaced by transit shuttle services.
- Assumes the proposed airport shuttle operation frequency is four (4) times a day.
- Assumes an airport roundtrip to and from downtown Huntington and nearby hotels is approximately 40 miles.
- Assumes the transit trips to occur on freeway facilities. Using KYOVA Interstate Planning Commission emission estimates, the emission rate in grams per mile is estimated for 2035.
- Assumes the passenger car trips to occur on rural and urban facilities. Using KYOVA Interstate Planning Commission emission estimates, an average emission rate in grams per mile is estimated for 2035.
- Of the total passengers who park at the airport, 100% of the passengers are assumed to originate from Huntington.
- Vehicle trip reduction = 663 parking spaces x 5% new ridership utilization = 33 daily round trips reduced.
- VMT reduction = (33 vehicle trips reduced x 40 miles) = **1320 VMT reduced daily.**
- Additional VMT from transit service = 4 trips x 40 miles = **160 VMT added daily**
- Emission Factors obtained from KYOVA Interstate Planning Commission is shown on **Table 10.1.**

Table 10-1: 2035 Emission Factors

Vehicle	Emissions in g/mile			
	VOC	NOx	PM	NOx
Passenger Cars[1]	0.432	0.332	0.015	0.324
Transit Shuttle[2]	0.346	0.373	0.015	0.364

Note: 1– Average emission factor from rural and urban facilities
2 – Emissions Factors from Freeway/Expressway

- Daily emissions = Daily VMT x emissions factor.
- Assumes the airport and shuttle service operates 365 days, annual emission reduction = Daily VMT x emission factor x 365

Using the 2035 emission rates obtained from KYOVA Interstate Planning Commission, total reduction in emissions is calculated for Volatile Organic Compounds (VOC), Nitrous Oxides (NO2), and Particulate Matter 2.5(PM2.5). **Table 10.2** shows the emission estimate in grams/day and kilograms/day for the criteria pollutants. The total emission estimate is obtained by subtracting the emission from the transit shuttle from the passenger cars.

Table 10-2: 2035 Emissions Estimates

Vehicle	Daily VMT	Emissions grams/day				Emissions kg/day			
		VOC	NOx	PM	NOx	VOC	NOx	PM	NOx
Passenger Cars	1,320	570.60	438.60	19.93	427.56	0.57	0.44	0.02	0.43
Transit Shuttle	160	55.36	20.65	0.31	0.11	0.06	0.02	0.00	0.00
	Total	**515.24**	**417.95**	**19.62**	**427.45**	**0.52**	**0.42**	**0.02**	**0.43**

Since airport is open 7 days a week, annual savings is estimated by multiplying emissions per day by 365. **Table 10.3** shows the annual emission estimate in kilograms.

Table 10-3: 2035 Annual Emission Estimates in Kilograms

Vehicle	Daily VMT	Emissions (kg)			
		VOC	NOx	PM	NOx
Passenger Cars	1,320	208.27	160.09	7.28	156.06
Transit Shuttle	160	20.21	7.54	0.11	0.04
	Total	**188.06**	**152.55**	**7.16**	**156.02**

Based on the estimates, introduction of the shuttle services from the intermodal center to downtown Huntington is expected to reduce 188.06 kg of Volatile Organic Compounds (VOC), 152.55 kg of Nitrous Oxides (NO2), and 7.16 kg of Particulate Matter 2.5(PM2.5) emissions. The proposed transit shuttle contributes very minimal emissions compared to the emission from the passenger cars.

10.5 *Summary Air Quality Analysis*

Based on the assumptions used in the study, the new multimodal center with shuttle service is expected to reduce 33 single occupancy vehicle trips per day that equates to 1160 vehicle miles traveled daily. This project is not expected to create a new violation of the national ambient air quality standards; increase the frequency or severity of existing violations; or delay timely attainment of the standards.

Based on the estimates, the shuttle services from the intermodal center to downtown Huntington is expected to reduce the criteria pollutants by 0.52 kg/day of Volatile Organic Compounds (VOC), 0.42 kg/day of Nitrous Oxides (NO2), 0.02 kg/day of Particulate Matter 2.5(PM2.5), and 0.43 kg/day of Nitrous Oxides (NO2). The annual reductions in emissions are: 188.06 kg of Volatile Organic Compounds (VOC), 152.55 kg of Nitrous Oxides (NO2), and 7.16 kg of Particulate Matter 2.5(PM2.5). The proposed transit shuttle contributes very minimal emissions compared to the emission from the passenger cars.

The Clean Air Act conformity requirement ensures that all transportation plans, programs and projects are fully consistent with air quality plans for attaining the National Ambient Air Quality Standards (NAAQS). Since the project is located in a non-attainment area, the statutory requirements are implemented by an EPA regulation (40 CFR Part 93) that contains specific requirements for determining conformity of highway and transit projects in Particulate Matter 2.5 non-attainment and maintenance areas will be required in order to complete the NEPA requirement through interagency consultation.

11 Funding and Financing Options

The biggest challenge facing the construction of a new intermodal facility is how it will be funded. Funding for the new facility will most likely need to include a mix of federal, state, and local sources. It will need to include a mix of grants, bonds, fees, potentially advertizing, leasing of space, or other partnership agreements.

The following sections list and briefly summarize potential alternative funding sources that may be available for the Huntington Intermodal Facility. The list of potential funding sources is not exhaustive nor are the sources intended to be mutually exclusive. **Section 12.4** recommends a funding strategy for the facility that incorporates the application of multiple funding sources.

11.1 *Costs*

Until the final design is complete, all the intermodal components, improvements and amenities for the proposed new facility are agreed to by the HTS Airport Board, $18.6 million is projected as the estimated cost of the facility and related site improvements. At this cost, and recognizing that the price for parking must remain competitive for the region and with other airports (i.e. It must remain in the $6 to 10/day range. See also **Section 11.6.1**.), it is highly unlikely that the debt could be entirely repaid with parking fees. The project sponsors will need to explore a mix of funding including federal and state grants, private sector investments, user fees, and partnership agreements to cover much of the cost for constructing the intermodal facility.

11.2 *State and Local Funding*

WVDOT, FAA, FTA and FHWA funding for an intermodal facility such as this has been researched and will continue to be explored by KYOVA staff. Based on research to date, very limited funding is available from state or federal sources to design and construct this facility. To date, no FAA funding programs would cover any of the costs for this facility. FWHA CMAQ funding potentially may be used if it can be demonstrated that regional air quality is improved through the addition of the facility. FTA could cover some portions of the facility if the new facility functionally and physically incorporates public transportation.

Local funding through grants, tax increases, or redirecting the use of other local and regional funding is not considered an appropriate recommendation for consideration. Typically the public feels these type facilities should be paid for through user fees. HTS Airport funds are limited and redirecting these to fund the new facility could result in reduced services for other Airport needs.

HTS uses monies collected for parking at their current parking lot to pay for local grant matches, salaries and operating and maintenance cost for the parking lot and related airport landside facilities.

11.3 *Federal Aviation Administration (FAA) Funding*

FAA funding is limited to use for public area improvements such as runway improvements, instrumentation, lighting, and other air operations improvements. FAA funding cannot be used for improvements or facilities that generate revenue such as parking, restaurants or gift shops.

11.4 *Federal Transit Administration (FTA) Funding*

Funds to construct a portion of the new intermodal facility may be available through two FTA grants*:* Title 49 U.S.C. Section 5307 and Title 49 U.S.C. Section 5309. Grants authorized by Title 49 U.S.C. Section 5307 support public transportation services in urbanized areas (cities over 50,000). These grants contain funds that may be used for capital projects to finance the planning, acquisition, construction, cost-effective lease, improvement, and maintenance of equipment and facilities for use in transit. Funds from these programs are available to urbanized areas (as defined by the US Census Bureau) through designated recipients which must be public entities and have a legal capacity to receive and dispense federal funds. The apportioned funds are available for obligation by the designated recipient for a period three years following the close of the fiscal year for which such funds are appointed. The federal share would not to exceed 80 percent of the net project cost.

Grants authorized by Title 49 U.S.C. Section 5309 contain three categories for funding: (1) Modernization of Fixed Guideway Systems, (2) Bus and Bus Facilities, and (3) Construction of New Fixed Guideway Systems and Extensions ("New Starts"). The applicable category for a new intermodal facility would be Bus and Bus Facilities. Under this category, funding may be available to assist state and local governmental authorities in financing the acquisition, construction, reconstruction, and improvement of facilities and equipment for use by operation or lease or otherwise in mass transportation service, buses and bus facility equipment. Major purchases under the Bus and Bus Facilities category are for buses and other rolling stock, ancillary equipment, and the construction of bus facilities including multimodal facilities.

Bus and Bus Facilities grants also cover parking lots associated with transit facilities. Consideration of this funding type may also be given for projects which establish new or enhanced coordination between transit and other transportation. Public agencies including states, municipalities, and other subdivisions of states, and public corporations, boards, and commissions established under state law are eligible. The apportioned funds must be obligated within three fiscal years, unless extended by Congress and, as with Section 5307 funds, would not exceed 80 percent of the net project cost.

11.4.1 Restrictions on Use of FTA Funds

FTA funding may not be used to pay for the entire Huntington Intermodal Facility. Funding from FTA is limited for use to directly benefit or functionally and physically integrate public transit into a project or facility. Funds would only be available for the portion of the facility that the new facility that classifies as public transportation and that functionally and physically integrates public transportation services.

11.4.2 What classifies as Public Transportation

FTA, for the purposes of funding, broadly defines public transportation. Buses and vehicles carrying passengers on scheduled routes and otherwise from The Transit Authority (TTA) for the greater Huntington area, are of course, defined as public transportation. So do shuttle buses (between hotels, the convention center and colleges), taxis, and human service transportation provider vehicles, as are privately owned and operated tour and charter group buses.

11.4.3 Functionally and Physically Integrating Public Transportation Services

Physically integrating public transportation services includes making design accommodation so that a bus, public transportation vehicle, and taxis may enter, park and receive or discharge passengers. It includes incorporating physical space for parking and design features such as bus shelters, waiting areas, and similar amenities to serve public transportation passengers and vehicles as well as office space for transportation services providers. It could include facilities used for requesting shuttle bus or taxi service.

Functionally integrating public transportation services includes providing opportunities for them to operate at the facility. It means providing opportunities for scheduled service as well as on-call services.

11.5 *Congestion Mitigation and Air Quality (CMAQ) Grants*

Established in 1991, the CMAQ Program was designed to fund specific transportation projects that bring air quality in nonattainment areas up to national air quality standards. According to the US Environmental Protection Agency, the KYOVA area is currently within a designated Particulate Matter (PM-2.5) Nonattainment Area and an 8-hour Ozone Maintenance Area. This air quality designation may allow the KYOVA Interstate Planning Commission to apply for Congestion Management and Air Quality (CMAQ) Program funds for this proposed facility.

Any project that can reduce air emissions is potentially eligible for CMAQ Program funds. The construction of a new multimodal facility will allow bus service to/from the

airport and potentially decrease the number of personal vehicles, hence lowering the amount of air pollution within the KYOVA area.

11.6 *Bond Revenues*

Airport operators and sponsors sometimes issues bonds to fund various airport capital projects, typically through Municipal Bonds, General Obligation bonds, General Airport Revenue bonds, and bonds backed by passenger facility charges or customer facility charges. The following sections briefly discuss these types of bonds.

11.6.1 Municipal Bonds

A WV based municipal bond counselor was contacted in late summer, 2008, to provide some very preliminary estimates to determine if a portion of the project could be funded through the sell of a $10 million municipal revenue bond. It was estimated that for $10 million, with a 20 year repayment schedule, at a 7.25% interest rate, would require an annual repayment of approximately $986,000/ year. Using very basic math this means to just repay the debit, each day HTS would need to collect $2,700 in parking fees ($986,000 / 365). Dividing this $2,700 by $5.00/day fee would require that 540 vehicles park in the facility and pay at least $5/day every day of the year. This scenario is highly improbable, at least for the first five to ten years.

11.6.2 General Obligation (GO) Bonds

GO bonds are issued to finance airport capital projects and are backed by general tax revenues of the city, county, or state that owns and operates the airport. Local general tax revenues such as sales, income, and property taxes may be a source of a GO bond. GO bonds are currently a key financing tool for many small airports since they contain stronger credit with lower interest rates, lower issuance costs, and no coverage requirement.[13]

11.6.3 General Airport Revenue Bonds (GARBs)

General Airport Revenue bonds are based on revenues generated from airline rates and charges, parking, rental care operations, terminal concessions, other leases, interest, and any other revenues generated by the airport.

[13] Transportation Research Board of the National Academies: Airport Cooperative Research Program, *Innovative Finance and Alternative Sources of Revenue for Airports* (2007), pg. 14.

11.6.4 Passenger Fees and Passenger Facility Charge (PFC) Bonds

These bonds are issued from PFC revenues collected by an airport. A majority of large-, medium-, small-, and non-hub airports impose a passenger fee or PFC of between $1.00 and $4.50 per enplaned passenger to finance eligible airport-related projects. PFC's are limited in their use to those items eligible under the Airport Improvement Program and are not eligible to be used for revenue generating projects. Airport operators must obtain approval from FAA before they begin to collect these charges.[14]

11.6.5 Contract Facility Charges (CFC) Bonds

CFC revenue is generated by the collection of rental car or other transportation-related passenger fees. This source of revenue is applicable to the proposed facilities to pay for rental car ready return areas, portions of the parking structure dedicated as rental car VIP spaces as well as the auxiliary parking area designated for rental car maintenance facilities. As with PFC revenues, CFC revenues can be used and issued as CFC bonds.

11.7 *Toll Revenue Credits*

Title 23 Section 1111(c) of the Transportation Equity Act for the 21st Century (originally set for in Section 1044 of the Intermodal Surface Transportation Equity Act of 1991) permits states to use revenue from toll facilities as a credit toward the non-federal matching share of certain transportation projects. The amount of credit toward the local share to be earned by a state is based on revenues generated by toll authorities with the state that are used by the authorities to build or maintain highways, bridges, or tunnels that serve interstate commerce. This provision allows the federal obligation to be increased up to 100 percent of project costs to the extent that credits are available.

States may apply toll credits toward the non-federal matching share of any federal-aid highway and transit projects. If, for say, toll revenues in WV are used to finance all of the non-federal portion of the new multimodal facility, then the actual toll credits earned will be computed by reducing the non-federal share by the percentage of federal participation in the total project cost. (Note: WVDOT has been contacted and stated that it is highly unlikely that Toll Revenue Credits will be available for this project.)

11.8 *Local Revenue Matches*

After net project cost and federal share have been determined, the remainder of the net project cost must be provided, in cash, from sources other than federal funds. Local

[14] Transportation Research Board of the National Academies: Airport Cooperative Research Program, *Innovative Finance and Alternative Sources of Revenue for Airports* (2007), pg. 16.

jurisdictions may provide a one-time capital or on-going operating contribution to a new multimodal facility in order to cover the remaining amount of project cost and offset federal grant funding. The local matching of funds could be supplied by direct user fees such as parking fees and parking violation fines, a passenger/customer facility charge, or by a direct allotment from the local General Fund.

11.9 *Public-Private Partnerships (PPPs) / Public-Public Partnerships*

The option of Public Private Partnerships (P3s) and Public-Public Partnerships has been explored on a limited basis. The "bottom-line" with each of these approaches is that there needs to be some "profit" that can be made. As described in **Section 12.6.1**, it is unlikely that the number of spaces would generate enough additional income to make this an attractive project for a P3.

The Federal Highway Administration defines Public-Private Partnerships (PPPs) as "contractual agreements formed between a public agency and private sector entity that allow for greater private sector participation in the delivery of transportation projects." PPPs allow a public agency to expand and utilize private sector resources to achieve public agency objectives, such as greater cost and schedule certainty and access to private capital.

A more common way to describe PPPs is when the private sector assumes a greater role in the planning, financing, design, construction, operation, and maintenance of a transportation facility compared to traditional methods. For example, at HTS Airport a private sector company or entity could provide technical and financial support to construct a new multimodal facility and, in turn, receive land/revenue rights from the facility to operate, park, and store its transit equipment. Like any private sector venture, the probability for this would depend on the ability of the company or entity to incur a profit from the facility or relationship.

11.10 *Partnership with Local Public Entities such as TTA*

The Transit Authority of Huntington (TTA) is the owner / operator of the Pullman Square Parking Facility in downtown Huntington. The facility houses an office and waiting area for public transit buses and is a scheduled stop and connection on the TTA routes through Huntington. The adjacent Pullman Square includes shops and entertainment facilities that generate revenue to fund the facility. These monies help to support TTA services.

Potentially, the HTS Airport could enter into a similar relationship with TTA. However, it is unlikely that this facility could generate enough revenue to cover the cost for its construction and operations. It is also unlikely that there would be a market to include additional shops and entertainment facilities at HTS like those at Pullman Square that have helped to make the facility a financial success.

11.11 *Parking Structure Fees*

Parking structure fees are direct user fees. They include fees to park inside the facility and parking violation fines, which may be used to assist in funding a new intermodal facility. Revenue created from parking structure fees may be used to cover the construction costs, sustain the facility and/or pay for future improvements. Currently there is a fee to park in the HTS lot and it is anticipated that some fee would be collected for parking in a new facility.

11.12 *Other Funding Ideas*

Other ideas for raising funds to cover the costs for constructing and operating the new facility included adding a landing fee to passenger tickets, leasing space in the new facility, and increasing advertizing at HTS.

11.12.1 Landing Fees

Landing Fees are fees airlines pay the airport every time they land. This fee could be raised slightly.

11.12.2 Lease of spaces to local businesses

A new facility could provide premiere parking spaces that local businesses may be willing to pay extra to reserve for their use. Potentially, rental car companies may want to lease a portion of the new facility for rental car spaces. Potentially local businesses may be interested in leasing parking spaces so that their employees or managers have a guaranteed or designated parking space, (with their company's name on it), to park in when they are at the airport. This could also be seen as a form of corporate advertizing. This idea would be limited by what the local "market" could bear. This concept would require vetting and further evaluation.

The new facility is designed to include some office space in the circulation tower. Possibly a charter bus or tour company or a private shuttle company would be interested in renting or leasing some of that space to use as their office space. Also, options for re-use of the auxiliary parking lot exist. For example, portions could be leased to rental car companies or air cargo couriers for vehicle or container storage.

11.12.3 Advertizing on Airport Property

There are many opportunities to advertize on airport property. These could include posters or electronic signs inside the terminal and potentially at strategic locations in the new facility. Spaces such as in the elevator or public transit waiting area are often used by other similar facilities to generate revenues. If shuttle buses are used during

construction, advertizing on these would also raise some funds. While this may not be a significant amount of money, it also would not require a significant amount of effort to maintain it after it is up and running.

12 Implementation – Action Plan

This *Huntington Intermodal Transportation Planning Study* report presents an analysis of the problem, needs, alternatives, and cost justification to advance improvements at the HTS Airport. This section describes the actions needed to advance the recommended project to construction.

12.1 *Seek Approval of Planning Study Report*

The first step in advancing the recommended project is to seek approval of this Study and its recommendations. This will include the actions in the PIP as well as seeking approval by the Policy Broad of KYOVA Interstate Planning Commission and the HTS Airport Board. This process will begin by:

- Presenting the study to the project Steering and Stakeholders Committee;
- Presenting it to the public in an open house format;
- Making the recommended changes and finalizing the document;
- When final, ask the Steering Committee to approve the report and its recommendations and submit it for approval to:
  - The Policy Broad of KYOVA Interstate Planning Commission, and
  - The HTS Airport Board.

12.2 *Determine Project Phasing*

The proposed Intermodal Facility is a major project that will require more than a year to construct. It may, be beneficial to construct and fund it in phases to reduce the financial burden to the region and have it fit into the KYOVA TIP.

- The first Phase could be the construction of the auxiliary parking facility and incorporation of shuttle services between the lot and terminal.
- The second Phase could include incorporating public transit services between downtown Huntington and the terminal as well as the construction of auxiliary improvements to public transit waiting and drop-off / pick-up locations as well as improvements to existing handicapped access to the terminal.
- The third phase would be the construction of the Intermodal Facility.

12.3 *Incorporate Recommendations into KYOVA LRP and TIP*

For the project to be eligible to receive funding and be advanced this Study and its recommendations need to be to incorporate into the KYOVA Interstate Planning Commission's Long Range Plan (LRP) and the project included in the KYOVA Transportation Improvement Program (TIP). Given Federal regulations require that all

projects in a MPO LRP must be financially feasible, the project may first need to be included as an unfunded but needed project. If the project is to be advanced in phases, it will need to be included as a phased project in the LRP and TIP.

12.4 *Integrate Public Transit Services*

The integration of TTA's service could begin prior to any construction at the HTS Airport. TTA services to the new Huntington multimodal facility would provide numerous benefits to the city as well as the Tri-State region, including:

- Connecting both business and leisure passengers from HTS to downtown employment locations, residential areas in and near downtown, and downtown retail areas with Marshall University.
- Providing mass transit options and solutions for airport users who do not want to use a car for local trips or do not have a vehicle available.
- Increased economic development opportunities for the Tri-State area by encouraging local tourism.
- Improving local quality of life by helping to reduce congestion and air pollution.

Integrated public transit would connect the facility to employment sites and residential areas near downtown Huntington, Pullman Square, and Marshall University. When the commuter service begins to operate to Charleston, it will also offer a link to Charleston, WV to the new Intermodal Center. The integration of service would also provide an alternative form of transportation to and form the airport and revenue for TTA.

12.5 *Develop a Funding Strategy and Secure Funding*

The proposed project is both regional and multi-modal in nature. A funding strategy should reflect this with agencies, governments and organizations from the Tri-State area sharing the burden of seeking and committing funding to the project. It is recommended that the KYOVA Interstate Planning Commission take the lead in these efforts. **Section 11** of this report provides a starting point.

12.5.1 Construction Funding from a Mix of Sources

It is unlikely that a single source of funds will be available to cover the $18.6 million price tag for the project. A mix of bonds, grants from FTA, CMAQ, FHWA/WVDOT, and the cities and counties, parking fees (probably an increase over today's rate), the long term lease of space that will become available when the facility is completed and advertizing will need to be secured to cover the construction costs.

12.5.2 Operations and Maintenance Funding

Both the auxiliary parking facility and the new facility will require increased operation and maintenance. Additional parking lot fee attendants for the auxiliary lot, a shuttle bus(es), and driver(s) will be needed to transport passengers to and from the more remote auxiliary parking facilities and the terminal. Additional staff may also be needed to manage and operate new or additional public transit services between downtown Huntington and the terminal. With these improvements will come an increase in costs. It is anticipated that these costs will be absorbed by the HTS Airport and the TTA or other downtown public transit service provider.

12.5.3 Secure Funding

Pursue funding. Secure federal and state grant and loan applications for which the project is eligible, complete and submit them. KYOVA, Huntington, WV and the HTS Airport Authority have a history of successfully securing and utilizing federal and state grants. KYOVA should make potential grantees aware of this history of success.

For example:

- TTA secured funding for the Pullman Plaza Project and leverage the monies and facility to create one of West Virginia's premiere shopping, entertainment and retail districts. The funding continues to support public transit services for the region.
- HTS Airport was successful in securing a grant in Order 2005-8-19 served August 25, 2005. In the grant, Huntington was included in a group of communities which proposed "… aggressive marketing campaigns to increase use of the services at their airports." The specific reference to Huntington indicated that: "Huntington plans to use the grant funds for service and fare promotional efforts to increase use of the services at the airport with the ultimate goal of attracting additional air carrier services." Huntington did in fact attract a new carrier – Allegiant. Today Allegiant serves three destinations from Tri-State: Orlando, Fort Lauderdale, and Tampa. The inauguration dates for Allegiant's nonstop services were: Orlando Sanford (SFB) – November 2006; Fort Lauderdale – December 2007; and Tampa/St. Petersburg (PIE) – February 2008.

12.6 *Prepare Environmental Documents and Receive Clearance*

If any federal funds are used for the project, prior to construction, environmental documents are required and environmental clearances must be received. As part of this report a "Purpose and Need" statement has been written and can be found in **Section 8**. The documentation in this report as well as the public involvement process conducted for it should be adequate to satisfy the initial NEPA requirements for the project.

Given the site proposed for the location the new Intermodal Facility has already been disturbed, it is anticipated that only a Categorical Exclusion (CE) will be required. The auxiliary parking lot area includes more than six acres with some land that has been disturbed and some undisturbed areas. It has several environmental features that may require and environmental analysis, permits, mitigation and a report. It is not known if prior environmental documents have been prepared for the sites. If they had been, they may need to be updated.

12.7 *Design and Construct Intermodal Facility and Auxiliary Parking*

Finally, the designs presented in this report are conceptual. Before any excavation or construction work can be done on the site these conceptual designs will require refining and full engineering and architectural details to be developed. The cost of this is included in the $18.6 million estimates. However, it is probable that through value engineering, and a more detailed look at the site, this design and cost may change.

12.8 *Other Next Steps*

Funding for this project will require more than completing and submitting applications to funding agencies. It will require contacting and negotiating with bond council. It will require visits to provide information and convince KYOVA congressional delegations of the importance of the project and its relevance to the economic health of the region. It will require marketing the public and local businesses.

None of this is expected to be easy nor is it to be accomplished within a few months. These community marketing efforts are expected to pay off by winning support to fund this project possibly before other regional transportation projects and needs.

The marketing efforts should include increasing community awareness of the services offered at the airport. It could potentially include a dinner or luncheon highlighting the importance of the airport with Congressman Rahall or Sen. Rockefeller as the featured speaker. It could include a series of articles/editorials in the local newspapers focusing on positive changes at the airport. TV, radio, newspaper, billboard, direct mail/e-mail, along with a redesigned website could all be used in the promotional efforts.

Appendix A: HTS Airport Improvement Projects as listed by the Federal Aviation Administration (1973-1999)

Appendix B: Public Involvement Plan

Appendix C: Steering and Stakeholders Committees

Appendix D: Stakeholder Interviews and Summary Report

Appendix E: Stakeholder Survey Questionnaire and Summary Report

Appendix F: Steering Committee/Stakeholders - Meeting Information

Appendix G: Public Meeting Information