

Performance Criteria – ACCESSIBILITY

- Coverage of Major Business Centers by Advanced Airports
- Coverage of Major Population Centers by Commercial Service Airports
- Surface Access of Airports
  - Accessibility of Advanced Airports from Limited Access Highways
  - Accessibility of Scheduled Service Airports from Limited Access Highways
- Intermodal Accessibility at Advanced Airports
- All-Weather Coverage
- Emergency Medical Evacuation Coverage

Performance Criteria – SUPPORT/COMMITMENT

- Airport Ownership/Management Structure and Grant Obligation

Performance Criteria – FACILITIES

- Facility and Service Objectives
- Pennsylvania Licensing Standards
- FAA Design Standards

Performance Criteria – OPTIMIZATION POTENTIAL

- Airport Hazard Zoning
- Current Airport Master Plan, Layout Plan, or Action Plan

The following sections of this chapter discuss the system performance criteria and their associated benchmarks. The current performance of Pennsylvania’s airport system relative to each of the benchmarks is also presented and discussed.

**I. ACTIVITY/DEMAND**

Two general factors, airfield capacity and aircraft hangar storage capacity, were examined in the benchmarking process to measure the performance of the system relative to activity/demand. Airfield capacity is a measure of an airport’s ability to accommodate aircraft operations without congestion and delays. The ability of an airport system to accommodate current and anticipated levels of aircraft operational demand is an important consideration of a system’s performance. Aircraft hangar storage capacity examines the performance of system airports, and the system as a whole, as it relates to the ability of aircraft owners to store aircraft in hangars. In states such as Pennsylvania, with varied and sometimes severe weather conditions, the ability to store aircraft in covered storage facilities is very important to aircraft owners.

**A. Airfield Capacity**

The benchmark used in this study to review existing airfield capacity was the relationship between each airport’s annual service volume (ASV), which measures an airport’s ability to process activity on an annual level, and each airport’s current and projected annual operational levels. This

benchmark analysis identified the percentage of airports in each functional level that fall within the following three demand/capacity ranges.

- ❑ Less than 60 percent demand/capacity ratio
- ❑ Between 60 and 80 percent demand/capacity ratio
- ❑ Greater than 80 percent demand/capacity ratio

The three demand/capacity ratio ranges presented above were developed based on typical airport planning guidelines, which recommend that when an airport reaches a demand/capacity ratio of 60 percent, or an airport is operating at 60 percent of its annual capacity, the level of delay experienced at that airport justifies the initiation of planning for capacity enhancement projects. A demand/capacity ratio of 80 percent generally indicates that the construction of capacity enhancement projects should be initiated based on the amounts of delay experienced at that airport.

In general, operational delays are undesirable within an airport system for several reasons. Air travel is chosen as a transportation mode because of the time savings that it offers. When aircraft encounter operational delays that are based on insufficient operating capacity, efficiencies gained through air transportation can be significantly diminished. Further, when aircraft are forced to idle on the ground or to circle in the air as a result of insufficient operational capacity, the aircraft operating cost and potential for environmental impacts are increased.

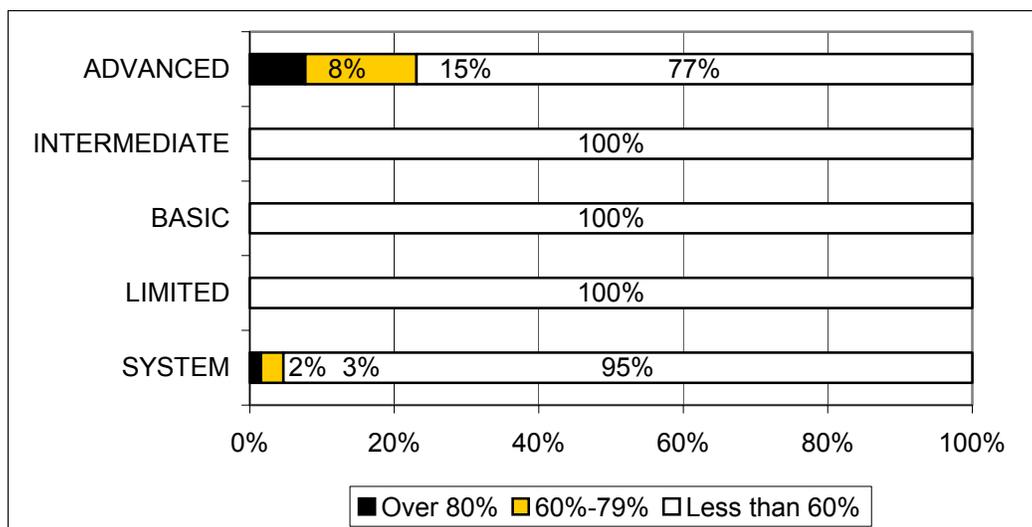
The methodology used to examine capacity issues in this System Plan uses planning estimates of individual airport ASVs and compares them to current and projected future levels of activity occurring at those facilities. This comparison establishes demand/capacity ratios for each system airport. The methodology used in this study to develop an estimate of ASV for each system airport is explained as follows:

- ❑ Estimates of gross ASV were developed for each Pennsylvania airport based on an approved FAA methodology that examined basic airport runway configurations. For several airports included in the NPIAS, estimates of ASV at those airports, as identified in the NPIAS, were used. NPIAS estimates of ASV were used for the following airports; Lehigh Valley International, Allegheny County, Pittsburgh International, Reading Regional, Northeast Philadelphia, Philadelphia International, Beaver County, and Wilkes-Barre/Scranton International.
- ❑ Incremental deductions to gross ASV are estimated using actual facility considerations at each airport. Specific facility considerations that were examined include runway surface type, taxiway type, available approaches, and the presence of an air traffic control tower.
- ❑ Current and projected activity levels at each airport are then compared to net ASV at each airport to develop a demand/capacity ratio.

For this benchmark, each airport’s ASV was initially compared to its most recent estimate of total annual operations. The objective was to identify the percentage of system airports within each functional level, and for the system as a whole, whose current demand/capacity ratio indicates that significant amounts of delay could be occurring at those facilities to justify planning or construction of capacity enhancement projects.

The results of the capacity benchmark analysis for current operational levels are presented in Exhibit 5-6.

**Exhibit 5-6  
Current Demand/Capacity Ratio**



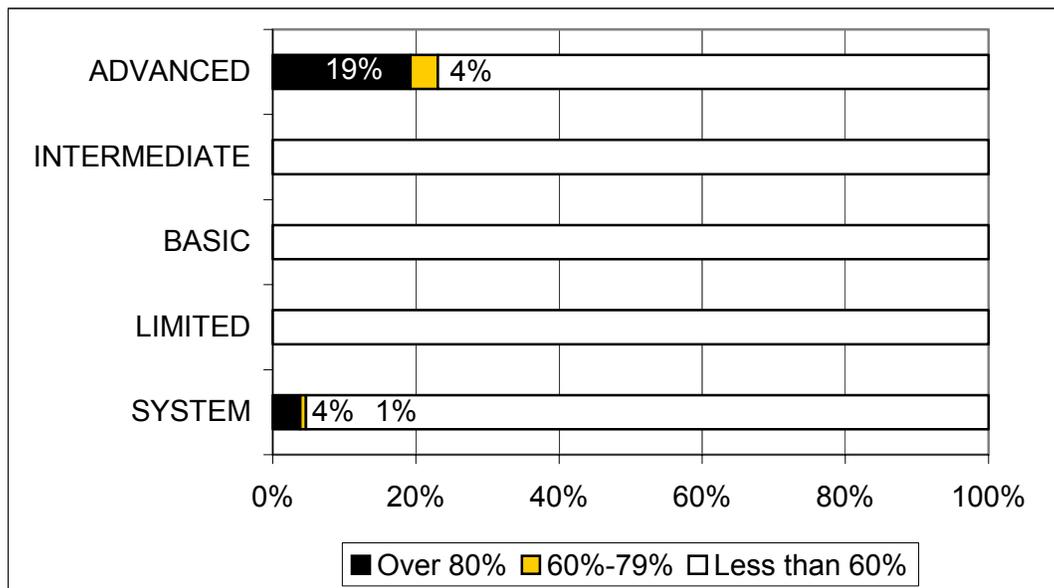
Source: Wilbur Smith Associates, Inc.

As shown in Exhibit 5-6, the vast majority of system airports, approximately 95 percent, currently operate at less than 60 percent of their ASV. The only airports that currently operate at greater than 60 percent of their ASV are in the advanced functional level. While the overall system is currently performing well relative to existing demand/capacity ratios, facility improvements in areas of potential capacity constraints that have been identified in this analysis, specifically in the Pittsburgh and Philadelphia areas, will be further discussed in the options analysis.

Projections of future operational levels at the system’s airports were also examined in this demand/capacity analysis to determine the likely effects that future operational growth may have on the system. Projections of future activity levels were estimated by applying regional forecasts of operational growth at Pennsylvania airports, as developed in Chapter Four, to current operations estimates. The forecast out-year for this analysis is 2020, representing a 21-year forecast period from this study’s base year of 1999.

The results of the capacity benchmark analysis for future operational levels are presented in **Exhibit 5-7**.

**Exhibit 5-7**  
**Projected Demand/Capacity Ratio 2020**



Source: Wilbur Smith Associates, Inc.

As shown in Exhibit 5-7, in 2020 it is estimated that approximately 95 percent of system airports will continue to operate at under 60 percent of their ASV. Those airports that are estimated to operate at 60 percent of their ASVs or greater are in the advanced functional level. While the overall system is anticipated to continue to perform well relative to airside capacity through 2020, specific airports and regions that are anticipated to experience potential capacity constraints will be the focus of analysis in the options section.

### B. Aircraft Storage Capacity

A benchmark analysis was conducted to measure the adequacy of aircraft hangar storage facilities, both T-hangars and conventional hangars, to accommodate the demand for such facilities at Pennsylvania airports. For many aircraft owners, the ability to store their aircraft in a covered facility, protected from the elements, is a vital consideration in their decision of where they base that aircraft. To determine the system’s current performance as it relates to adequate aircraft storage, data regarding hangar waiting lists at Pennsylvania airports was gathered during the on-site inventory process.

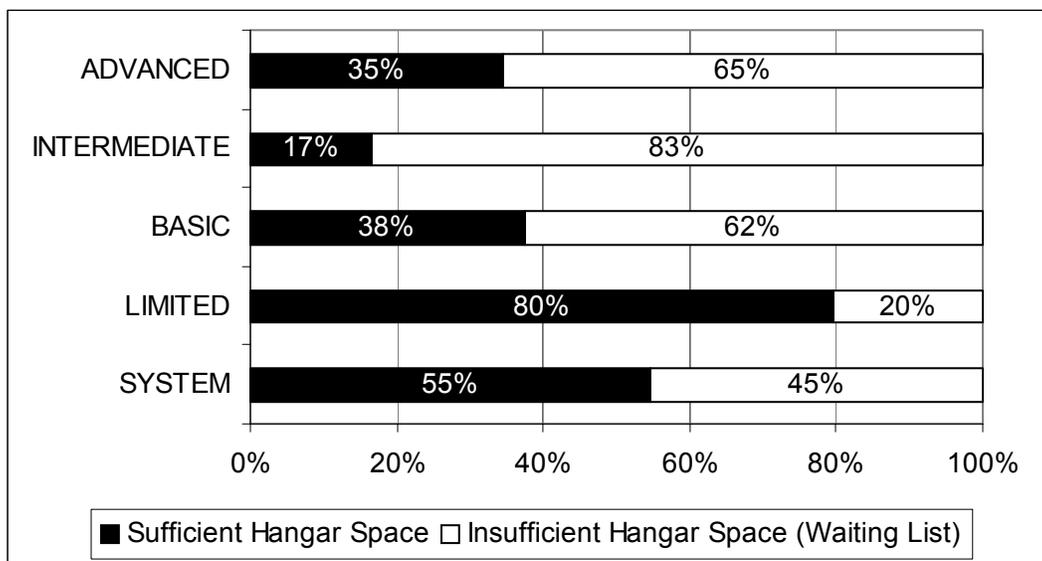
Covered aircraft storage facilities are broadly categorized as either T-hangars or conventional hangars. T-hangar buildings are typically comprised of eight to 10 individual T-hangar units in which an individual aircraft can be stored. T-hangar buildings are designed in such a way as to maximize the number of aircraft storage units available while minimizing the total size, or footprint, of the building. During the inventory process that was conducted at the initiation of the SASP, the

number of individual T-hangar units available at each Pennsylvania airport was collected. Conventional hangar storage buildings can generally be described as a covered area enclosed by three walls and a retractable door that allows for the entrance and exit of aircraft. The area enclosed in the building can vary greatly in size; however, it is generally designed to maximize the area available for aircraft storage. Conventional hangars are typically used to store individual large aircraft or a number of smaller aircraft. During the inventory effort, airports that currently maintain a hangar waiting list for one or both of these hangar types were identified.

Because of the wide variations in methodologies used to store aircraft in both T-hangars and conventional hangars, the best way to determine the adequacy of the system’s aircraft storage facilities for this analysis was to collect information on hangar waiting lists. Hangar waiting lists are typically kept by airports to record information on pilots who have expressed interest in leasing an aircraft storage hangar at that airport, should one become available. For those airports that do have hangar waiting lists, demand for hangar facilities exceeds the current supply and, therefore, the existing hangar facilities are identified in this analysis as insufficient.

The results of the capacity benchmark analysis related to aircraft hangar storage are presented in **Exhibit 5-8**.

**Exhibit 5-8  
Aircraft Storage Hangar Capacity**



Source: Wilbur Smith Associates, Inc.

As shown in Exhibit 5-8, sufficiency of hangar storage facilities at the Commonwealth’s airports varies widely by airport functional level. Approximately 17 percent of the airports in the intermediate functional level has sufficient aircraft storage capacity, while approximately 80 percent of the airports in the limited functional level have sufficient space. Overall, approximately 55 percent of the system’s airports are currently estimated to have sufficient aircraft storage capacity. Specific facility requirements for each system airport will be developed as part of the SASP; hangars

will be one of the facilities examined in that analysis. In addition, in the options analysis, areas or regions of the Commonwealth in which hangar constraints appear to be prevalent will also be identified and recommended means to address those constraints will be developed.

## **II. ACCESSIBILITY**

An adequate airport system provides reasonable access to its users. For this particular benchmark, several parameters were examined to measure how well the existing airport system is serving Pennsylvania. Because of the size and topographic diversity of the Commonwealth, as well as varied concentrations of the Commonwealth’s population, a number of factors need to be examined in accessibility analysis.

For this system performance criterion, various benchmarks were identified and a Geographic Information System (GIS) analysis was conducted to determine the approximate percentage of the Commonwealth’s land area and/or population that lies within a reasonable distance of airports providing facilities and services to support various aviation demands within reasonable ground access times.

Benchmarks were established for various accessibility parameters. The following sections will present the outcome of the GIS analysis conducted for each benchmark.

### **A. Coverage of Major Business Centers by Advanced Airports**

When businesses expand or relocate, proximity to a general aviation airport that can accommodate larger general aviation aircraft traffic is a factor of growing importance. Not every business takes advantage of the efficiency that general aviation can provide; however, the number of businesses that do use general aviation in some manner, or have customers or clients that use general aviation, is consistently growing. This analysis identified those Pennsylvania municipalities that account for significant portions of the statewide labor force and compared their locations to the locations of advanced system airports. Municipalities included in this analysis had labor forces that ranged from 6,500 employed persons to approximately 593,400 employed persons.

Through the use of a GIS analysis, the percentage of those municipalities included in this analysis that are located within a 30-minute drive time of an advanced functional level airport were determined. Several GIS analyses were conducted to examine the accessibility performance measure. In each GIS analysis, driving times are assigned to various roads and then a mathematical process is used to calculate the distances that can be driven from any point, airports in this case, based on its location on a roadway system. These calculations result in the drive time coverage areas or shapes that are presented in the following exhibits for Pennsylvania’s system of airports.

For purposes of this specific benchmark analysis, 30-minute drive times were used for all advanced airports. FAA guidelines indicate that, as a general rule, general aviation airports should be located within 30 minutes of their users. Airports with scheduled airline service typically have larger service areas because their users are more willing to drive farther to access the national air transportation system via scheduled commercial airlines. In this analysis, however, the accessibility

of general aviation facilities relative to business centers is being measured. Even though some commercial service airports are included in the advanced functional level developed in the SASP, this analysis focuses on access to general aviation facilities that these commercial service airports also provide; therefore, a 30-minute drive time was used for all airports in the advanced airport functional level.

**Exhibit 5-9** identifies those employment centers used in this analysis and compares them to the 30-minute drive time coverage areas of advanced airports in the Pennsylvania system. As shown in the exhibit, all but two of the major employment centers identified in this analysis are located within the 30-minute drive time coverage area of an advanced airport. Those identified employment centers located outside of the 30-minute drive time coverage area provided by advanced Pennsylvania airports include Sharon and Plum Boroughs. As shown in Exhibit 5-9, Sharon Borough is located in the 30-minute drive time coverage area of an advanced airport, Youngstown-Warren Regional Airport, in Ohio, and Plum Borough is located in proximity to the coverage area provided by several advanced airports in Allegheny County. Specific means of improving system performance as it relates to the coverage of major employment centers by advanced airports, if determined to be required, will be examined in the options analysis.

## **B. Coverage of Major Population Centers by Commercial Service Airports**

As the use of scheduled air carrier passenger service for business and pleasure continues to increase throughout the U.S., Pennsylvania’s ability to meet its residents’ growing demand for commercial passenger service is very important. While it may be impossible to provide every resident of Pennsylvania with access to a commercial service airport within the typical 60-minute drive time, it is important that airports that currently accommodate scheduled airline activity adequately support the Commonwealth’s major population centers.

For this benchmark, GIS analysis was conducted to identify the number of Pennsylvania municipalities with populations greater than 40,000 that are within a 60-minute drive time of an airport currently offering scheduled, commercial air carrier service. The baseline of 40,000 persons was developed through consultation with PennDOT and the POC, as well as a review of Census 2000 data for all municipalities in the Commonwealth.



Those Pennsylvania municipalities with populations greater than 40,000 persons based on Census 2000 data are presented in the following list:

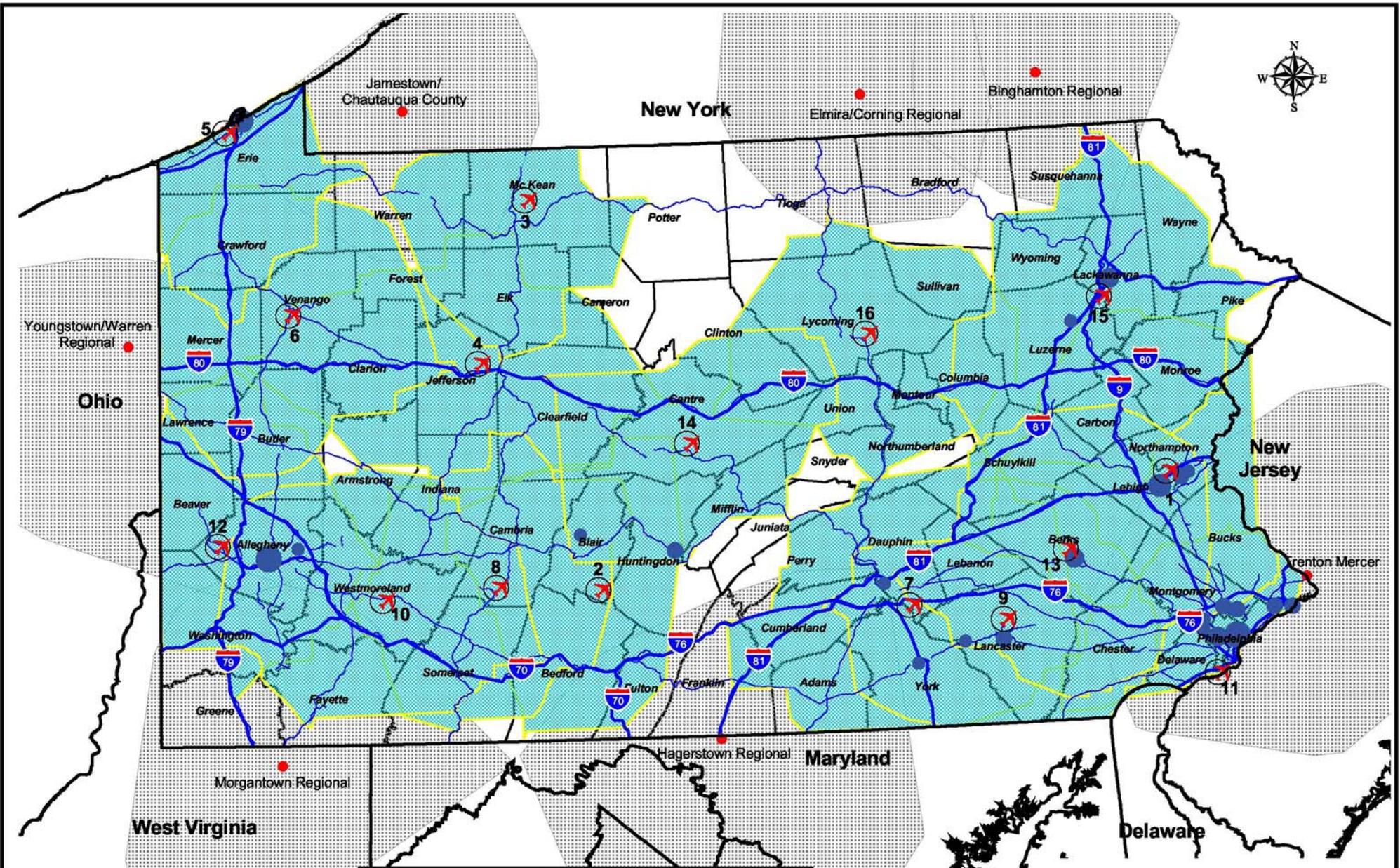
- |  |  |
|--|--|
| <input type="checkbox"/> Philadelphia          | <input type="checkbox"/> Bethlehem             |
| <input type="checkbox"/> Pittsburgh            | <input type="checkbox"/> Millcreek Township    |
| <input type="checkbox"/> Allentown             | <input type="checkbox"/> Altoona               |
| <input type="checkbox"/> Erie                  | <input type="checkbox"/> Harrisburg            |
| <input type="checkbox"/> Upper Darby Township  | <input type="checkbox"/> Haverford Township    |
| <input type="checkbox"/> Reading               | <input type="checkbox"/> Penn Hills Township   |
| <input type="checkbox"/> Scranton              | <input type="checkbox"/> Lower Paxton Township |
| <input type="checkbox"/> Lower Merion Township | <input type="checkbox"/> Middletown Township   |
| <input type="checkbox"/> Bensalem Township     | <input type="checkbox"/> Wilkes-Barre          |
| <input type="checkbox"/> Lancaster             | <input type="checkbox"/> York                  |
| <input type="checkbox"/> Abington Township     | <input type="checkbox"/> Hempfield Township    |
| <input type="checkbox"/> Bristol Township      |  |

The municipalities included in this analysis, based on their current population figures, represent centers of demand for commercial air carrier activity. This analysis measures the performance of Pennsylvania’s commercial service airports relative to the major municipalities identified.

The results of this analysis are presently graphically in **Exhibit 5-10**. As shown, each of the major population centers, scaled by total population, are located within a 60-minute drive time of a commercial service airport. In addition, Exhibit 5-10 illustrates that the majority of the Commonwealth’s land area is also located within the commercial service airport coverage areas, with areas of the less populous counties of Potter, Tioga, and Bradford being the largest areas currently excluded from drive time coverage areas. GIS analysis conducted while examining this benchmark indicates that approximately 96 percent of the Commonwealth’s population is located within the 60-minute drive time coverage area of a Pennsylvania commercial service airport. When commercial service airports in neighboring states are considered, coverage of Pennsylvania residents increases to approximately 98 percent.

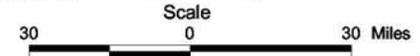
### **C. Surface Access of Airports**

The accessibility of an airport system needs to be measured in a variety of ways. The benchmarks previously discussed in this section relate the location of airports relative to population and employment centers. Another factor that is an important consideration in measuring the accessibility of an airport system is the location of airports relative to other modes of transportation. This benchmark section examines system airports relative to their location to the Commonwealth’s highway transportation network. A subsequent section will examine airport location relative to other modes of transportation including access to rail.



**Legend**

● 40,000 - 50,000	✈️ Commercial Service Airport
● 50,001 - 75,000	🟡 60 Minute Drive Time
● 75,001 - 100,000	● Out-of-State Commercial Service Airport
● 100,001 - 300,000	▨ 60 Minute Drive Time
● 300,001 - 1,550,000	🛣️ Interstate Transportation
	🛣️ Limited Access Highway



Total 60 Minute Drive Time Coverage Area:  
26,172,515 Acres (90.2% of State Total)

Population Served:  
12,068,127 People (98.3% of State Total)

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**Exhibit 5-10**  
Commercial Service Airports  
& Major Population Centers

Source: National Transportation Atlas Database, Pennsylvania Department of Transportation, and US Census Bureau

The specific surface access benchmarks that are examined in this analysis are as follows:

- ❑ Accessibility of Advanced Airports from Limited Access Highways
- ❑ Accessibility of Scheduled Service Airports from Limited Access Highways

Data from these analyses will be presented graphically and further explained in the following sections.

### **1. Accessibility of Advanced Airports from Limited Access Highways**

Ground access to airports is important to promoting intermodal accessibility, as well as supporting users of airport facilities. The level of service that airports require in terms of ground accessibility varies depending on functional roles. Advanced airports support significant amounts of corporate and/or business traffic; this type of traffic tends to require quick access to modes of ground transportation. The benchmark selected to measure this factor was the number of advanced airports that are located within two-miles driving distance of a limited access highway.

Based on a GIS analysis that examined airport property boundaries and access roads in relation to limited access highways, it was determined that, currently, 22 of the 26 advanced airports are located within two miles of a limited access highway. The four advanced airports that are not located within two miles of a limited access highway include the following:

- ❑ Altoona-Blair County Airport
- ❑ Beaver County Airport
- ❑ Doylestown Airport
- ❑ Rostraver Airport

Options and recommendations for improving accessibility at these airports will be examined in following tasks of the SASP.

### **2. Accessibility of Scheduled Service Airports from Limited Access Highways**

Scheduled service airports support the majority of aviation needs of the Pennsylvania flying public. The access that these airports provide to the national airport system through scheduled passenger service is vital to the quality of life of the Commonwealth’s residents, as well as to the commercial success of many of the Commonwealth’s businesses. The volume of passenger activity that these airports support throughout the Commonwealth necessitates that the ground access to these facilities is adequate. This benchmark analysis will examine the performance of the Commonwealth’s current scheduled service airports relative to their accessibility from a limited access highway. It is important to note that this analysis is somewhat duplicative of the previous analysis as most of the scheduled service airports are categorized as advanced airports. However, specific analysis of the scheduled airports was identified by the POC as being important in the overall analysis of the Commonwealth’s airport system.

Similar to the previous analysis, a two-mile driving distance to a limited access highway was the factor used to measure surface access performance for commercial service airports. GIS analysis indicated that 15 of the Commonwealth’s 16 scheduled service airports are located within two miles of a limited access highway. The only scheduled service airport not currently meeting this standard is Altoona-Blair County Airport.

#### D. Intermodal Accessibility at Advanced Airports

The national transportation system is comprised of many different components, one of which is the aviation system. Roadway and rail systems are examples of other important components of the national transportation system. The ability of these different components to efficiently interact and provide multi-modal accessibility to transportation users is very important to the success of the national transportation system. It follows that, for an aviation system to perform well, it must promote access to other modes of transportation where sufficient demand may exist. The following sections summarize an analysis that examined advanced airports in the system and identified those that support intermodal accessibility.

Based on analysis conducted in the SASP, Pennsylvania airports were stratified by their current functional role. The analysis of intermodal accessibility examines the advanced airport category only. Based on the stratification process, advanced airports were categorized as those airport facilities that accommodate high levels of activity, including scheduled commercial passenger and/or general aviation traffic, and are typically located near significant population centers. In some cases, these airports are in major metropolitan areas and are intended to function as relievers to larger, more congested commercial service airports in the area. Where capacity constraints do not limit, these airports should also support corporate general aviation operations. The levels and types of activity occurring at these facilities generally dictate that the users of these airports should have access to other modes of transportation such as public transit (i.e. bus or passenger rail) and freight/cargo transfer facilities.

Airports included in the advanced category were examined to identify those facilities that support intermodal accessibility by offering airport users on-site access to public transit services and that provide dedicated facilities to support cargo or freight transfer from aircraft to truck, or vice versa. Cargo facilities examined in this analysis include existing cargo building and/or existing cargo apron areas. These two factors were selected based on input from PennDOT and the POC because they represent the most common intermodal transportation needs of individuals that may use airport facilities, as well as corporate and executive users that are looking to locate a facility in the vicinity of an airport.

The results of this intermodal accessibility benchmark analysis are summarized in **Table 5-2**. As the table indicates, nine of the 26 advanced airports provide on-site access to public transit services. In addition, nine of these 26 airports provide dedicated cargo/freight transfer facilities at the airport.

Table 5-2  
Intermodal Accessibility at Advanced Airports

Advanced Airports	Associated City	On-Site Public Transit	Existing Dedicated Cargo/Freight Transfer Facility
Lehigh Valley International	Allentown	Yes	Yes
Altoona-Blair County	Altoona	No	No
Beaver County	Beaver Falls	No	No
Chester County-G.O. Carlson	Coatesville	No	No
Doylestown	Doylestown	No	No
DuBois-Jefferson County	DuBois	No	No
Erie International	Erie	Yes	No
Venango Regional	Franklin	No	Yes
Harrisburg International	Harrisburg	Yes	Yes
Capital City	Harrisburg	No	No
Hazleton Municipal	Hazleton	No	No
Johnstown-Cambria County	Johnstown	Yes	No
Lancaster	Lancaster	No	No
Arnold Palmer Regional	Latrobe	Yes	No
Rostraver	Monongahela	No	No
Northeast Philadelphia	Philadelphia	No	No
Philadelphia International	Philadelphia	Yes	Yes
Wings Field	Philadelphia	No	No
Allegheny County	Pittsburgh	No	No
Pittsburgh International	Pittsburgh	Yes	Yes
Pottstown Limerick	Pottstown	No	Yes
Reading Regional	Reading	Yes	No
University Park	State College	No	Yes
Wilkes-Barre/Scranton International	Wilkes-Barre/Scranton	No	Yes
Williamsport Regional	Williamsport	Yes	Yes
York	York	No	No

Source: Wilbur Smith Associates, Inc.

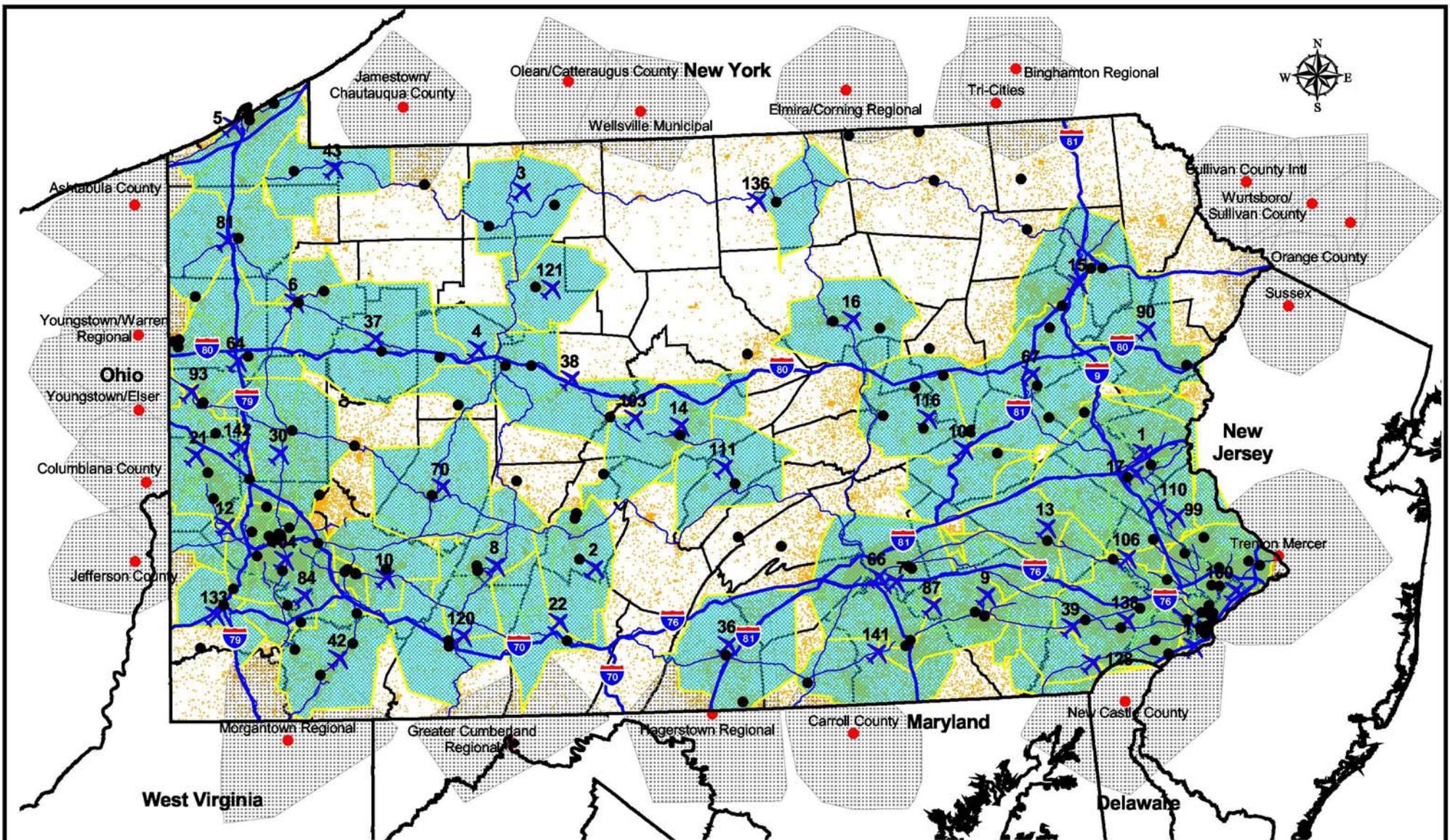
## E. Medical Airlift Coverage

An important goal of the System Plan analysis was to determine the extent to which Pennsylvania’s system of airports provides access for medical airlifts. Medical airlifts can occur at the site of an accident when victims are evacuated and flown to a trauma center. Often, this type of medical evacuation is conducted by helicopters that have access to the accident scene and rely on aviation facilities at their base of operations, such as private hospital heliports or public airports. The number of heliports supporting medical evacuations has grown rapidly in recent years as more sophisticated and larger helicopters with all-weather capability are moved into this role.

A more typical medical airlift, or “flight for life,” occurs when a patient has been stabilized at a local hospital, then is taken in a ground ambulance to an airport and flown to a location where the appropriate level of medical care is available. Contract carriers typically perform this type of medical airlift. Major contract carriers currently providing this service are located at Butler County, Rostraver, University Park, and Wings Field airports.

The ability of Pennsylvania’s system of airports to support medical airlifts throughout the Commonwealth was examined through GIS analysis. In this analysis, the percentage of the Commonwealth’s land area and total population that is within a 30-minute drive time of an airport with a runway measuring at least 3,200 feet **and** a published precision or non-precision approach was measured. The runway length requirement was developed based on the types of aircraft that frequently support these operations. The non-precision approach requirement was included based on the necessity of having some degree of accessibility during periods of inclement weather conditions and/or limited visibility.

**Exhibit 5-11** summarizes the results of this analysis in terms of both population coverage and land area coverage. GIS analysis indicates that approximately 61 percent of the Commonwealth’s total land area and approximately 91 percent of the Commonwealth’s population is currently located within a 30-minute drive time of a Pennsylvania airport that has a minimum runway length of at least 3,200 feet and a published precision or non-precision approach. As shown in Exhibit 5-11, when out-of-state airports that provide the same facilities are considered, the coverage provided to Pennsylvania increases to approximately 65 percent of the Commonwealth’s land area and 92 percent of its population. In addition, Exhibit 5-11 depicts the location of all medical airlift heliports in the Commonwealth. Pennsylvania has approximately 140 such sites. Some of these facilities provide additional medical airlift coverage to the Commonwealth because they are located in areas not currently covered by airports with the runway length and approach facilities identified in this analysis. Some relatively populous areas of northeast Pennsylvania, including Wayne and Pike counties, appear to be inadequately covered in relation to emergency medical evacuation coverage.



**PENNSYLVANIA**  
STATEWIDE AIRPORT SYSTEM PLAN

ENGINEERS  
PLANNERS  
ECONOMISTS

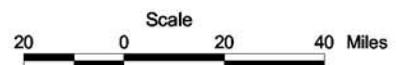
**Wilbur Smith Associates**

Total 30 Minute Drive Time Coverage Area:  
18,844,919 Acres (65.0% of State Total)

Population Served:  
11,334,970 People (92.3% of State Total)

**Legend**

- Medical Airlift Airports
- Interstate Transportation
- 30 Minute Drive Time
- Limited Access Highway
- Out-of-State Medical Airlift Airports
- 2000 Population Density
- 30 Minute Drive Time
- Medical Airlift Heliports
- 1- 500 People
- 501 - 2,000 People
- 2,001 - 5,000 People
- 5,001 - 10,000 People



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**Exhibit 5-11**

Medical Airlift Coverage

Source: National Transportation Atlas Database, Pennsylvania Department of Transportation, US Census Bureau

### **III. SUPPORT/COMMITMENT**

Support and/or commitment for a local airport are vital to its ultimate success. While many of the Commonwealth’s airports are privately owned, it is important that each airport have support from the community. Airport sponsors show their support in the form of financial resources, adoption of land use controls, and participation in planning efforts. The required level of support varies based on the size of the airport and the role it plays in the aviation system. Airports represent major investments both in land ownership and actual facility development. Whether a public sponsor or a private entity makes this investment, the initial investment still represents only a small portion of what will be required long-term to maintain the facilities. Maintenance of airport facilities requires a substantial financial commitment, as well as commitment by airport management to ensure the airport is operated in a fiscally responsible manner.

Several benchmarks were discussed in conjunction with the support/commitment performance measure. Specific examples include factors such as local and regional public support, funding support including private investment, and community land use controls. Data regarding these factors, however, was insufficient or subjective in nature and was not included in the adequacy analysis. That same information may be an important consideration in the options analysis that will be conducted to determine how to improve the performance of the system based on the results of this chapter. One objective factor that has been identified to measure support/commitment related to Pennsylvania’s airports is the type of ownership/management structure in place at those facilities.

#### **A. Airport Ownership/Management Structure and Grant Obligation**

The overall performance and system contribution of an airport can be impacted by the type of ownership/management structure in place at that airport. The means by which airport ownership/management structure impacts individual airport and overall airport system performance relates to factors such as long-term airport stability, availability of public funds for airport development, and airport management objectives. In general, publicly owned airports are considered more stable over the long-term since property and assets are not owned, and potentially sold, by private owners. In addition, a higher proportion of publicly owned airports are eligible to receive federal funds to support airport maintenance, improvement, and development. The operational goal of an airport manager, such as profit maximization or high levels of service, also tends to impact the overall performance of airports. Grant obligations refer to assurances that airports may have in place with either State or federal agencies that require those facilities to remain in operation as a public use airport for a specified period of time because public funds have been used to support airport development or operations.

While the specific ownership/management structure at different airports tends to vary significantly, certain general characteristics have been identified at Pennsylvania’s airports. Each functional level of airport will be examined and existing characteristics at each system airport will be summarized relative to the following factors:

**Airport Ownership** – Airports were identified as being either publicly or privately owned.

**Airport Management Structure** – Airports were classified as having stand-alone management or contract management. Stand-alone management refers to airport managers that are solely responsible for the management of the facility and have no private commercial interests, activities, or operations at the airport outside the interests of the owner/sponsor. Contract management refers to airports that have managers that may be an employee of, or operator/owner of, a business entity that is not under the ownership and/or control of the airport owner/sponsor.

**Airport Grant Obligation** – If an airport receives public funds to promote facility maintenance or development, it must assume certain grant assurances and obligations that ensure the facility will operate as an airport for a specified period of time. Airport development grants can be either from federal or State sources. Federal grants carry with them a 20-year grant obligation, while State grant funds have a 10-year grant obligation period. Pennsylvania system airports were categorized as being either federally obligated, state-obligated, or non-obligated.

Specific characteristics of each system airport are summarized in **Table 5-3**. These factors can be summarized within the functional levels of airport developed for the SASP as follows:

- **Advanced Airports**
  - *Ownership:* Of the 26 advanced airports, 23 are publicly owned and three are privately owned.
  - *Management:* 22 of the 23 publicly owned advanced airports have stand-alone management and one has contract management. The three privately owned advanced airports are managed by their respective owners.
  - *Grant Obligation:* All advanced airports are grant-obligated. 25 of the 26 airports are both federally and state-obligated, while one airport is only state-obligated.
  
- **Intermediate Airports**
  - *Ownership:* Of the 24 intermediate airports, 17 are publicly owned and seven are privately owned.
  - *Management:* 14 of the 17 publicly owned intermediate airports have stand-alone management and three have contract management. The seven privately owned intermediate airports are managed by their respective owners.
  - *Grant Obligation:* All intermediate airports are grant obligated. 18 airports are federally and state-obligated, while the remaining six intermediate airports are obligated to the Commonwealth.
  
- **Basic Airports**
  - *Ownership:* Of the 24 basic airports, 16 are publicly owned and eight are privately owned.
  - *Management:* 12 of the 16 publicly owned basic airports have stand-alone management and four have contract management. The eight privately owned basic airports are managed by their respective owners.

- *Grant Obligation:* 23 of the 24 basic airports are grant-obligated. Of the 23 that are grant obligated, 14 are federally and state-obligated and nine are obligated to the Commonwealth.
  
- Limited Airports
  - *Ownership:* Of the 55 limited airports, eight are publicly owned and 47 are privately owned.
  - *Management:* Four of the eight publicly owned limited airports have stand-alone management and four have contract management. The 47 privately owned basic airports are managed by their respective owners.
  - *Grant Obligation:* 15 of the 55 limited airports are non-obligated. Four of these airports are both federally and state-obligated, while the remaining 31 limited airports are obligated to the Commonwealth.

Table 5-3 (Page 1 of 3)  
 Airport Management/Ownership Structure and Grant Obligation

Airport	Associated City	Functional Level	Ownership	Management		Grant Obligation		
				Stand-Alone	Contract/Private	Fed. and State	State	Non-Obl.
Lehigh Valley International	Allentown	Adv	Public	x		x		
Altoona-Blair County	Altoona	Adv	Public	x		x		
Beaver County	Beaver Falls	Adv	Public	x		x		
Chester County-G.O. Carlson	Coatesville	Adv	Public	x		x		
Doylestown	Doylestown	Adv	Public	x		x		
DuBois-Jefferson County	DuBois	Adv	Public	x		x		
Erie International	Erie	Adv	Public	x		x		
Venango Regional	Franklin	Adv	Public	x		x		
Capital City	Harrisburg	Adv	Public	x		x		
Harrisburg International	Harrisburg	Adv	Public	x		x		
Hazleton Municipal	Hazleton	Adv	Public	x		x		
Johnstown-Cambria County	Johnstown	Adv	Public	x		x		
Lancaster	Lancaster	Adv	Public	x		x		
Arnold Palmer Regional	Latrobe	Adv	Public	x		x		
Rostraver	Monongahela	Adv	Public	x		x		
Northeast Philadelphia	Philadelphia	Adv	Public	x		x		
Philadelphia International	Philadelphia	Adv	Public	x		x		
Wings Field	Philadelphia	Adv	Private		x	x		
Allegheny County	Pittsburgh	Adv	Public	x		x		
Pittsburgh International	Pittsburgh	Adv	Public	x		x		
Pottstown Limerick	Pottstown	Adv	Private		x	x		
Reading Regional	Reading	Adv	Public	x		x		
University Park	State College	Adv	Public	x		x		
Wilkes-Barre/Scranton International	Wilkes-Barre/Scranton	Adv	Public	x		x		
Williamsport Regional	Williamsport	Adv	Public	x		x		
York	York	Adv	Private		x		x	
Queen City	Allentown	Int	Public		x	x		
Bedford County	Bedford	Int	Public	x		x		
Butler County	Butler	Int	Public	x		x		
Carlisle	Carlisle	Int	Private		x		x	
Clearfield-Lawrence	Clearfield	Int	Public	x		x		
Perkiomen Valley	Collegeville	Int	Private		x		x	
Connellsville	Connellsville	Int	Public	x		x		
Indiana County-Jimmy Stewart	Indiana	Int	Public	x		x		
Kutztown	Kutztown	Int	Private		x		x	
Port Meadville	Meadville	Int	Public	x		x		
Donegal Springs Airpark	Mount Joy/Marietta	Int	Private		x		x	
Pocono Mountains Municipal	Mount Pocono	Int	Public		x	x		
New Castle Municipal	New Castle	Int	Public		x	x		
Pottstown Municipal	Pottstown	Int	Public	x		x		
Schuylkill County-Joe Zerbey	Pottsville	Int	Public	x		x		
Quakertown	Quakertown	Int	Public	x		x		
Mifflin County	Reedsville	Int	Public	x		x		
Penn Valley	Selinsgrove	Int	Public	x		x		
Northumberland County	Shamokin	Int	Public	x		x		
Smoketown	Smoketown	Int	Private		x		x	
New Garden Flying Field	Toughkenamon	Int	Private		x	x		
Washington County	Washington	Int	Public	x		x		
Brandywine	West Chester	Int	Private		x		x	
Zelienople Municipal	Zelienople	Int	Public	x		x		

Table 5-3 (Page 2 of 3)

Airport Management/Ownership Structure and Grant Obligation

Airport	Associated City	Functional Level	Ownership	Management		Grant Obligation		
				Stand-Alone	Contract/Private	Fed. and State	State	Non-Obl.
Bloomsburg Municipal	Bloomsburg	Bas	Public		x	x		
Bradford Regional	Bradford	Bas	Public	x		x		
Clarion County	Clarion	Bas	Public	x		x		
Corry-Lawrence	Corry	Bas	Public	x		x		
Danville	Danville	Bas	Public	x			x	
Stroudsburg Pocono	East Stroudsburg	Bas	Private		x		x	
Easton (Braden Airpark)	Easton	Bas	Public		x		x	
Ebensburg	Ebensburg	Bas	Public	x		x		
Finleyville Airpark	Finleyville	Bas	Private		x		x	
Farmer's Pride	Fredicksburg	Bas	Private		x		x	
Gettysburg Airport and Travel Center	Gettysburg	Bas	Private		x		x	
Grove City	Grove City	Bas	Public		x	x		
Jake Arner Memorial	Lehighton	Bas	Public	x		x		
William T. Piper Memorial	Lock Haven	Bas	Public	x		x		
Deck	Myerstown	Bas	Private		x		x	
Reigle	Palmyra	Bas	Private		x		x	
Pennridge	Perkasie	Bas	Private		x		x	
Mid State	Philipsburg	Bas	Public	x		x		
Somerset County	Somerset	Bas	Public	x		x		
St. Marys Municipal	St. Marys	Bas	Public		x	x		
Rock	Tarentum	Bas	Private		x			x
Titusville	Titusville	Bas	Public	x		x		
Greene County	Waynesburg	Bas	Public	x		x		
Wilkes-Barre/Wyoming Valley	Wilkes-Barre	Bas	Public	x		x		
Millard	Annville	Lim	Private		x		x	
Bellefonte	Bellefonte	Lim	Private		x		x	
Grimes	Bethel	Lim	Private		x		x	
Baublitz Commercial	Brogue	Lim	Private		x			x
Miller	Burgettstown	Lim	Private		x			x
Butler Farm Show	Butler	Lim	Private		x		x	
Flying Dollar	Canadensis	Lim	Private		x		x	
Centre Airpark	Centre Hall	Lim	Private		x			x
Penn's Cave	Centre Hall	Lim	Private		x			x
Chambersburg Municipal	Chambersburg	Lim	Public	x			x	
McGinness Field	Columbia	Lim	Private		x		x	
Culmerville	Culmerville	Lim	Private		x			x
Bandel	Eighty Four	Lim	Private		x			x
Van Sant	Erwinna	Lim	Private		x			x
Seamans Field	Factoryville	Lim	Private		x		x	
McVile	Freeport	Lim	Private		x		x	
Cherry Springs	Galeton	Lim	Public		x		x	
Flying M. Aerodrome	Germansville	Lim	Private		x		x	
Greenville Municipal	Greenville	Lim	Public	x		x		
Hanover	Hanover	Lim	Private		x		x	
Cherry Ridge	Honesdale	Lim	Private		x		x	
Inter County	Irwin	Lim	Private		x		x	
Greensburg-Jeanette Regional	Jeanette	Lim	Private		x		x	
Jersey Shore	Jersey Shore	Lim	Private		x		x	
Bermudian Valley Airpark	Kralltown	Lim	Private		x		x	
Keller Brothers	Lebanon	Lim	Private		x		x	
Beltzville	Lehighton	Lim	Private		x			x
Lakehill	Mars	Lim	Private		x			x

Table 5-3 (Page 3 of 3)  
 Airport Management/Ownership Structure and Grant Obligation

Airport	Associated City	Functional Level	Ownership	Management		Grant Obligation		
				Stand-Alone	Contract/Private	Fed. and State	State	Non-Obl.
Mifflintown	Mifflintown	Lim	Private		x		x	
Pittsburgh Monroeville	Monroeville	Lim	Private		x			x
Morgantown	Morgantown	Lim	Private		x		x	
Mt. Pleasant-Scottdale	Mount Pleasant	Lim	Private		x		x	
Huntingdon County	Mount Union	Lim	Private		x		x	
Blue Knob Valley	Newry	Lim	Private		x		x	
Albert	Philipsburg	Lim	Private		x		x	
Brokenstraw	Pittsfield	Lim	Private		x			x
Punxsutawney	Punxsutawney	Lim	Public	x		x		
Blue Swan	Sayre	Lim	Public		x		x	
Seven Springs	Seven Springs	Lim	Public		x			x
Shippensburg	Shippensburg	Lim	Private		x			x
Slatington	Slatington	Lim	Private		x		x	
Spring Hill	Sterling	Lim	Private		x		x	
Sunbury	Sunbury	Lim	Private		x			x
Bradford County	Towanda	Lim	Public		x	x		
Bendigo	Tower City	Lim	Private		x		x	
Sky Haven	Tunkhannock	Lim	Private		x		x	
Erie County	Wattsburg	Lim	Private		x		x	
Grand Canyon State	Wellsboro	Lim	Public	x		x		
Kampel	Wellsville	Lim	Private		x		x	
Cove Valley	Williamsburg	Lim	Private		x			x

Source: Wilbur Smith Associates, Inc.

## IV. FACILITIES

Pennsylvania’s system of public use airports is comprised of a wealth of existing aviation infrastructure. The existing infrastructure has been funded through the use of airport development funds that have come from local, private, State, and Federal sources. Much of the existing infrastructure at system airports still has considerable useful life and should be considered an asset, where possible, when system development recommendations are made. Recognizing the contributions of existing infrastructure to the system, as well as balancing the need for the creation of new facilities, is often a key component in the long-term success of an airport system. Benchmarks used to measure the performance of existing system infrastructure have been developed for this analysis to identify how well existing facilities and services at system airports are meeting user needs.

### A. Facility and Service Objectives

In a previous task of the SASP, airports were grouped by functional level. Once this functional level grouping is completed, it is desirable to identify facilities and services that should generally be available at airports included in the functional levels identified in the SASP. These facility and service objectives are used in this analysis to examine the adequacy of Pennsylvania’s existing airport system, as well as to identify future facility requirements that may be needed in the future as airports may change functional roles within the system.

It is important to note that airport and aviation safety and security are of paramount importance to any airport system. Aviation safety and security concerns will continue to be the top priority of PennDOT while promoting the continued operation and development of the Commonwealth’s airport system. Standards and regulations related to aviation safety are often reviewed and updated by various federal, state, and local entities. Although no specific facility and service objectives are identified related to airport and aviation safety and security in this SASP, Commonwealth airports and PennDOT should continuously monitor changes to safety and security regulations to promote complete compliance.

**Table 5-4** presents Pennsylvania system airports categorized by functional level. Facility and service objectives for each functional level are presented in **Table 5-5**. The facility and service objectives measure the performance of each system airport as it relates to specific factors such as runway and taxiway characteristics (lighting, approach, and weather aids), as well as ancillary facilities and services provided at each airport. It should be noted that the ARC objective denotes an airport having the proper designation on record. Actual compliance with ARC requirements is contained in the FAA Design Standard benchmark.

Table 5-4  
Summary of Functional Levels 1/

Advanced Airports	Associated City
Lehigh Valley International	Allentown
Altoona-Blair County	Altoona
Beaver County	Beaver Falls
Chester County-G.O. Carlson	Coatesville
Doylestown	Doylestown
DuBois-Jefferson County	DuBois
Erie International	Erie
Venango Regional	Franklin
Harrisburg International	Harrisburg
Capital City	Harrisburg
Hazleton Municipal	Hazleton
Johnstown-Cambria County	Johnstown
Lancaster	Lancaster
Arnold Palmer Regional	Latrobe
Rostraver	Monongahela
Northeast Philadelphia	Philadelphia
Philadelphia International	Philadelphia
Wings Field	Philadelphia
Allegheny County	Pittsburgh
Pittsburgh International	Pittsburgh
Pottstown Limerick	Pottstown
Reading Regional	Reading
University Park	State College
Wilkes-Barre/Scranton International	Wilkes-Barre/Scranton
Williamsport Regional	Williamsport
York	York

Intermediate Airports	Associated City
Queen City	Allentown
Bedford County	Bedford
Butler County	Butler
Carlisle	Carlisle
Clearfield-Lawrence	Clearfield
Perkiomen Valley	Collegeville
Connellsville	Connellsville
Indiana County-Jimmy Stewart	Indiana
Kutztown	Kutztown
Port Meadville	Meadville
Donegal Springs Airpark	Mount Joy/Marietta
Pocono Mountains Municipal	Mount Pocono
New Castle Municipal	New Castle
Pottstown Municipal	Pottstown
Schuylkill County-Joe Zerbey	Pottsville
Quakertown	Quakertown
Mifflin County	Reedsville
Penn Valley	Selinsgrove
Northumberland County	Shamokin
Smoketown	Smoketown
New Garden Flying Field	Toughkenamon
Washington County	Washington
Brandywine	West Chester
Zelienople Municipal	Zelienople

Table 5-4 (cont)  
Summary of Functional Levels

Basic Airports	Associated City
Bloomsburg Municipal	Bloomsburg
Bradford Regional	Bradford
Clarion County	Clarion
Corry-Lawrence	Corry
Danville	Danville
Stroudsburg Pocono	East Stroudsburg
Easton (Braden Airpark)	Easton
Ebensburg	Ebensburg
Finleyville Airpark	Finleyville
Farmer's Pride	Fredicksburg
Gettysburg Airport and Travel Center	Gettysburg
Grove City	Grove City
Jake Arner Memorial	Lehighton
William T. Piper Memorial	Lock Haven
Deck	Myerstown
Reigle	Palmyra
Pennridge	Perkasie
Mid State	Philipsburg
Somerset County	Somerset
St. Marys Municipal	St. Marys
Rock	Tarentum
Titusville	Titusville
Greene County	Waynesburg
Wilkes-Barre/Wyoming Valley	Wilkes-Barre

Limited Airports	Associated City
Millard	Annville
Bellefonte	Bellefonte
Grimes	Bethel
Baublitz Commercial	Brogue
Miller	Burgettstown
Butler Farm Show	Butler
Flying Dollar	Canadensis
Penn's Cave	Centre Hall
Centre Airpark	Centre Hall
Chambersburg Municipal	Chambersburg
McGinness Field	Columbia
Culmerville	Culmerville
Bandel	Eighty Four
Van Sant	Erwinna
Seamans Field	Factoryville
McVile	Freeport
Cherry Springs	Galeton
Flying M. Aerodrome	Germansville
Greenville Municipal	Greenville
Hanover	Hanover
Cherry Ridge	Honesdale
Inter County	Irwin
Greensburg-Jeanette Regional	Jeanette
Jersey Shore	Jersey Shore

Table 5-4 (cont)  
Summary of Functional Levels

Limited Airports (cont)	Associated City
Bermudian Valley Airpark	Kralltown
Keller Brothers	Lebanon
Beltzville	Lehighton
Lakehill	Mars
Mifflintown	Mifflintown
Pittsburgh Monroeville	Monroeville
Morgantown	Morgantown
Mt. Pleasant-Scottsdale	Mount Pleasant
Huntingdon County	Mount Union
Blue Knob Valley	Newry
Albert	Philipsburg
Brokenstraw	Pittsfield
Punxsutawney	Punxsutawney
Blue Swan	Sayre
Seven Springs	Seven Springs
Shippensburg	Shippensburg
Slatington	Slatington
Spring Hill	Sterling
Sunbury	Sunbury
Bradford County	Towanda
Bendigo	Tower City
Sky Haven	Tunkhannock
Erie County	Wattsburg
Grand Canyon State	Wellsboro
Kampel	Wellsville
Cove Valley	Williamsburg

Special Use Facilities	Associated City
Total RF Heliport	Bensalem
Philadelphia Seaplane Base	Essington
Keystone Heliport	Exton
Mid-Atlantic Soaring Center	Fairfield
Southern Adams County Heliport	Gettysburg
Horsham Valley Airways Heliport	Horsham
WPHS Heliport	Mount Pleasant
Valley Forge Bicentennial Heliport	Norristown
Penn's Landing - Pier 36 Heliport	Philadelphia
Shoestring Aviation	Stewartstown
Sunbury Seaplane Base	Sunbury
Ridge Soaring Gliderport	Unionville

Note 1/: Airport functional level classifications and facility and service objectives are recommendations of the SASP and have been made at the State airport system level. It is important to note that some airports may not be able to be developed to meet the functional level classifications and facility and service objectives noted, due to land use, physical, or aeronautical constraints.

Source: Wilbur Smith Associates, Inc.

**Table 5-5  
Facility and Service Objectives 1/**

<b>Advanced Airports</b>	
<b>ARC:</b>	B-II or greater (C-II for Commercial Service)
<b>Runway Length:</b>	Minimum of 5,000 feet (dry runway)
<b>Runway Width:</b>	To Meet ARC
<b>Runway Strength:</b>	At least 30,000 Pounds (60,000 Pounds for Commercial Service)
<b>Taxiway:</b>	Full Parallel
<b>Navigational Aids:</b>	Published approach with decision altitude of 200 feet or less and visibility minimum of 1/2 mile or less
<b>Approach Aids:</b>	Rotating Beacon, Lighted Wind Indicator/Segmented Circle, REILs, PAPIs, MALSR
<b>Lighting:</b>	HIRL
<b>Weather:</b>	ASOS/AWOS
<b>Services:</b>	Phone, Restrooms, FBO, Maintenance, Jet Fuel, Ground Transportation
<b>Facilities:</b>	Local and Itinerant Aircraft Parking Apron, Local and Itinerant Aircraft Storage, Terminal, Auto Parking

<b>Intermediate Airports</b>	
<b>ARC:</b>	B-II or greater
<b>Runway Length:</b>	Minimum of 4,000 feet (dry runway)
<b>Runway Width:</b>	To Meet ARC
<b>Runway Strength:</b>	30,000 Pounds (accommodates all large B-II aircraft)
<b>Taxiway:</b>	Full Parallel for Primary Runway
<b>Navigational Aids:</b>	Published approach with decision altitude of 400 feet or less and visibility minimum of 1 mile or less
<b>Approach Aids:</b>	Rotating Beacon, Lighted Wind Indicator/Segmented Circle, REILs, VGSIs
<b>Lighting:</b>	MIRL
<b>Weather:</b>	ASOS/AWOS
<b>Services:</b>	Phone, Restrooms, FBO, Maintenance, Jet Fuel, Ground Transportation
<b>Facilities:</b>	Local and Itinerant Aircraft Parking Apron, Local and Itinerant Aircraft Storage, General Aviation Terminal, General Aviation Auto Parking

<b>Basic Airports</b>	
<b>ARC:</b>	B-I or greater
<b>Runway Length:</b>	Minimum of 3,000 feet (dry runway)
<b>Runway Width:</b>	To Meet ARC
<b>Runway Strength:</b>	Paved, at Least 12,500 Pounds
<b>Taxiway:</b>	Partial Parallel, Connectors, or Turnarounds
<b>Navigational Aids:</b>	Published approach with minimum descent altitude of 1000 feet or less and visibility minimum of 3 miles or less
<b>Approach Aids:</b>	Rotating Beacon, Lighted Wind Indicator/Segmented Circle, VGSIs
<b>Lighting:</b>	MIRL
<b>Weather:</b>	None
<b>Services:</b>	Phone, Restrooms, Fuel (Avgas)
<b>Facilities:</b>	Aircraft Parking Apron, Aircraft Storage Units, Auto Parking

<b>Limited Airports</b>	
<b>ARC:</b>	A-I or greater
<b>Runway Length:</b>	2,200 feet or greater (dry runway)
<b>Runway Width:</b>	To Meet ARC
<b>Runway Strength:</b>	Turf or Paved Up to 12,500 Pounds
<b>Taxiway:</b>	None
<b>Navigational Aids:</b>	None
<b>Approach Aids:</b>	Wind Indicator
<b>Lighting:</b>	None
<b>Weather:</b>	None
<b>Services:</b>	Phone, Restrooms
<b>Facilities:</b>	Aircraft Parking, Auto Parking

Note 1/: Airport functional level classifications and facility and service objectives are recommendations of the SASP and have been made at the State airport system level. It is important to note that some airports may not be able to be developed to meet the functional level classifications and facility and service objectives noted, due to land use, physical, or aeronautical constraints.

Source: Wilbur Smith Associates, Inc.

Facility and service objectives for each of the functional levels within the Pennsylvania airport system were developed using various factors, which include facility standards developed for other state systems, FAA standards, as well as input from Bureau of Aviation staff. Specific needs of airport users were also collected through various survey efforts conducted throughout the Commonwealth. In general, these facility and service objectives reflect the needs that the users of each specific functional level of airport in the system have in order to safely and efficiently support their operations at those facilities.

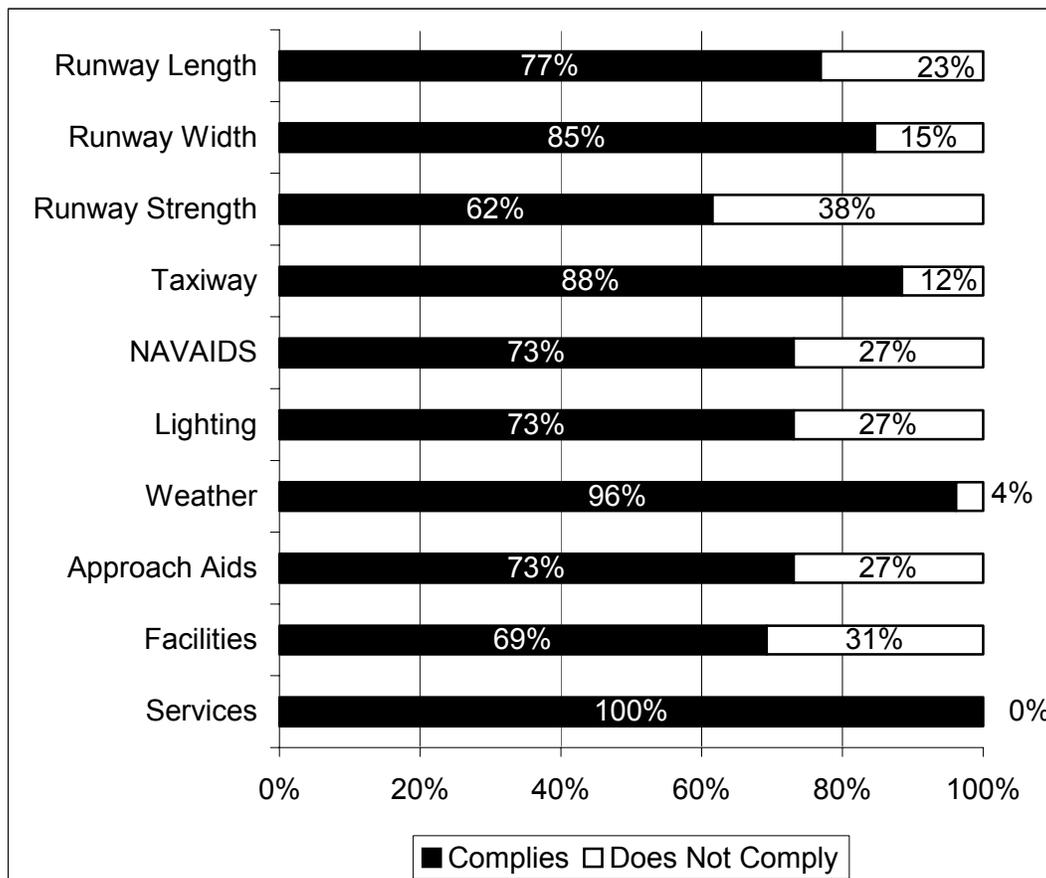
It is important to note that the facility and service objectives adopted for this study are just that, objectives. In some cases, airports within the functional levels may not be capable of meeting one or more of the established objectives, or the development required to meet objectives may be cost-prohibitive. In many cases, however, directed investment at specific airports may significantly improve the system’s overall performance related to the facility and service objectives identified in the SASP. As the SASP progresses, the feasibility of implementing system-wide improvements that will improve the system’s overall performance relative to these facility and service objectives will be examined. Recommendations of projects that will improve system performance will be developed in such a way as to take into account the anticipated financial implications.

System performance relative to the facility and service objectives developed in the SASP are presented individually by functional level. The following graphs summarize the performance of each functional level by showing the percentage of airports in that functional level that currently meet the general facility and service objectives identified for that level.

### **1. Advanced Airports**

The compliance of the system’s current advanced airports to the facility and service objectives developed for this functional level of airports is summarized in **Exhibit 5-12**. The graph depicts the percentage of airports in the advanced functional level that currently meet the specific facility and service objectives for the general categories included in this analysis.

**Exhibit 5-12  
Advanced Airports  
Compliance with Facility and Service Objectives**



Source: Wilbur Smith Associates, Inc.

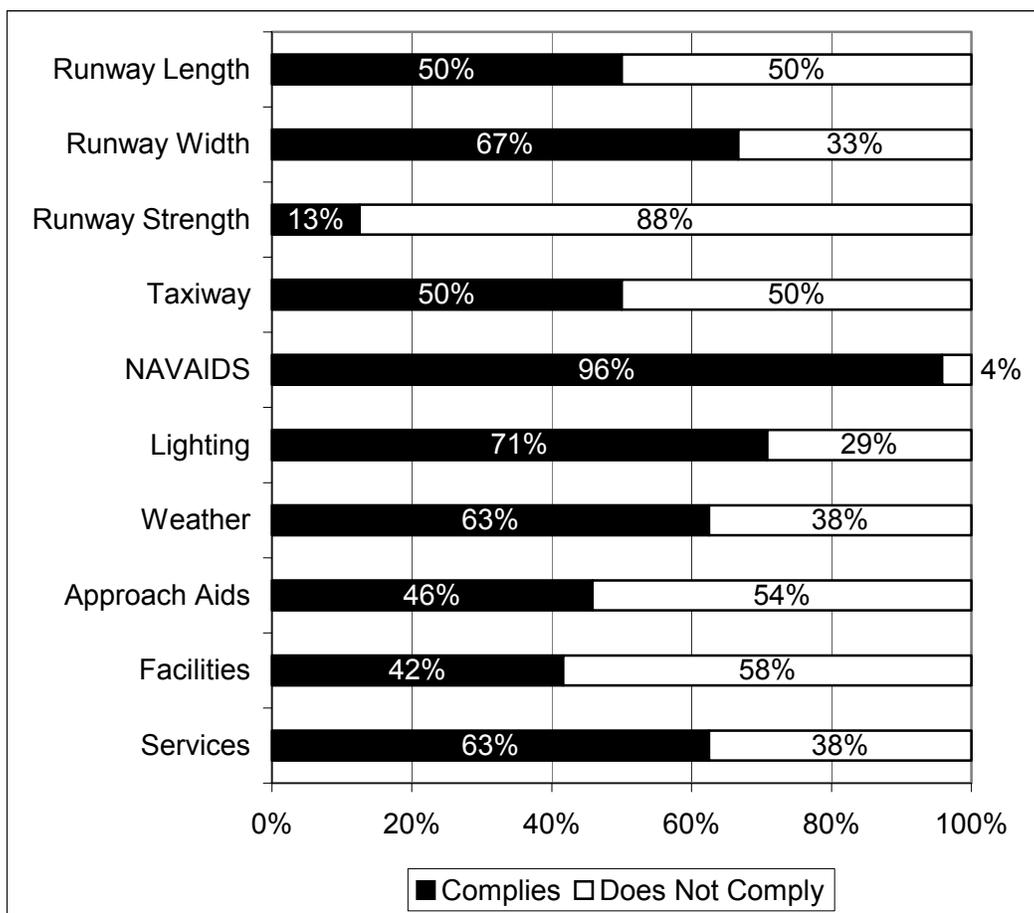
As shown in Exhibit 5-12, the current compliance of advanced airports to the facility and service objectives established for them ranges from 96 percent compliance related to weather and service objectives to 46 percent compliance related to approach aids. It should be noted that VASIs were also considered to be sufficient to meet the approach aid objective at advanced airports with the understanding that as VASIs at advanced airports reach their useful life they should be replaced with PAPIs. Specific projects that could improve compliance related to facility and service objectives will be examined in the options analysis, and final recommendations related to these projects will be included in the facility requirements that are developed for each system airport at the conclusion of the SASP.

## 2. Intermediate Airports

The compliance of the system’s current intermediate airports to the facility and service objectives developed for this functional level of airports is summarized in **Exhibit 5-13**. The graph depicts the

percentage of airports in the intermediate functional level that currently meet the specific facility and service objectives for the general categories included in this analysis.

**Exhibit 5-13  
Intermediate Airports  
Compliance with Facility and Service Objectives**



Source: Wilbur Smith Associates, Inc.

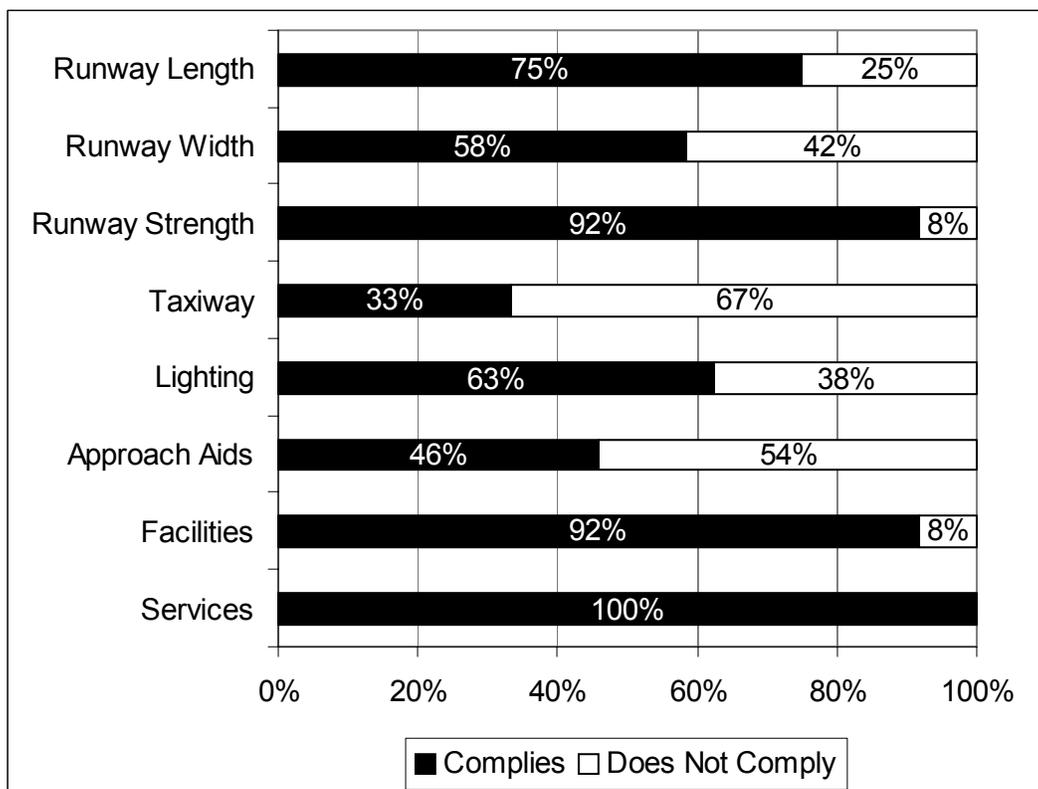
As shown in Exhibit 5-13, the current compliance of intermediate airports to the facility and service objectives established for them ranges from 96 percent compliance related to navigational aid objectives to 13 percent compliance related to runway strength. Specific projects that could improve compliance related to facility and service objectives will be examined in the options analysis, and final recommendations related to these projects will be included in the facility requirements that are developed for each system airport at the conclusion of the SASP.

### 3. Basic Airports

The compliance of the system’s current basic airports to the facility and service objectives developed for this functional level of airports is summarized in **Exhibit 5-14**. The graph depicts the percentage

of airports in the basic functional level that currently meet the specific facility and service objectives for the general categories included in this analysis.

**Exhibit 5-14  
Basic Airports  
Compliance with Facility and Service Objectives**



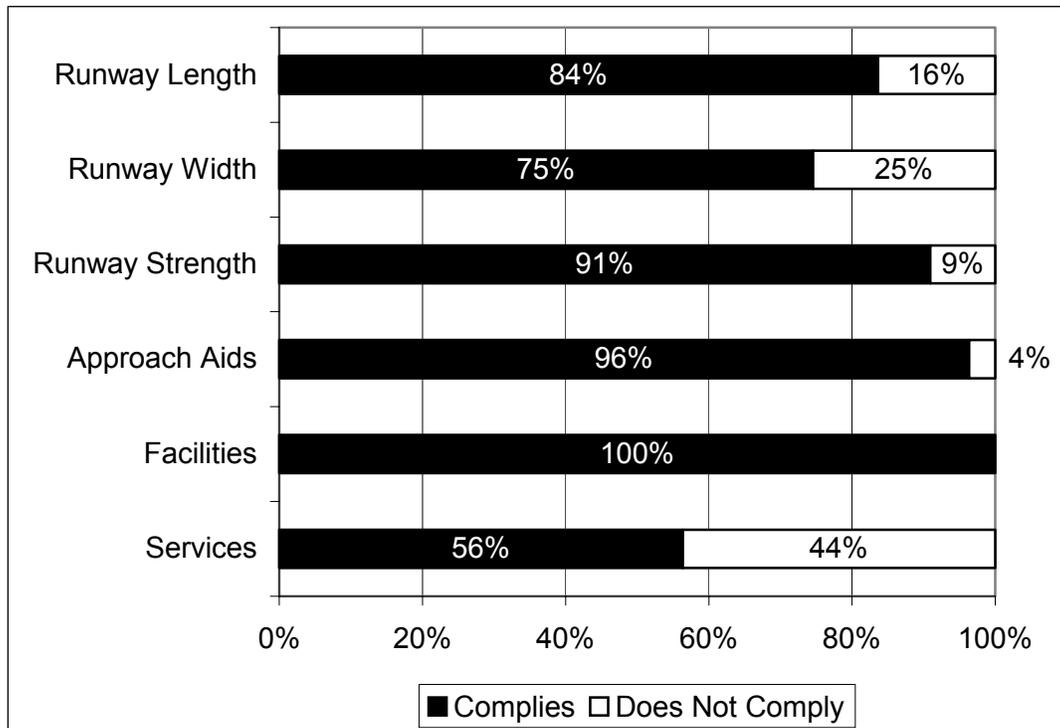
Source: Wilbur Smith Associates, Inc.

As shown in Exhibit 5-14, the current compliance of basic airports to the facility and service objectives established for them ranges from 100 percent compliance related to service objectives to 33 percent compliance related to taxiway objectives. Specific projects that could improve compliance related to facility and service objectives will be examined in the options analysis, and final recommendations related to these projects will be included in the facility requirements that are developed for each system airport at the conclusion of the SASP.

#### 4. Limited Airports

The compliance of the system’s current limited airports to the facility and service objectives developed for this functional level of airports is summarized in **Exhibit 5-15**. The graph depicts the percentage of airports in the limited functional level that currently meet the specific facility and service objectives for the general categories included in this analysis.

**Exhibit 5-15  
Limited Airports  
Compliance with Facility and Service Objectives**



Source: Wilbur Smith Associates, Inc.

As shown in Exhibit 5-15, the current compliance of basic airports to the facility and service objectives established for them ranges from 100 percent compliance related to facility objectives to 56 percent compliance related to services. Specific projects that could improve compliance related to facility and service objectives will be examined in the options analysis, and final recommendations related to these projects will be included in the facility requirements that are developed for each system airport at the conclusion of the SASP.

**B. Pennsylvania Licensing Standards**

The Pennsylvania Legislature has established regulations for the licensing of public use aviation facilities in the Commonwealth. These regulations define different types of aviation facilities that may exist throughout the Commonwealth, and identify development and safety standards for those facilities. Licensing standards developed in these regulations relate to specific factors such as runway dimensions, primary surface dimensions, required navigational aids and lighting, as well as other factors. Specific standards were developed for each of the different types of aviation facilities identified in the regulations.

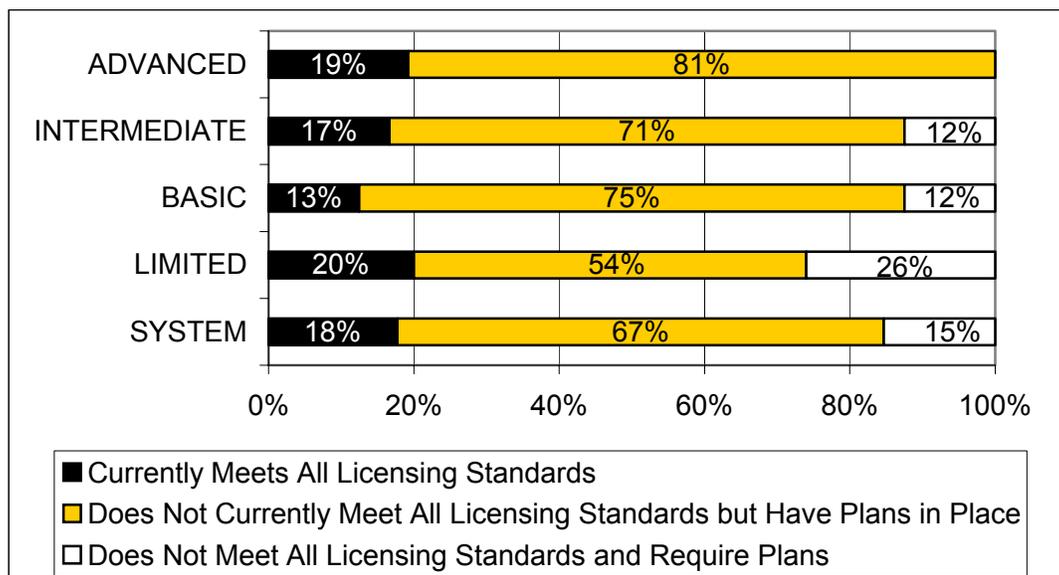
Based on the regulated licensing standards that are currently in place, system airports were examined to determine their compliance to all applicable licensing standards. In this analysis, airports were categorized, based on existing conditions at the airport, as falling into one of the three following

classifications:

- ❑ Currently meet all licensing standards
- ❑ Do not currently meet all licensing standards but have plans in place to meet standards
- ❑ Do not meet all licensing standards and require plans to meet standards

Exhibit 5-16 Summarizes the findings of this analysis.

**Exhibit 5-16**  
**Compliance to Pennsylvania Licensing Standards**



Source: Pennsylvania Department of Transportation

As shown in Exhibit 5-16, 18 percent of system airports currently meet all of their respective licensing standards while an additional 67 percent of system airports have accepted plans in place that will bring them into complete compliance with Commonwealth licensing standards. The remaining 15 percent of system airports do not currently meet all licensing standards and require plans to be developed that will bring them into compliance with these standards. As shown above, all advanced airports are either in compliance with all licensing standards or have plans in place to bring them into compliance. Among the other functional levels, 12 percent of both intermediate and basic airports and 26 percent of limited airports do not currently meet Commonwealth licensing standards and they do not have plans in place to meet those standards.

### C. FAA Design Standards

The Federal Aviation Administration (FAA), through its Advisory Circulars, develops guidance related to the planning and design of airport facilities. These Advisory Circulars summarize airport development guidelines that focus on airport safety and, secondarily, promote economy, efficiency, and longevity of airport facilities. FAA standards related to airport safety are generally referred to as “design standards.” Design standards typically refer to runway and runway area dimensional

criteria that are required to safely support the operation of a class of aircraft at an airport. Design standards can also refer to requirements related to specific airport facilities such as runway condition. For this adequacy analysis, existing airfield parameters at Pennsylvania airports were compared to current FAA design standards for runway and taxiway centerline separation standards and runway safety area (RSA) design standards.

The FAA has developed an Airport Reference Code (ARC), which establishes design standards for runways and the safety areas around runways. ARCs are based on the type of aircraft that will use a runway. The “airport design aircraft” set parameters for approach speeds and wingspans. Aircraft approach speed helps to determine runway lengths, protection, and safety area dimensions. Wingspan assumptions help to specify separation criteria for taxiways and taxilanes.

The two components of an ARC are expressed as letters and roman numerals. The letter designation (A through D) refers to the approach speeds; the roman numerals (I through VI) refer to wingspan. If an airport has more than one runway, it will have an ARC associated with each runway. Airports have an ARC classification that identifies the types of aircraft that can be accommodated on the largest runway.

ARCs determine basic design parameters of a number of airfield facilities including the separation required between the centerline of active runways, taxiways, and other airfield or landside facilities. The runway and taxiway centerline separation standards that were examined in this analysis are summarized in the following tables:

**Runway Centerline Separation Design Standards  
Aircraft Approach Categories A And B**

Visual runways with not lower than ¾ mile approach visibility minimums						
	AIRPLANE DESIGN GROUP					
Standard (ft)	I	II	III	IV	V	VI
Runway centerline to:						
Parallel taxiway centerline	225	240	300	400		
Aircraft parking area	200	250	400	500		
Taxiway centerline to:						
Fixed or moveable object	44.5	65.5	93	129.5	160	193

Visual runways with not lower than ¾ mile approach visibility minimums						
	AIRPLANE DESIGN GROUP					
Standard (ft)	I	II	III	IV	V	VI
Runway centerline to:						
Parallel taxiway centerline	250	300	350	400		
Aircraft parking area	400	400	400	500		
Taxiway centerline to:						
Fixed or moveable object	44.5	65.5	93	129.5	160	193

**Runway Centerline Separation Design Standards  
Aircraft Approach Categories C And D**

Visual runways with not lower than ¾ mile approach visibility minimums

Standard (ft)	AIRPLANE DESIGN GROUP					
	I	II	III	IV	V	VI
Runway centerline to:						
Parallel taxiway centerline	300	300	400	400	400	600
Aircraft parking area	400	400	500	500	500	500
Taxiway centerline to:						
Fixed or moveable object	44.5	65.5	93	129.5	160	193

Visual runways with not lower than ¾ mile approach visibility minimums

Standard (ft)	AIRPLANE DESIGN GROUP					
	I	II	III	IV	V	VI
Runway centerline to:						
Parallel taxiway centerline	400	400	400	400	400	600
Aircraft parking area	500	500	500	500	500	500
Taxiway centerline to:						
Fixed or moveable object	44.5	65.5	93	129.5	160	193

Source: FAA Advisory Circular 150/5300-13

ARCs also determine the protection and safety areas required. The RSA is defined as the surface surrounding the runway that is prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway. The FAA has set standards of both length and width of an RSA for each ARC as follows:

**Runway Safety Area Design Standards**

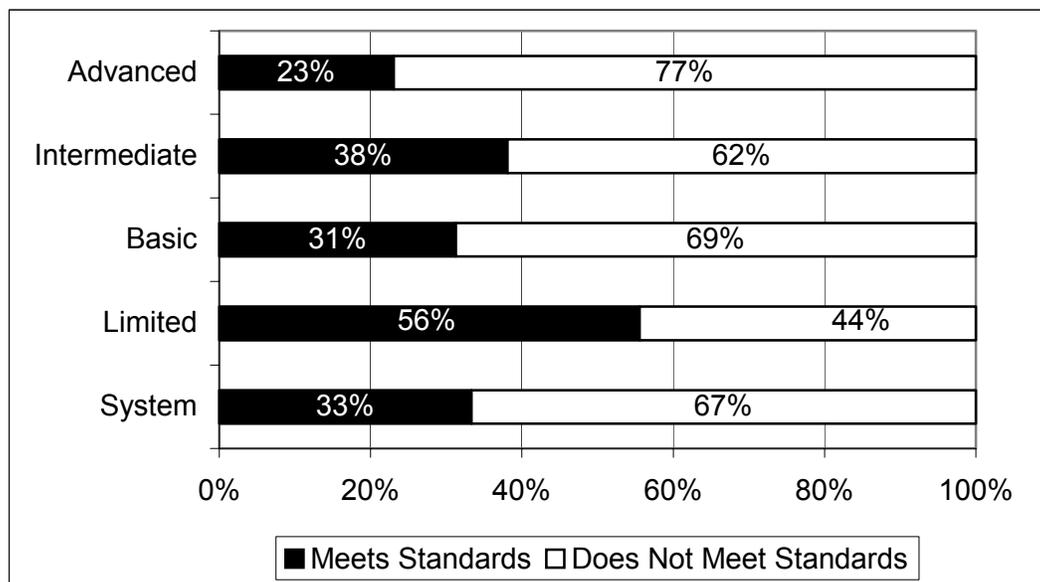
	AIRPLANE DESIGN GROUP					
	I	II	III	IV	V	VI
A/B	240	300	600	1,000		
C/D	1,000	1,000	1,000	1,000	1,000	1,000
RSA Width (ft)						
A/B	120	150	300	500		
C/D	500	500	500	500	500	500

Source: FAA Advisory Circular 150/5300-13

Each airport in the Pennsylvania system that is currently included in the National Plan of Integrated Airport Systems (NPIAS) was evaluated to see if existing runway centerline separation and RSA length and width dimensions meet the current FAA design standards based on each airports ARC. The NPIAS is an FAA plan that identifies those airport facilities that are considered important to the national airport system. Airports included in the NPIAS are eligible to apply for FAA funding for improvements to, and the development of, public use facilities. FAA design standards could be applicable to all airports; however, compliance is only a requirement for those airports in the NPIAS. Although some airports may be constrained from ever being in complete compliance with FAA design standards, the federal funds available to NPIAS airports can be used to fund projects that increase the compliance of those airports.

**Exhibit 5-17** summarizes compliance with the design standards included in this analysis by functional grouping of airports. To comply, every runway at the examined airport must meet runway and taxiway centerline separation standards and RSA length and width standards for their current Airport Reference Code.

**Exhibit 5-17  
Compliance to FAA Design Standards**



Source Wilbur Smith Associates, Inc.

As shown in Exhibit 5-17, approximately 33 percent of system airports included in the NPIAS currently meet all FAA design standards, while approximately 67 percent of system airports do not meet these standards. Compliance by functional levels ranges from 23 percent for advanced airports to 56 percent for the nine limited airports that are included in the NPIAS. As shown in the exhibit, approximately 77 percent of the NPIAS airports included in the advanced functional level do not currently meet FAA design standards. The ability and feasibility of implementing projects that could improve system compliance relative to FAA design standards will be examined in the SASP’s options analysis.

**V. OPTIMIZATION POTENTIAL**

As demand at system airports grows and as FAA design criteria and development standards are modified over time, having a system of airports that can respond to changing needs and demands is important. Human, environmental, topographical, and other natural constraints often combine to make airport growth and development difficult or, in some cases, impossible. There are some steps, however, that airports can take on an individual basis to help insure that they are in the best position to respond if future expansion is warranted.

Airports that are part of the Federal airport system that are included in the National Plan of Integrated Airport Systems (NPIAS) are eligible to receive Federal funding for the development of most non-revenue-generating capital improvement projects. NPIAS and non-NPIAS airports are also eligible to receive funding from the State to support airport projects. One of the prerequisites for receiving State or FAA funding for eligible development items is an approved airport planning document such as an airport master plan, airport layout plan, and/or an airport action plan. By having plans that are current (developed within the past five years), Pennsylvania airports can anticipate projects that may be required to accommodate new aircraft types, to serve higher volumes of activity, or to comply with FAA design standards and guidelines. Regular review and update of airport planning documents helps to ensure that individual airports, and the airport system as a whole, can evolve to meet changing types and levels of demand.

Airports are often magnets for development. With development can come encroachment, which can negatively impact an airport and its operation. One of the most common types of encroachment that can limit expansion opportunities relates to height of objects developed in an airport’s environs. Objects such as buildings and towers can interfere with navigational systems and approaches to airports. Adopting zoning or other land use controls that limit the height of objects in the airport environs is important to supporting an airport’s expansion potential. The FAA, within its FAR Part 77 guidelines, has established various zones around each airport that should be kept free of any development or objects that pose a hazard to air navigation. These guidelines were used as a basis for the development of Pennsylvania Airport Hazard Zoning regulations, regulations that were legislated for implementation in all municipalities impacted by FAR Part 77 areas. If public sponsors of system airports adopt controls that make areas around their airports compliant with Part 77 guidelines, options for future expansion of the airport system can be enhanced and protected.

The following sections identify those airports within the system that have current planning studies and those airports whose public sponsors have adopted land use/zoning to make them compliant with Part 77 and Pennsylvania Airport Hazard Zoning height restrictions. Determining how well the existing system is complying with these two benchmarks helps to measure how expandable the system may be in the future.

**A. Airport Hazard Zoning**

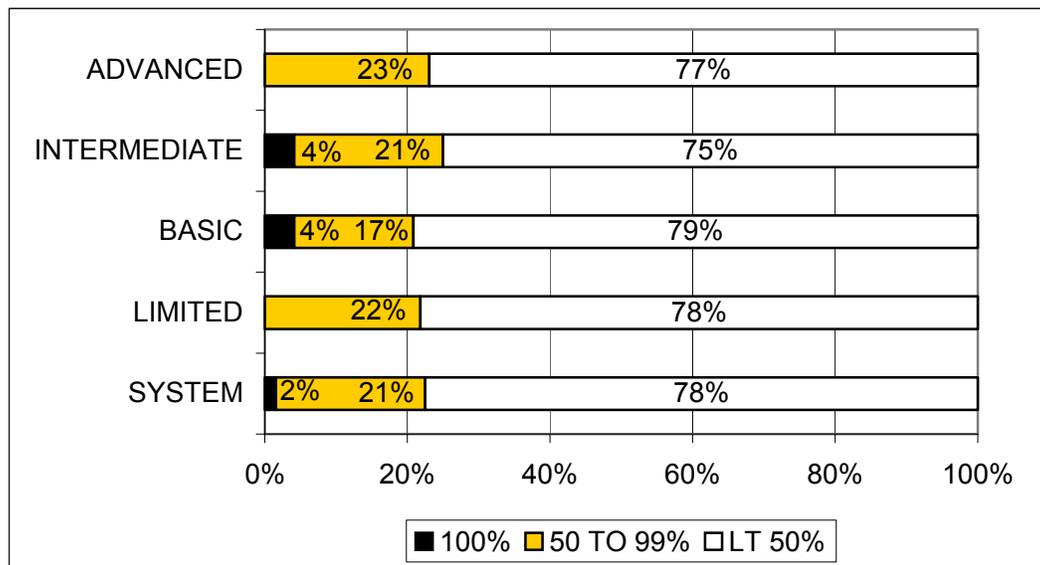
Federal Aviation Regulations (FAR) Part 77, “Objects Affecting Navigable Airspace,” establishes standards for determining obstructions in navigable airspace. It describes imaginary surfaces that surround each airport. These surfaces are defined relative to each airport and each runway end. The size of each imaginary surface is based on the Airport Reference Category (ARC) of each runway, as well as existing and proposed approaches for that runway and the weight of the typical aircraft operating on the runway.

Airports comply with Part 77 by examining imaginary surfaces around the airport and then identifying objects that impact these surfaces. The are objects are either corrected or are studied by FAA airspace review to determine if mitigation measures are needed. These surfaces may be within or outside the airport property. There are often multiple owners of land and more then one community with land use jurisdiction over property that is impacted by Part 77 surfaces. To

effectively reduce obstructions in navigable airspace, an airport needs an Approach Plan and Profile (typically prepared as part of an ALP Plan set), and local communities must protect these surfaces with height restrictions enforced by ordinance, such as Pennsylvania’s Airport Hazard Zoning requirements.

Part 77 and Pennsylvania Airport Hazard Zoning compliance for Pennsylvania’s airports was measured by identifying those system airports that currently have airport hazard zoning adopted in the municipalities that are impacted by airport Part 77 surfaces. For this analysis, the percentage of impacted municipalities that currently have airport hazard zoning in place were compiled for each airport. Airports were then categorized as having 100 percent implementation, 50 percent to 99 percent implementation, or under 50 percent implementation in their impacted municipalities. **Exhibit 5-18** summarizes the results by airport category and the system as a whole.

**Exhibit 5-18**  
**Airport Hazard Zoning**



Source Wilbur Smith Associates, Inc.

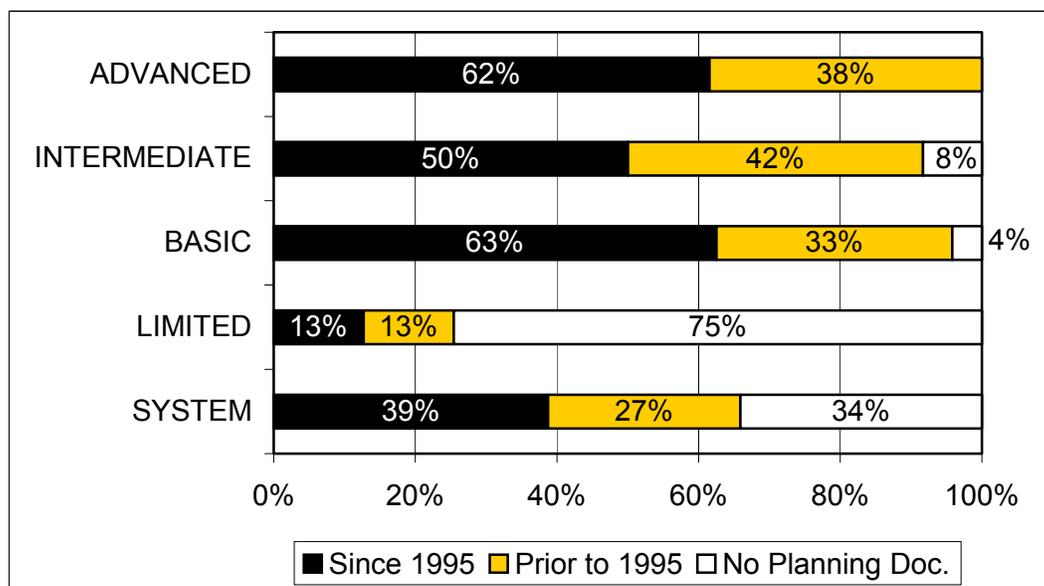
As shown in Exhibit 5-18, the system is currently under-performing relative to the airport hazard zoning benchmark. In each airport functional level, and in the overall system, over 75 percent of system airports have airport hazard zoning implemented in less than 50 percent of the municipalities that are impacted by the facility. Only 2 percent of system airports have airport hazard zoning implemented in 100 percent of impacted municipalities, while an additional 21 percent of system airports have hazard zoning implemented in between 50 to 99 percent of impacted municipalities. Implementing airport hazard zoning is a local issue, and specific recommendations outlined in this SASP may not improve system performance. The SASP will continue to stress the importance of airport hazard zoning in protecting airports from incompatible land uses and may recommend, at its completion, that efforts to implement airport hazard zoning in impacted municipalities be taken into consideration when future funding decisions are made by the Bureau.

**B. Current Airport Plan, Layout Plan, or Action Plan**

**Table 5-6** summarizes existing airport planning documents at each of the airports in the Pennsylvania system. Airports are grouped according to functional categories: advanced, intermediate, basic, and limited. Also listed is the year that the FAA or Commonwealth accepted the last planning document. Where planning projects are currently underway, the anticipated completion date is noted.

**Exhibit 5-19** summarizes the status of planning for the airport system. Airports are grouped as either having planning documents completed since 1995, planning documents completed prior to 1995, or no completed planning documents. Planning documents considered in this analysis include airport master plans, airport layout plans, or airport action plans that have been accepted by the Commonwealth and FAA.

**Exhibit 5-19  
Airport Plans**



Source Wilbur Smith Associates, Inc.

Exhibit 5-19 indicates that approximately 39 percent of system airports have completed a planning document since 1995, while an additional 27 percent have completed a planning document prior to 1995. The remaining 34 percent of system airports have never completed a planning document. As shown in the exhibit, all or most of the airports included in the advanced, intermediate, or basic functional level have completed a planning document, and the majority of airports in those functional levels have completed a planning document since 1995. Approximately 75 percent of the airports in the limited functional level have never completed a planning document.

Table 5-6 (Page 1 of 4)  
Airport Planning Documents

Associated City	Airport	Master/Action Plan	Airport Layout Plan
<b>Scheduled Service Airports</b>			
Allentown	Lehigh Valley International	1989*	1993*
Altoona	Altoona-Blair County	1987*	1996*-U
Bradford	Bradford Regional	1977*	1977*
DuBois	DuBois-Jefferson County	1992*	1994*
Erie	Erie International	1990*	1992*
Franklin	Venango Regional	1990*	N/A*
Harrisburg	Harrisburg International	1990*	1986*
Johnstown	Johnstown-Cambria County	1990*	1996*
Lancaster	Lancaster	1986	2000
Latrobe	Arnold Palmer Regional	1992*	1992*
Philadelphia	Philadelphia International	*	1999*
Pittsburgh	Pittsburgh International	*	1996*
Reading	Reading Regional	1987*	1989*
State College	University Park	1989*	1996*
Wilkes-Barre/Scranton	Wilkes-Barre/Scranton International	1993	1993
Williamsport	Williamsport Regional	1997*	1983*-U
<b>GA Airports</b>			
Allentown	Queen City	1992	1994
Annville	Millard	1990	N/A-U
Beaver Falls	Beaver County	1990	1990
Bedford	Bedford County	1999	1999
Bellefonte	Bellefonte	N/A	N/A-U
Bensalem	Total RF Heliport	N/A	N/A*
Bethel	Grimes	N/A	N/A
Bloomsburg	Bloomsburg Municipal	1996	1995
Brogue	Baublitz	N/A	N/A
Burgettstown	Miller	N/A	N/A
Butler	Butler County	1990	1990
Butler	Butler Farm Show	N/A	N/A
Canadensis	Flying Dollar	N/A	N/A
Carlisle	Carlisle	2000-2001	N/A-U
Centre Hall	Centre Airpark	N/A	N/A
Centre Hall	Penn's Cave	N/A	N/A
Chambersburg	Chambersburg Municipal	1975	1976
Clarion	Clarion County	1985	1969-U
Clearfield	Clearfield-Lawrence	*	1972
Coatesville	Chester County-G.O. Carlson	1978	1986
Collegeville	Perkiomen Valley	N/A	N/A
Columbia	McGinness Field	N/A	N/A
Connellsville	Connellsville	N/A*	N/A*-U
Corry	Corry-Lawrence	1988*	1991*

Table 5-6 (Page 2 of 4)  
 Airport Planning Documents

Associated City	Airport	Master/Action Plan	Airport Layout Plan
Culmerville	Culmerville	N/A	N/A
Danville	Danville	1997	1997
Doylestown	Doylestown	1986*	1990*
East Stroudsburg	Stroudsburg-Pocono	1994	N/A-U
Easton	Easton (Braden Airpark)	N/A*	N/A*
Ebensburg	Ebensburg	1991	N/A
Eighty Four	Bandel	N/A	N/A
Erwinna	Van Sant	N/A	N/A
Essington	Philadelphia Seaplane Base	N/A	N/A
Exton	Keystone Heliport	N/A	N/A
Factoryville	Seamans Field	N/A	N/A
Fairfield	Mid-Atlantic Soaring Center	N/A	N/A
Finleyville	Finleyville	N/A*	N/A*
Fredericksburg	Farmer's Pride	N/A*	N/A*
Freeport	McVile	N/A	N/A
Galeton	Cherry Springs	N/A	N/A
Germansville	Flying M. Aerodrome	N/A	N/A
Gettysburg	Gettysburg Airport and Travel Center	N/A*	N/A*
Gettysburg	Southern Adams County Heliport	N/A	N/A
Greenville	Greenville Municipal	1985	N/A-U
Grove City	Grove City	1986	1987
Hanover	Hanover	N/A	N/A
Harrisburg	Capital City	1990*	1995*
Hazleton	Hazleton Municipal	1993	1993
Honesdale	Cherry Ridge	N/A*	N/A*
Horsham	Horsham Valley Airways Heliport	N/A	N/A
Indiana	Indiana County-Jimmy Stewart	N/A*	2001
Irwin	Inter County	N/A	N/A
Jeannette	Greensburg-Jeannette Regional	N/A	N/A
Jersey Shore	Jersey Shore	N/A*	N/A*
Kralltown	Bermudian Valley	N/A	N/A
Kutztown	Kutztown	1995	N/A
Lebanon	Keller Brothers	N/A	N/A
Lehighton	Beltzville	N/A	N/A
Lehighton	Jake Arner Memorial	1992*	1993*
Lock Haven	William T. Piper Memorial	N/A	N/A-U
Mars	Lakehill	N/A	N/A
Meadville	Port Meadville	1986	1986-U
Mifflintown	Mifflintown	N/A	N/A
Monongahela	Rostraver	1971	N/A*
Monroeville	Pittsburgh Monroeville	N/A	N/A
Morgantown	Morgantown	N/A	N/A-U
Mount Joy	Donegal Springs	N/A	N/A
Mount Pleasant	Mt. Pleasant - Scottdale	1998	N/A
Mount Pleasant	WPHS Heliport	N/A	N/A

Table 5-6 (Page 3 of 4)  
 Airport Planning Documents

Associated City	Airport	Master/Action Plan	Airport Layout Plan
Mount Pocono	Pocono Mountains Municipal	1974*	1974*
Mount Union	Huntingdon County	N/A*	N/A*-U
Myerstown	Deck	1991	N/A-U
New Castle	New Castle Municipal	1994	1981-U
Newry	Blue Knob Valley	N/A	N/A
Norristown	Valley Forge Bicentennial Heliport	N/A	N/A
Palmyra	Reigle	1990	N/A
Perkasie	Pennridge	1992*	N/A-U
Philadelphia	Northeast Philadelphia	1989	1977-U
Philadelphia	Penn's Landing - Pier 36 Heliport	N/A*	N/A*
Philadelphia	Wings Field	1995	1999
Philipsburg	Albert	N/A	N/A
Philipsburg	Mid-State	N/A*	1990*
Pittsburgh	Allegheny County	1998	N/A-U
Pittsfield	Brokenstraw	N/A	N/A
Pottstown	Pottstown Limerick	1992	1985-U
Pottstown	Pottstown Municipal	1994	N/A-U
Pottsville	Schuylkill County-Joe Zerbey	1995	1995
Punxsutawney	Punxsutawney	1993	N/A-U
Quakertown	Quakertown	1984*	N/A-U*
Reedsville	Mifflin County	1981*	1981-U*
Sayre	Blue Swan	1993	N/A-U
Selinsgrove	Penn Valley	1974*	N/A*
Seven Springs	Seven Springs	N/A	N/A
Shamokin	Northumberland County	1994*	1998
Shippensburg	Shippensburg	N/A	N/A
Slatington	Slatington	N/A	N/A*
Smoketown	Smoketown	1990	N/A
Somerset	Somerset County	1993	N/A-U
St. Marys	St. Marys Municipal	1974*	1975*
Sterling	Spring Hill Airpark	1997	N/A
Stewartstown	Shoestring Aviation	N/A	N/A
Sunbury	Sunbury	N/A	N/A
Sunbury	Sunbury Seaplane Base	N/A	N/A
Tarentum	Rock	N/A*	N/A*
Titusville	Titusville	N/A*	N/A*
Toughkenamon	New Garden Flying Field	1989	1984
Towanda	Bradford County	1984	1994
Tower City	Bendigo	1998	1999
Tunkhannock	Sky Haven	1998	N/A
Unionville	Ridge Soaring Gliderport	N/A	N/A
Washington	Washington County	1980	1999
Wattsburg	Erie County	N/A	N/A

**Table 5-6 (Page 4 of 4)  
Airport Planning Documents**

<b>Associated City</b>	<b>Airport</b>	<b>Master/Action Plan</b>	<b>Airport Layout Plan</b>
Waynesburg	Greene County	1996	1974-U
Wellsboro	Grand Canyon State	1990	1993
Wellsville	Kempel	N/A	N/A
West Chester	Brandywine	1985	1988
Wilkes-Barre	Wilkes-Barre/Wyoming Valley	1986	N/A-U
Williamsburg	Cove Valley	N/A	N/A
York	York	N/A*	N/A*
Zelienople	Zelienople Municipal	1986	N/A-U

N/A - Not Applicable

\* - Update In Progress

U - Unsigned Copy Available

Sources: Pennsylvania Department of Transportation  
L. Robert Kimball & Associates  
Federal Aviation Administration

## VI. SUMMARY OF ADEQUACY ANALYSIS

The current performance of system airports relative to the individual benchmarks included in this analysis are summarized in this section.

### Performance Criteria – ACTIVITY/DEMAND

- ❑ Airfield Capacity – 95 percent of system airports are currently operating at under 60 percent of their estimated ASV. In 2020, it is projected that 95 percent of system airports will continue to operate at under 60 percent of their estimated ASV.
- ❑ Aircraft Storage Capacity – Currently 55 percent of system airports have adequate aircraft storage facilities based on hangar waiting lists at the airports.

### Performance Criteria – ACCESSIBILITY

- ❑ Coverage of Major Business Centers by Advanced Airports – Two of the major employment centers identified in the SASP are located beyond the 30-minute drive time coverage area of an advanced airport.
- ❑ Coverage of Major Population Centers by Commercial Service Airports – Each of the major population centers identified in the SASP is located within the 60-minute drive time coverage area of scheduled service airports.
- ❑ Surface Access of Airports
  - Accessibility of Advanced Airports from Limited Access Highways – Four of the 26 advanced airports are located more than two miles driving distance from a limited access highway.
  - Accessibility of Scheduled Service Airports from Limited Access Highways – Altoona-Blair County Airport is the only scheduled service airport that is located more than two miles driving distance from a limited access highway.
- ❑ Intermodal Accessibility at Advanced Airports – Nine of the 26 advanced airports provide on-site access to public transit services and nine (not necessarily the same) of the 26 advanced airports provide dedicated cargo/freight transfer facilities at the airport.
- ❑ Emergency Medical Evacuation Coverage – Approximately 61 percent of the Commonwealth’s total land area is located within a 30-minute drive time of an airport with a primary runway measuring at least 3,200 feet and a published non-precision approach.

### Performance Criteria – SUPPORT/COMMITMENT

- ❑ Airport Ownership/Management Structure and Grant Obligation – Currently, 53 percent of system airports are publicly owned and 41 percent of system airports have stand-alone management. Approximately 48 percent of system airports are federally grant obligated, 38 of system airports are grant obligated to the Commonwealth, and the remaining 14 percent of system airports are not obligated.

### Performance Criteria – FACILITIES

- ❑ Facility and Service Objectives – Compliance to facility and service objectives varied among the functional levels that were developed for the SASP. Recommendations for improving

- compliance to these objectives will be developed as part of airport-specific improvement plans.
- ❑ Pennsylvania Licensing Standards – Approximately 18 percent of system airports currently meet all Pennsylvania licensing standards and an additional 67 percent of system airports do not meet these standards but have plans in place to bring them into compliance with current licensing standards. The remaining 15 percent of system airports do not meet licensing standards and need to develop plans that would bring them into compliance with licensing standards.
  - ❑ FAA Design Standards – Currently 22 percent of system airports are in compliance with all of the FAA design standards that were examined in this analysis.

**Performance Criteria – OPTIMIZATION POTENTIAL**

- ❑ Airport Hazard Zoning – Two percent of system airports have hazard zoning in place in all impacted municipalities and 22 percent of system airports have hazard zoning in place at between 50 percent and 99 percent of impacted municipalities. The remaining 78 percent of system airports have hazard zoning implemented at less than half of their impacted municipalities.
- ❑ Current Airport Master Plan, Layout Plan, or Action Plan – Approximately 39 percent of system airports have completed airport plans since 1995 and 27 percent of system airport have completed airport plans prior to 1995. 34 percent of system airports have no planning documents.