

## **CHAPTER EIGHT SYSTEM RECOMMENDATIONS**

In previous tasks of the SASP, benchmarks were used to measure the current performance of Pennsylvania’s existing airports relative to goals established for each benchmark. For those performance ratings that were determined to require improvement, options for enhancing the system to improve its performance relative to those benchmarks were identified and examined in Chapter Six of this document. These options are summarized in this chapter and recommended options for improving system performance are identified. Those options that show the most promise for meeting Pennsylvania’s vision for its airport system comprise the recommended development plan.

In addition to the benchmarks used in the SASP, another measurement examined in the SASP was airport system coverage performance. Airport coverage performance relates to the system’s ability to serve the Commonwealth throughout its borders. Options for improving system coverage performance in the various airport functional levels were identified and examined in Chapter Seven. Based on the factors used to examine each of the options, those options considered to be the most viable are identified as recommended options for improving system coverage performance in following sections of this chapter.

Recommendations for improving system performance are presented in the following sections:

- SASP Performance Measures
- Airport Coverage Performance

It is important to note that the recommendations contained in this chapter are not intended to replace airport-specific recommendations that may result from more detailed airport master planning. Recommendations contained in this chapter are intended to provide general guidance for the Pennsylvania Department of Transportation in terms of the types of projects that could be implemented to help improve statewide airport system performance relative to airport system goals developed in the SASP.

### **I. SASP PERFORMANCE MEASURES**

One of the first steps in developing a comprehensive planning tool for the Commonwealth was the identification of a set performance criteria that could be used throughout the SASP to characterize and guide the development of an adequate airport system. Performance criteria categories were developed to describe the general characteristics that define a good aviation system. Objectives were then developed for each performance criterion to state the goals of the study within each of the general performance criteria categories. These performance criteria are generally broad in nature. Within each performance criterion, however, benchmarks were identified and used as a means to evaluate and quantify system performance relative to specific factors in each performance criteria category. The benchmark analysis process conducted for the SASP is presented in Chapter Five.

Based on the results of the benchmarking process presented in Chapter Five, options were identified in Chapter Six for improving system performance relative to the benchmarks. Based on the options examined in Chapter Six, recommendations for improving system performance relative to benchmarks in the following SASP performance criteria are identified in this chapter:

- ❑ Activity/Demand
- ❑ Accessibility
- ❑ Support/Commitment
- ❑ Facilities
- ❑ Optimization Potential

The specific benchmarks used within each of these performance criteria are identified in the following sections; options for improving system performance relative to the benchmarks are summarized in matrix format.

### **A. Activity/Demand**

The primary mission of all system airports is the quick, convenient, and safe transportation of people and goods. An adequate system of airports must have ample airside and landside facilities to process the movement and storage of aircraft, as well as to meet the needs of people who use the airports. These factors, generally categorized in the activity/demand performance criterion, were considered as they relate to developing a future plan for Pennsylvania’s aviation system. Having a system of airports in place that can serve varying types and volumes of aviation demand was one of the factors considered in determining the role or function of system airports, as well as measuring the adequacy of the system.

The following two factors were examined in the system benchmarking process to measure the performance of the existing system relative to activity/demand:

- ❑ Airfield Capacity
- ❑ Aircraft Storage Capacity

Airfield capacity is a measure of an airport’s ability to accommodate aircraft operations without congestion and delay. 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. Options for improving system performance relative to these benchmarks are summarized in the following sections and a recommended option for each is identified.

#### **1. Airfield Capacity**

Chapter Six summarized the benchmark analysis of airfield capacity and identified two options for improving system performance relative to this benchmark. Options identified in Chapter Six included the following:

- ❑ Do-Nothing Option
- ❑ Capacity-Enhancement Projects

These options were described in the previous chapter and are summarized in **Table 8-1** relative to their pros, cons, and potential costs.

**Table 8-1  
Summary of Airfield Capacity Options**

<b>Option</b>	<b>Pros</b>	<b>Cons</b>	<b>Cost</b>
Do-Nothing	No system resources required	Potential congestion and delays could impact existing and future system	Low
Capacity-Enhancement Projects	Requires airport-specific studies to identify true capacity shortfalls, addresses capacity concerns where they exist	Feasible projects may not exist for all capacity-constrained facilities	Medium

Source: Wilbur Smith Associates, Inc.

The importance of sufficient airfield operating capacity to the overall performance of the system makes the do-nothing option an undesirable approach. Implementing capacity-enhancement projects at those airports that have documented capacity shortfalls, and where the projects are environmentally and financially feasible, will assist the Commonwealth’s airport system to accommodate current and projected future levels of demand in such a way that does not increase congestion and delay at the system’s commercial service and general aviation airports.

The SASP’s analysis identified several airports that could have operational capacity issues over the next 20 years. The study’s findings were based on general planning guidelines appropriate for system planning purposes. It was determined, based on conversations with FAA officials, that more detailed analysis of operational capacity was warranted to determine airport-specific capacity deficiencies. The SASP findings should be used by the Bureau of Aviation to identify Commonwealth airports where detailed capacity analyses are justified either as stand-alone analyses or as part of other airport-specific planning processes.

**2. Aircraft Storage Capacity**

The benchmark analysis conducted in Chapter Five and the options for improving system performance identified in Chapter Six examined aircraft storage capacity based on individual airport hangar waiting lists. Aircraft storage deficiencies identified at system airports were also examined in terms of a regional context. As identified in Chapter Six, those areas of the Commonwealth in which aircraft storage deficiencies appear to be most significant included the following:

- ❑ Southwestern PA
- ❑ State College area

- ❑ Wilkes-Barre/Scranton area
- ❑ Gettysburg/York area
- ❑ Southeastern PA

The options identified for improving system performance relative to aircraft storage capacity in Chapter Six included the following:

- ❑ Do-Nothing Option
- ❑ Establishment of New Hangar Development Policies

These options were described in Chapter Six. They are summarized in **Table 8-2** relative to their pros, cons, and potential costs.

**Table 8-2  
Summary of Aircraft Storage Capacity Options**

<b>Option</b>	<b>Pros</b>	<b>Cons</b>	<b>Cost</b>
Do-Nothing	Market-based approach allows airports and individuals to serve demand if it really exists	Current hangar shortfalls indicate this approach may not currently be successful	Low
Establishment of New Hangar Development Policies	Focuses hangar development in areas/regions where capacity is short, developable areas exist, and where existing facilities can accommodate additional based aircraft, strategic approach	Requires PennDOT resources, planning, and analysis	Medium

Source: Wilbur Smith Associates, Inc.

Similar to airfield capacity, aircraft storage capacity is also a vital component of overall airport system success. Meeting the aircraft storage needs of aircraft owners, both private pilots and corporate owners, can promote growth in aviation activity while generating additional airport revenues. Current options for funding hangar development at system airports were explained in Chapter Six and include the following:

- ❑ **Capital Budget** – Commonwealth capital budget monies can be used to fund 50 percent of hangar development costs at system airports, and the sponsor is responsible for providing the remaining 50 percent of costs. Since 1997, 23 hangar development projects have been undertaken at 15 Commonwealth airports using capital budget funds.
- ❑ **Other Sources** – Low-interest loans or grants from other agencies such as the Department of Community and Economic Development (DCED) can be accessed by airport sponsors to fund initial hangar development costs. Airport sponsors would then charge rent on the hangar facility to recoup construction costs and interest, if applicable, on its capital investment.

- Private Funding – Airport sponsors allow private corporations to construct hangar facilities on the airport for their own use or for rental to other pilots. In this approach, it is important that the airport charge rent for the land on which the hangar is built, be given reversionary rights to the hangar facility after a specified number of years, and pay specific attention to through-the-fence operations.

The number of airports that currently maintain a hangar waiting list, and the number of pilots on each waiting list, however, indicate that the Commonwealth’s current methods of funding hangar development are insufficient. Because of the importance of aircraft storage capacity, it is recommended that the Commonwealth work to implement new hangar development policies that promote the development of new hangar facilities where regional demand exists, and at those airport facilities with existing facilities and expansion potential to accommodate the new development. The proposed approach should be strategic in nature and work to fulfill system needs in the best way possible in those areas of the Commonwealth in which insufficient aircraft storage capacity exists. In addition, PennDOT should work with airport sponsors to ensure that new hangar facilities generate additional airport revenue consistent with their fair market value.

## **B. Accessibility**

Providing adequate access is an important goal for the Commonwealth’s airport system. Accessibility to an airport can be defined in terms of access from the ground and from the air. Air access relates to a number of factors, including the ability to access airports during all weather conditions, as well as the location of airports to accommodate air emergencies. Ground access is usually defined in terms of the time it takes for an aviation user to reach an airport. Airports must be accessible via the road network and must be located in proximity to the users. Intermodal accessibility for the movement of both people and goods is also an important consideration that was included in the accessibility performance criterion.

In the SASP analysis, the performance of Pennsylvania’s existing airport system was measured relative to the following benchmarks:

- 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 Commercial Service Airports from Limited Access Highways
- Intermodal Accessibility at Advanced Airports
- Medical Airlift Coverage

These accessibility benchmarks were examined to measure how well the existing airport system is serving Pennsylvania. Much of the analysis conducted relative to the accessibility performance criterion was done with the use of GIS technology. The findings of previous accessibility analyses and options for improving system performance are summarized in the following sections. Recommended options for improving system performance are identified for

those benchmarks in which the performance of the existing system was determined to be insufficient.

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

Through GIS analysis and analysis of employment statistics in municipalities throughout the Commonwealth, 57 major business centers were identified in Pennsylvania. These major business centers are those municipalities with employment greater than 10,000 persons. When the location of these major business centers was compared to the existing drive time coverage areas of advanced airports in the Commonwealth, it was determined that only two of the 57 major business centers were located beyond the 30-minute drive time coverage area of an advanced airport. One of these major business centers, Sharon Borough, is located proximate to Youngstown, Ohio, and is located within the 30-minute drive time of Youngstown-Warren Regional Airport, an airport with facilities similar to the objectives of the SASP’s advanced functional level.

Plum Borough in Allegheny County is the only major business center located beyond the 30-minute drive time coverage area of a Pennsylvania advanced airport or a comparable airport in a neighboring state. Options identified in Chapter Six for providing advanced airport coverage in this area of the Commonwealth included construction of a new advanced airport or upgrading one of the following airports to the advanced functional level:

- ❑ Rock (Basic Airport)
- ❑ McVille (Limited Airport)
- ❑ Greensburg-Jeanette Regional (Limited Airport)
- ❑ Lakehill (Limited Airport)
- ❑ Pittsburgh Monroeville (Limited Airport)

Advanced airport coverage in this area of the Commonwealth was also the focus of analysis conducted in Chapter Seven. Following a thorough analysis of the existing advanced airport coverage area void in this area, and the population and business centers located in the area, the recommendation for maximizing coverage in this area of the Commonwealth is to upgrade Rock Airport to the intermediate airport functional level. The following two factors were primary considerations in making the recommendation:

- ❑ The coverage areas of the following three airports are located proximate to Plum Borough; Beaver County Airport, Butler County Airport, and Allegheny County Airport. These three airports were initially stratified in the SASP as advanced airports and are recommended to remain in the advanced functional level. Although Plum Borough is not currently located within the coverage area of an advanced airport, it is located just beyond the coverage area of three different advanced airports.
- ❑ Upgrading Rock Airport to the intermediate functional level would improve access to this area of the Commonwealth and would provide complimentary coverage to that of the three advanced airports located proximate to Plum Borough.

The combination of coverage provided by advanced airports located just over an estimated 30-minute drive time from Plum Borough and the access provided by upgrading Rock Airport to the intermediate functional level was determined to provide sufficient access to this area of the Commonwealth.

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

Analysis conducted in the SASP identified major population centers in the Commonwealth, defined in this analysis as those municipalities with population greater than 40,000 persons, and then examined their location relative to the 60-minute drive time coverage areas of Pennsylvania’s 16 commercial service airports. Through GIS analysis it was determined that all 23 of the major population centers identified in the SASP are located within a 60-minute drive time of a commercial service airport. Based on this analysis and the parameters under which it was conducted, coverage provided to major population centers in the Commonwealth by Pennsylvania commercial service airports should be considered adequate. It is important to note, however, that some population centers are provided exclusive coverage by a commercial service airport that currently has a single carrier. Should the single carrier leave the market, coverage provided to these population centers would be negatively impacted.

This analysis was conducted to determine if commercial service airports provided reasonable access to commercial airline service for the Commonwealth’s major population centers. The adequacy of the service provided to the population centers was not examined in this task of the SASP. Market-specific recommendations for improving the level, quantity, and/or frequency of commercial air carrier service at Commonwealth airports are presented in a separate study, *Assessment of Pennsylvania Air Service*.

## **3. Surface Access of Airports**

GIS analysis conducted in the SASP examined landside access to all Commonwealth airports with scheduled air carrier service, as well as those airports in the advanced functional level. In this analysis, airports were examined to determine the adequacy of landside access to those facilities by examining their location relative to limited access highways. Chapter Five and Chapter Six identified those scheduled service and advanced airports whose location relative to limited access highways indicated they may require landside access improvements. Altoona-Blair County Airport is the only scheduled service airport that is currently not located proximate to a limited access highway. In addition to Altoona-Blair County Airport, airports in the advanced functional level located more than a reasonable driving distance from a limited access highway include the following:

- Beaver County
- Doylestown
- DuBois-Jefferson County
- Lancaster
- Rostraver

In addition to the airports listed above, there may be others whose landside access is negatively impacted by congestion or other factors in the airport environs. At those airports determined to have inadequate landside access based on proximity to a limited access highway or roadway congestion in the airport environs, roadway development/improvement projects should be pursued. These roadway projects should be pursued in a manner that fosters local and community support and promotes the projects as regional transportation goals.

Airports should work with PennDOT, their regional planning agencies, and their regional intermodal coordinators to encourage local communities to approach decision-makers with roadway improvement requests. Once a request is made, local communities and stakeholders need to continue to be involved in the planning process to ensure that the requested project is included in the State Transportation Commission’s Transportation Improvement Program (TIP). In some instances, additional highway development may be too costly and/or not feasible for other reasons such as topography or environmental issues. Deficiencies related to access to limited access highways may not be able to be addressed for these airports. In such a case, all feasible roadway improvements should be pursued to ensure that, although access to a limited access highway may be deficient at one or more of these facilities, the landside access provided is adequate based on the types and levels of usage that occur at these facilities.

#### **4. Intermodal Accessibility at Advanced Airports**

From the outset of the SASP, providing intermodal accessibility at the airports that contribute the most to the system was an important goal. A specific goal of providing access to on-site public transit and having dedicated cargo/freight transfer facilities at each advanced airport was defined. Advanced airports lacking one or both of the specific intermodal objectives were listed in Chapter Six. Those options identified in Chapter Six to improve intermodal accessibility at advanced airports are listed below:

- Do-Nothing Option
- Development of Facilities at all Advanced Airports
- Targeted Development of Facilities

Each option is summarized in **Table 8-3**, and pros, cons, and cost levels associated with each are also presented.

**Table 8-3  
Summary of Intermodal Accessibility Options**

<b>Option</b>	<b>Pros</b>	<b>Cons</b>	<b>Cost</b>
Do-Nothing	Market driven, facilities will be developed where demand exists and they have the potential to be profitable	Not proactive in promoting intermodal accessibility	Low
Development of Facilities at all Advanced Airports	Proactive approach to promoting intermodal accessibility	Sufficient demand may not exist at all facilities, facilities could be developed and not used	High
Targeted Development of Facilities	Develop facilities where true demand exists based on airport-specific studies	Requires airports and PennDOT to analyze intermodal potential at airports	Medium

Source: Wilbur Smith Associates, Inc.

The options presented above were described in greater detail in Chapter Six. The recommended and most feasible methodology for improving intermodal accessibility at advanced airports is the targeted development approach. The do-nothing approach ignores the importance of connectivity among transportation systems and could negatively impact economic development opportunities at or around system airports. The other option identified, developing intermodal facilities at all advanced airports, would require significant PennDOT resources, as well as a number of other federal, State, and local or regional agencies. In addition, although providing intermodal accessibility is an important goal, it is important that sufficient demand exists to make these intermodal facilities financially viable and to ensure that important resources are not used to develop facilities that may be under-used.

Using a targeted development approach would help PennDOT ensure intermodal facilities are developed at those Commonwealth airports that have illustrated a specific demand and that have planned for the development of intermodal facilities through the airport master planning or other planning processes. Where identified demand does exist, airports should work in conjunction with PennDOT and local providers and users of intermodal facilities to examine the development of new facilities and the provision of additional intermodal services. As intermodal facilities are planned at advanced airports with an identified demand, PennDOT should work with the airports and other local economic development agencies to leverage funds from sources such as capital budget funds, the PennDOT grant program, low-interest loans from other economic development agencies, and other private funding sources to develop the intermodal facilities.

## 5. Medical Airlift Coverage

Medical airlift coverage in the Commonwealth was examined by identifying Pennsylvania airports currently having a non-precision approach and a primary runway length of at least 3,200 feet, the minimum facility requirements for providers of fixed-wing medical airlift services. GIS

analysis conducted in Chapter Five identified that approximately 65 percent of the Commonwealth’s land area and approximately 92 percent of its population is located within the 30-minute drive time coverage area of an airport, either in Pennsylvania or a neighboring state, with the specified facilities.

The SASP’s analysis of medical airlift coverage also identified the location of 140 medical-use heliports located throughout the Commonwealth. Most of the medical-use heliports identified in this analysis are located at hospitals or other urgent care facilities and have the facilities required to support rotorcraft operations. A number of these facilities are located in areas of the Commonwealth outside of the 30-minute drive time coverage area of an airport that meets the facility requirements identified for the medical airlift coverage analysis. Drive time coverage areas are not shown for these medical-use heliports; however, if their coverage areas were added, existing medical airlift coverage for the Commonwealth would be significantly improved.

Through a combination of existing airport facilities that have the minimum facility requirements to accommodate fixed-wing medical airlift services, as well as medical-use heliports that support rotorcraft operations, medical airlift coverage provided to the Commonwealth by these existing facilities is adequate. The airports included in this analysis provide medical airlift coverage to approximately 92 percent of the Commonwealth’s population. Medical-use heliports identified in this analysis provide additional coverage to both relatively densely and sparsely populated areas of the Commonwealth located beyond the 30-minute drive time of an airport with the facilities required to support fixed-wing medical airlift services. In addition, in many areas of the Commonwealth, medical-use heliports provide complimentary coverage to fixed-wing coverage.

### **C. Support/Commitment**

Support and/or commitment for a local airport is vital to its ultimate success. While many of the Commonwealth’s airports are privately owned, it is important for each airport to 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 in the 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.

Airport ownership, management structure, and grant obligations were factors considered for each system airport in the support/commitment performance criterion. 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.

System performance relative to these benchmarks was quantified and options for improving system performance have been identified. The following section summarizes the options and identifies the recommended option for improving system performance. Specific options identified in Chapter Five for improving system performance relative to the support/commitment benchmark include the following:

- ❑ Periodic Update/Do-Nothing
- ❑ Continuous Monitoring of System
- ❑ Development of System Goals

Each of these options are described in detail in Chapter Five; the pros, cons, and anticipated cost levels of each option are summarized in **Table 8-4**.

**Table 8-4  
Summary of Airport Ownership, Management Structure, and Grant Obligation Options**

<b>Option</b>	<b>Pros</b>	<b>Cons</b>	<b>Cost</b>
Periodic Update/Do-Nothing	No additional PennDOT resources required	Potential that change of ownership could negatively impact system	Low
Continuous Monitoring of System	PennDOT knowledge of existing conditions at all facilities, can protect those that are most essential	Requires PennDOT resources	Low/Medium
Development of System Goals	Identifies system goals, framework to address issue	PennDOT has limited control over meeting goals	Low/Medium

Source: Wilbur Smith Associates, Inc.

Because of the impacts that airport ownership, management, and grant obligation characteristics can have on the airport system, it is important that PennDOT monitor these factors to ensure that the system and important airports in the system remain stable and viable over the long term. Two of the options summarized above, the periodic update/do-nothing approach and the continuous monitoring of the system approach, are not proactive steps to secure long-term airport viability. The recommended option, development of system goals, is an approach that identifies goals for airport ownership, management structure, and grant obligation in each airport functional level. PennDOT should work with airports, sponsors, and their impacted municipalities to achieve these characteristics where possible. The recommended goals for each functional level are summarized in **Table 8-5**.

**Table 8-5  
Recommended System Goals  
Airport Ownership, Management Structure, and Grant Obligation**

<b>Functional Level</b>	<b>Ownership</b>	<b>Management</b>	<b>Obligation</b>
Advanced	Public	Stand-alone	Federal Obligation
Intermediate	Public	Stand-alone	Federal Obligation
Basic	Public or Private	Stand-alone or Contract	Obligated
Limited	Public or Private	Stand-alone or Contract	No Obligation

Source: Wilbur Smith Associates, Inc.

PennDOT could promote these characteristics through interaction and discussions with local airport, municipal, or regional representatives regarding the importance of the Commonwealth’s airport system. One important step in this process would be to work with locals to ensure that the Commonwealth or local municipalities would have an option to buy any private airport before it is sold for non-aviation use. This process would allow for the public acquisition of private airports to assist another municipal entity to purchase an airport important to Pennsylvania’s aviation system.

**D. Facilities**

The adequacy of an aviation system can be examined based on the facilities provided. The types of facilities at airports throughout the Commonwealth vary, as would be expected, based on the activity levels and needs of system users. Through the SASP planning process, airports were initially stratified into various airport functional levels based on their contribution to the system. Facility and service objectives were developed for each airport based on its initial stratification in the functional groupings established for the SASP. The adequacy of the airport system was determined by comparing the existing facilities at each airport to the facility and service objectives for that airport based on its initial functional level. It should be noted that, at the conclusion of the SASP, a recommended development plan is presented for the system. This recommended development plan summarizes recommended facility development for system airports based on each airport’s recommended functional level stratification, as identified in Chapter Seven. The facility performance criterion also included an analysis of airport compliance with applicable Federal Aviation Administration (FAA) design and PennDOT licensing standards.

The following benchmarks were examined in the facilities performance criterion:

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

System performance relative to these benchmarks was quantified in previous SASP analyses. Options for improving system performance relative to each benchmark are summarized in the following sections and, from these options, the most viable approach is identified as the recommended option.

## 1. Facility and Service Objectives

In the SASP planning process, facility and service objectives were developed for each of the airport functional levels identified in the analysis. These facility and service objectives represent facility and service goals for the functional levels of airports that would best allow them to accommodate the types and levels of aviation demand that they are intended to serve. Facility and service objectives were developed for each of the following general categories of airport amenities:

- Airport Reference Code (ARC)
- Runway length
- Taxiway width
- Runway strength
- Taxiway type
- Navigational aids
- Approach aids
- Lighting
- Weather
- Services
- Facilities

System performance relative to the facility and service objectives identified in the SASP was measured in Chapter Five. Options for improving system performance were identified in Chapter Six and are summarized in **Table 8-6**.

**Table 8-6**  
**Summary of Facility and Service Objective Options**

Option	Pros	Cons	Cost
Across-the-Board System Improvements	Total compliance	High cost would divert resources from other important uses	High
Focused Improvements for Specific Facilities/ Services	Total compliance objective-by-objective	Limited flexibility	Medium
Focused Improvements for Functional Levels	Total compliance functional level-by-functional level	Limited flexibility	Medium
Prioritized Improvements	Flexibility, address most important concerns first, implement improvements in a logical fashion	Systematic process will require time	Low/Medium

Source: Wilbur Smith Associates, Inc.

The options summarized above represent four different approaches for improving system performance relative to facility and service objectives. It is important to note that, although these facility and service objectives have been identified in the SASP, the funding and development of new or improved facilities will require proper justification through airport-specific planning processes.

The “across-the-board system improvements” option would promote total compliance at all functional levels with all facility and service objectives. This approach would require an enormous amount of investment and effort and would have the potential to divert some or all funds from the system’s scarce funding sources that may be needed for expansion, maintenance, and safety projects. The focused improvements options continue to promote total system compliance to facility and service objectives; however, they focus either on specific facilities/services or functional levels of airports. The focused improvement options would require significant amounts of investment and would limit PennDOT’s flexibility in promoting improved systemwide performance. Focusing on improving system performance relative to a single facility objective may ignore synergies that exist between certain airport facilities. For example, promoting the development of precision approaches at all advanced airports, a facility and service objective identified in the SASP, would not provide the system with maximum benefit unless the runway facilities at all advanced airports are able to meet design standards for precision approach runways and the runway requirements for the types of aircraft that generally use precision approaches. Similarly, focusing on individual functional levels of airports may postpone improvements at other airports that may provide significant benefits to system performance. These single-focused options are limiting the development of the entire Pennsylvania aviation system as a whole.

The recommended approach, the prioritized improvement approach, will allow PennDOT to pursue system improvements based on facility and service objectives developed in the SASP with the flexibility that may be required based on funding availability, airport justification, and logical development of synergistic airport facilities. This approach allows PennDOT to work with available funds and in conjunction with other airport projects to promote improved systemwide performance relative to facility and service objectives in a flexible manner. PennDOT’s current process of annually requesting capital development plans from airports and working directly with airports through workshops provides the agency with an opportunity to evaluate facility needs based on the knowledge gained through this process. This annual process allows for flexibility in determining priorities for system development, but also provides the agency an opportunity to systematically evaluate the airport system’s long-term development strategy.

## **2. Pennsylvania Licensing Standards**

Pennsylvania licensing standards are regulations that have been developed for the licensing of aviation facilities in the Commonwealth. These regulations define the different types of aviation facilities that may exist in Pennsylvania, and identify development and safety standards for each type of facility. System airports were examined in Chapter Five to determine their compliance with existing Pennsylvania licensing standards. Based on the existing characteristics at system airports, they were categorized into one of the following three groupings:

- Airports meeting all applicable standards
- Airports not currently meeting all applicable standards, but having plans in place to meet standards
- Airports not currently meeting all applicable standards and not having plans in place to meet standards

Chapter Six identified options for improving system performance relative to Pennsylvania licensing standards. These options are summarized in **Table 8-7**.

**Table 8-7  
Pennsylvania Licensing Standards Options**

<b>Option</b>	<b>Pros</b>	<b>Cons</b>	<b>Cost</b>
Do-Nothing Option	No PennDOT resources required	Potential impacts to safety, ignores existing regulations	Low
Implement System Performance Improvements	Promotes improved system safety, proactive	None	Medium

Source: Wilbur Smith Associates, Inc.

The regulatory nature of the licensing standards and the role they play in promoting and maintaining safe operations at Commonwealth airports makes the do-nothing option an unrealistic approach. Instead, the Bureau of Aviation should work with airports and sponsors to implement system performance improvements that will increase system compliance with existing Pennsylvania licensing standards. By working with airports to implement facility improvements and/or plan facility improvements, the number of airports that do not meet applicable standards and have no plans in place to meet the standards can be minimized. The goal for the system should be to have all airports meet applicable licensing standards or have plans in place that, when implemented, will bring the airports into compliance with the standards.

### 3. FAA Design Standards

Chapter Five presented an analysis of system compliance to FAA design standards. Design standards provide guidance related to the planning and design of airport facilities and primarily focus on the development of safe airport facilities and also promote economy, efficiency, and longevity of airport facilities. Commonwealth airports included in the FAA’s National Plan of Integrated Airport Systems (NPIAS) were examined for their compliance relative to the following FAA design standards:

- ❑ Runway centerline separation
- ❑ Taxiway centerline separation
- ❑ Runway safety area

Based on the outcome of the analysis summarized in Chapter Five, options for improving system performance relative to the FAA design standards benchmark were developed in Chapter Six. Those options are described in detail in that chapter and are summarized in **Table 8-8**.

**Table 8-8  
FAA Design Standards Options**

<b>Option</b>	<b>Pros</b>	<b>Cons</b>	<b>Cost</b>
Do-Nothing Option	No PennDOT resources required	Potential impacts to safety, ignores existing standards	Low
Implement System Performance Improvements	Promotes improved system safety, proactive	Requires system resources	Medium

Source: Wilbur Smith Associates, Inc.

It is important to understand that FAA design standards are recommendations related to the design of airport facilities and that they are neither requirements nor regulations until federal funds are accepted for airport development. Once federal Airport Improvement Program (AIP) monies are accepted, an airport agrees to grant assurances that require compliance with FAA design standards. Therefore, those Commonwealth airports that have not accepted AIP monies are not necessarily required to comply with these design standards. However, the increased levels of safety that these standards promote at airport facilities makes the application of these standards at all airports an important system goal and thereby makes the do-nothing option an unacceptable alternative. Instead, the Bureau of Aviation should work in cooperation with airports and the FAA to bring NPIAS airports that have or will accept AIP monies into compliance with design standards when opportunities arise to do so in conjunction with airport projects. In addition, although FAA design standards are not required to be applied to non-NPIAS airports or those airports that have not accepted federal monies, the Bureau of Aviation should use these design standards as guidelines for development at those airports, where possible.

**E. Optimization Potential**

The SASP analysis of the Commonwealth’s aviation system included an examination of the ability of system airports to meet the demands of airport users and to optimize airport facilities. Optimization of the facilities includes providing a sufficient land envelope for expansion to accommodate needs for additional hangars, ramps, buildings, and runway/taxiway systems. The need to provide these facilities was considered in tandem with the human and natural environment. Environmental concerns that limit the optimization of the airport facilities were recognized in this analysis. Identifying where land use planning techniques are in place to minimize impacts in the airport environment is also an important consideration when examining system airports’ ability to optimize their facilities. Land planning techniques include the adoption of zoning and land use controls per *Act 164, Pennsylvania Laws Relating to Aviation, Subchapter B, “The Airport Zoning Act.”*

The following benchmarks were examined in the optimization potential performance criterion:

- ❑ Airport Hazard Zoning
- ❑ Current Airport Plans

System performance relative to these benchmarks is summarized in the following sections. Recommended options for improving performance in these benchmarks is also identified.

### 1. Airport Hazard Zoning

Airport hazard zoning refers to Commonwealth regulations requiring height zoning restrictions to be implemented in municipalities impacted by airports. In a benchmark analysis conducted in Chapter Five, each airport was examined to determine the number of impacted municipalities in its environs that have implemented airport hazard zoning as required by Commonwealth law. That analysis indicates that significant improvement is required to improve system performance relative to the airport hazard zoning benchmark. Options for improving system performance were presented in Chapter Six. The options presented in that chapter are summarized in **Table 8-9**.

**Table 8-9**  
**Airport Hazard Zoning Options**

Option	Pros	Cons	Cost
Do-Nothing Option	No PennDOT resources required	Ignores current legislation, potential for future airspace impacts	Low
Focus the Implementation of Hazard Zoning	Will protect areas closest to airports from hazards	Only protects areas closest to airport, doesn't address all concerns	Medium
Promote Total Compliance	Legislated approach, protects airports from hazards	Requires significant effort by PennDOT, current practice has not been successful	Medium

Source: Wilbur Smith Associates, Inc.

Current legislation eliminates the do-nothing option as a viable alternative. The legislation requires all municipalities impacted by an airport to have height zoning restrictions in place. Although many municipalities have been slow to enact such zoning restrictions, they are required by law to do so, and it is vital to the best interest of the airport system to make sure that the municipalities understand the requirement and implement the necessary airport hazard zoning regulations. While focusing the implementation of hazard zoning on those municipalities most directly impacted by airports may significantly increase system performance relative to airport hazard zoning, such an approach would ignore the potential impacts to airport operations and airspace that can result from incompatible development on property outside the immediate airport environs. Therefore, because of current legislation and the vital role that airport hazard zoning plays in protecting Commonwealth airports from incompatible and potentially dangerous development in airport environs, promoting total compliance to airport hazard zoning requirements is the only viable option.

## 2. Current Airport Plans

Planning for future airport facility development to meet airport-specific and system needs is an important component in maintaining an adequate aviation system. The status of planning documents at system airports was examined in Chapter Five of the SASP. Based on the outcome of that analysis, options for improving system performance relative to the current airport plan benchmark were presented in Chapter Six. Those options are summarized in **Table 8-10**.

**Table 8-10**  
**Current Airport Plans Options**

Option	Pros	Cons	Cost
Develop Planning Documents for all System Airports	Promotes the importance of systematic planning for future system needs	Requires significant PennDOT time and resources, not all airports may need plans	High
Develop Planning Documents for Most Important System Airports	Promotes logical development of limited developable properties at most important system airports	Ignores importance of planning at lower level airports	Medium
Identify Minimum Data Requirements for Lower Level Airports	All airports have plans in place, lower level airports don't need plans updated as frequently, only update if changes occur	Standards must be developed and implemented	Low

Source: Wilbur Smith Associates, Inc.

The recommended approach for improving system performance relative to the airport planning document benchmark is a combination of the options listed above. The following general guidelines, which represent a combination of the options summarized in Table 8-10, are recommended for each SASP airport functional level:

- ❑ Advanced Airports – Master Plan or Master Plan Update should be completed at least every five years.
- ❑ Intermediate Airports – Master Plan or Action Plan should be completed at least every five years.
- ❑ Basic Airports – Action Plan or Layout Plan should be completed at least every 10 years.
- ❑ Limited Airports – Standardized airport layout drawing should be on file with PennDOT.

The recommended approach recognizes that airports contribute differently to the system and, because of that, different planning standards should be applied to the SASP's different functional levels. The advanced and intermediate airports, those airports that contribute the most to the system, are important components to the system. It is essential that they have current plans presenting the long-range development plans of the airport. Basic and limited airports generally

contribute less to the overall system and have limited financial resources. Less stringent planning guidelines should, therefore, be applied to these airports unless major changes to their system role are intended.

## **II. AIRPORT COVERAGE PERFORMANCE**

Airport system coverage is generally described as the ability of existing Pennsylvania airports to support aviation demand throughout the Commonwealth. The evaluation of system performance as it relates to coverage is determined based on the percentage of population and geographic area within a reasonable drive time of an airport with the types of aviation facilities and services required to support a wide range of aviation users. Through GIS analysis conducted in Chapter Five, current system coverage performance for each SASP functional level of airport was quantified. Based on the results of this analysis, options for improving system coverage performance in the Commonwealth were identified and examined in Chapter Seven. Most of the options identified for improving system coverage performance involved upgrading an existing airport to another functional level. Where this might not be possible, the option of developing a new airport facility may have been identified. Options for improving system coverage performance were analyzed independently based on factors including the following:

- Projected population growth of the county in which the option airport is located
- Planned roadway improvement projects in the environs of option airport
- Additional amount of exclusive coverage that the option airport would provide if it were upgraded
- Existing facilities
- Expansion potential
- Community support

Recommendations for improving system coverage performance were identified in Chapter Seven. The following sections summarize recommendations for improving system coverage performance in the following functional levels or functional level groupings:

- Advanced Airport Coverage Performance
- Advanced and Intermediate Airports Coverage Performance
- Advanced, Intermediate, and Basic Airports Coverage Performance
- Overall Airport Coverage Performance

The estimated impacts that implementing the recommended improvements will have on system coverage performance in the functional level groupings listed above is summarized in the following sections.

### **A. Advanced Airport Coverage Performance**

Based on the initial stratification of system airports, advanced airport coverage performance was quantified in Chapter Seven. That chapter also identified that coverage impacts associated with airports in neighboring states with similar facilities and services provide additional coverage to the Commonwealth. Chapter Seven's GIS analysis of advanced airport coverage performance

identified those areas of the Commonwealth that are currently located beyond the 30-minute drive time coverage areas of an advanced airport. Options for improving system performance relative to advanced airport coverage were then identified and examined. Those options included upgrading existing airports initially stratified in another functional level to the advanced functional level or constructing new facilities. Based on the analysis of options, the following airports are recommended for upgrade to the advanced airport functional level:

- Butler County
- Penn Valley
- Schuylkill County-Joe Zerby
- Pocono Mountains Municipal
- Port Meadville

The impacts to advanced airports coverage performance that would result from implementing these recommendations are illustrated in **Exhibit 8-1**. As shown in Exhibit 8-1, the recommended system of advanced airports would provide coverage performance to approximately 87 percent of the Commonwealth’s population and approximately 48.5 percent of its land area. GIS analysis indicates that upgrading the recommended airports to the advanced functional level would improve existing advanced airport population coverage performance by approximately 5.5 percent, meaning that approximately 670,000 additional Commonwealth residents would be within a 30-minute drive time of an advanced airport.

## **B. Advanced and Intermediate Airports Coverage Performance**

Following GIS analysis conducted in Chapter Seven, options for improving advanced and intermediate airport coverage performance were identified. Each option identified in the previous chapter was evaluated based on a number of factors to identify those options that provide the greatest potential for improved coverage performance for the intermediate functional level. In this analysis, the coverage provided by the recommended advanced functional level was also taken into consideration. Based upon analysis conducted in Chapter Seven, the following airports were recommended for upgrade to the intermediate airport functional level:

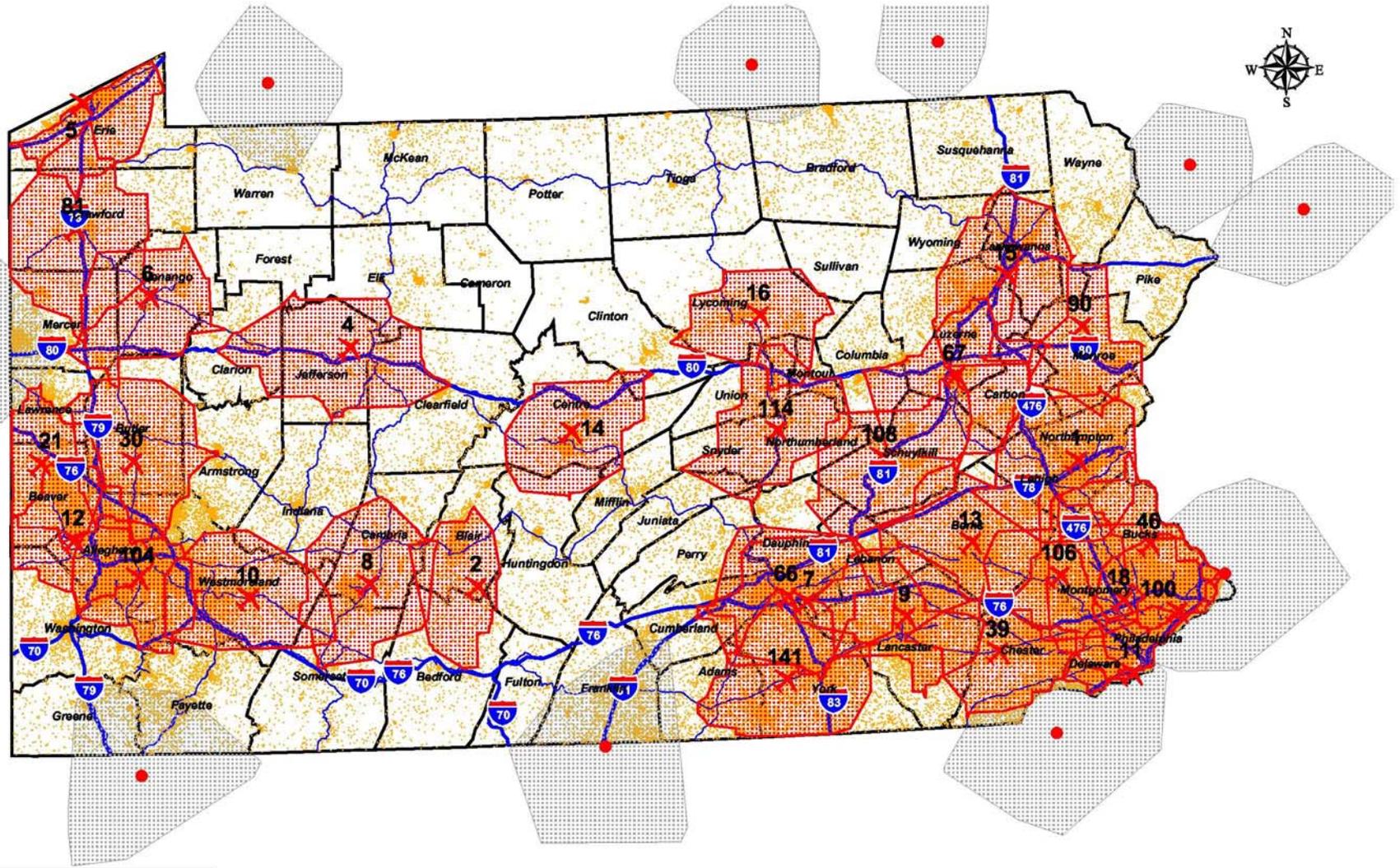
- Bradford Regional
- Rostraver
- Rock
- Bradford County

If for any reason Rock Airport cannot be developed to meet the facility and service objectives of an intermediate airport, then other sites in the area should be considered for the development of an advanced or intermediate airport.

The impacts associated with upgrading the airports listed above to the intermediate functional level, as well as implementing the advanced airport recommendations, are summarized in **Exhibit 8-2**. As shown in Exhibit 8-2, coverage performance provided by the recommended advanced and intermediate functional level airports increases to approximately 93 percent of the Commonwealth’s population and approximately 61 percent of its land area. This represents an

increase of approximately 1.5 percent in terms of total population coverage and almost 4 percent in terms of land area coverage. The major benefits that would occur from implementing these recommendations include providing coverage by this functional level grouping of airports to the Northern Tier of Pennsylvania, as well as providing coverage by Rock in a very densely populated area of the Commonwealth.





Total 30 Minute Drive Time Coverage Area:  
14,071,980 Acres (48.5% of State Total)

Population Served:  
10,641,691 People (86.7% of State Total)

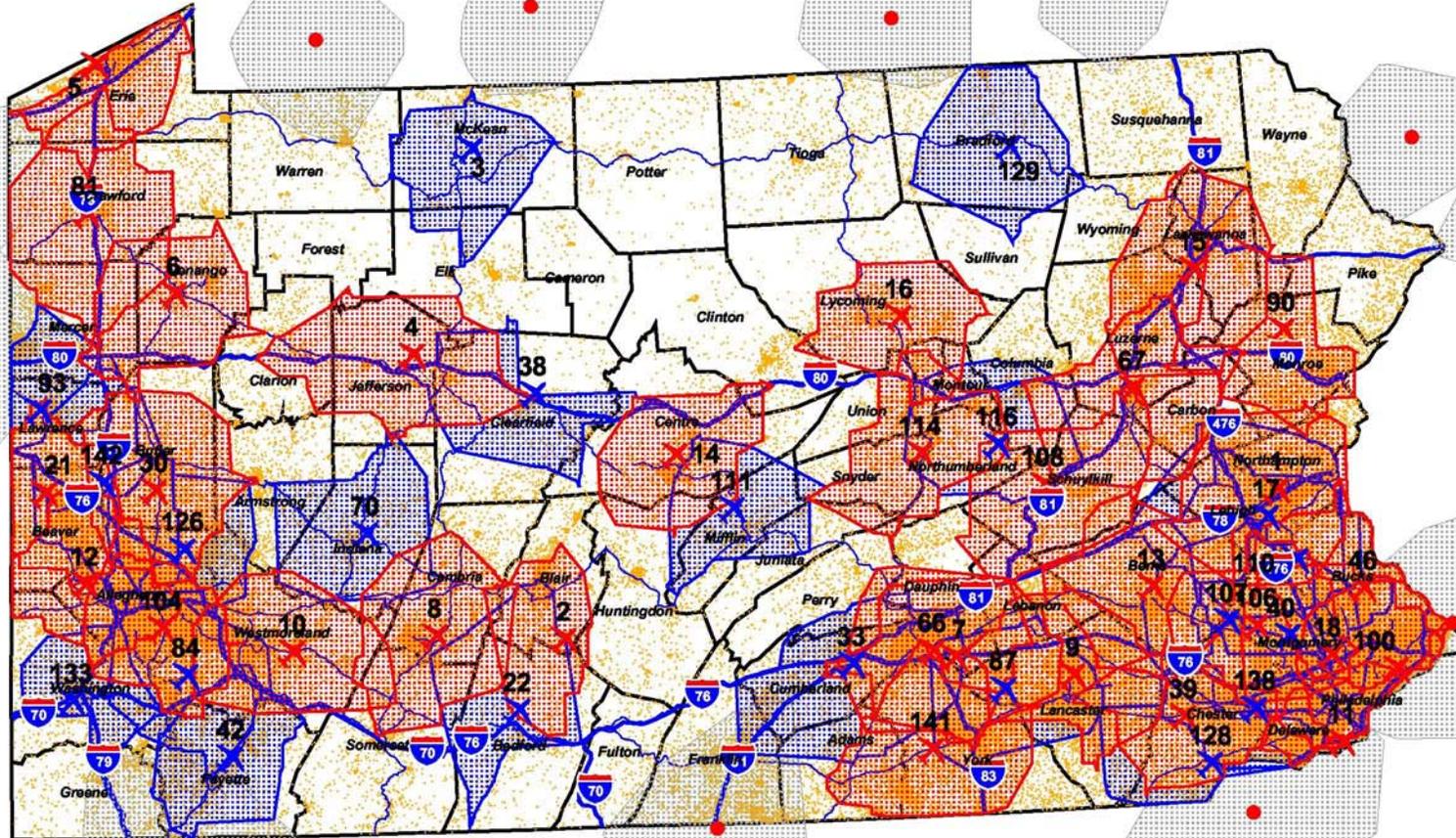
### Legend

	Advanced Airports		2000 Population Density
	30 Minute Drive Time Coverage Area		1- 500 People
	Out-of-State Airports		501 - 2,000 People
	30 Minute Drive Time Coverage Area		2,001 - 5,000 People
	Interstate Highway		5,001 - 10,000 People
	Limited Access Highway		County Boundary



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

**Page 8-22**  
**Exhibit 8-1**  
Recommended Advanced Coverage Performance

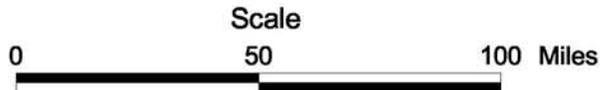


Total 30 Minute Drive Time Coverage Area:  
17,642,437 Acres (60.8% of State Total)

Population Served:  
11,361,489 People (92.5% of State Total)

### Legend

	Advanced Airports		2000 Population Density
	30 Minute Drive Time Coverage Area		1- 500 People
	Intermediate Airports		501 - 2,000 People
	30 Minute Drive Time Coverage Area		2,001 - 5,000 People
	Out-of-State Airports		5,001 - 10,000 People
	30 Minute Drive Time Coverage Area		Interstate Highway
	County Boundary		Limited Access Highway
			County Boundary



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

**Page 8-23**  
**Exhibit 8-2**  
Recommended Advanced & Intermediate Coverage Performance

### C. Advanced, Intermediate, and Basic Airports Coverage Performance

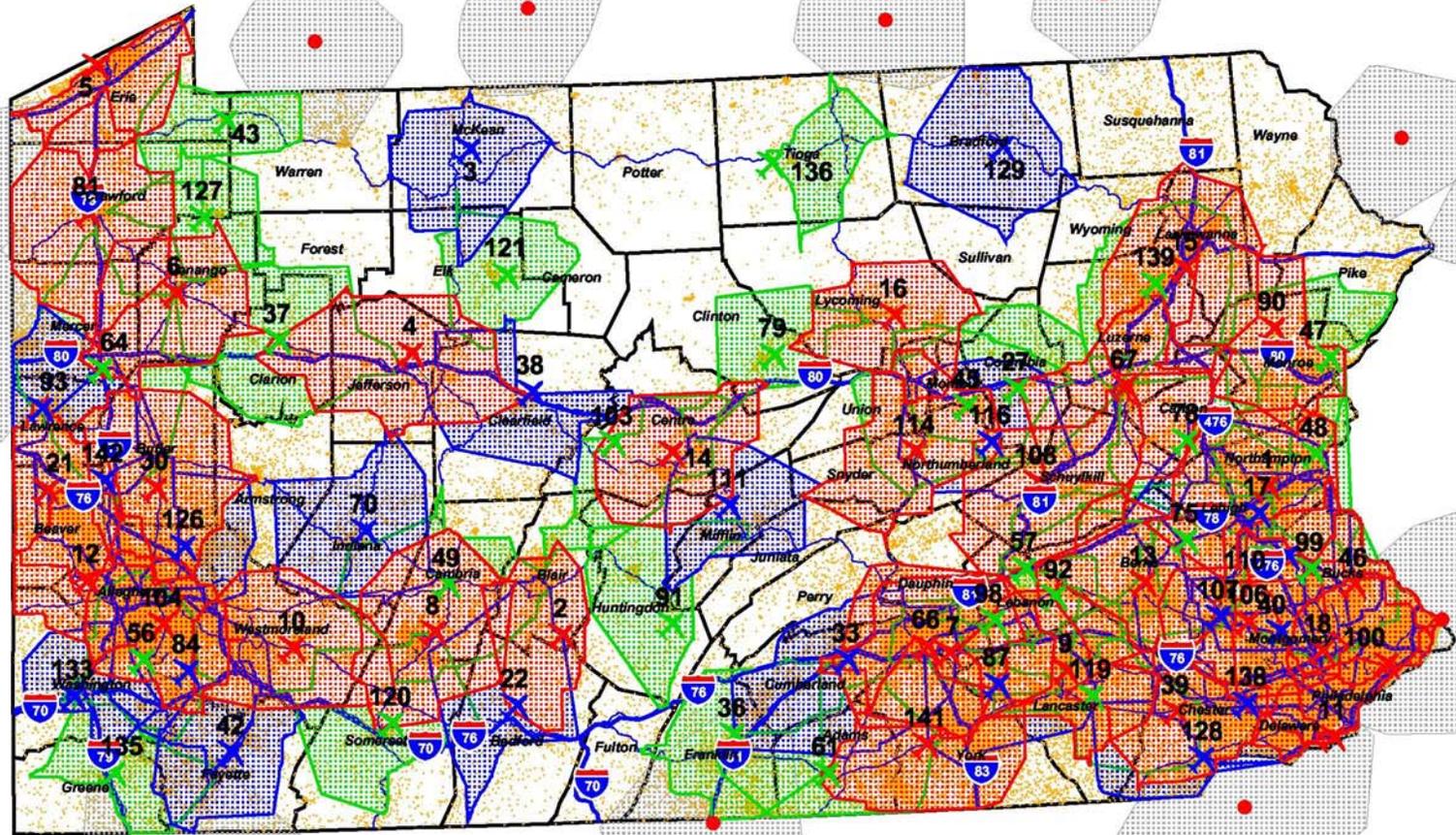
Providing adequate coverage performance by airports in these three functional levels of airports is an important measure of the overall system. The facility and service objectives identified for these functional levels promote their ability to accommodate a wide variety of aviation users while providing these users with the types of facilities and services they require to meet all or most of their individual needs. GIS analysis conducted in Chapter Seven quantified the existing coverage performance of airports initially stratified in these three functional levels. Chapter Seven also identified options for improving coverage performance by this grouping of airports.

Based on the analysis conducted in the previous chapter, the following airports were recommended for addition to the basic airport functional level to improve coverage performance by this functional level grouping of airports:

- Grand Canyon
- Chambersburg Municipal
- Kutztown
- Huntingdon County
- Smoketown

It should be noted that, although Huntingdon County Airport is recommended for upgrade to the basic airport functional level, if development constraints or any other factor makes that upgrade impossible or unfeasible, the process of identifying another site in the Huntingdon County area for a basic or intermediate airport should be initiated.

Including these airports in the basic airport functional level will improve system coverage performance by this functional level grouping of airports to approximately 96 percent of the Commonwealth's population and approximately 72 percent of its land area. **Exhibit 8-3** graphically depicts the improved coverage performance resulting from these recommendations. These recommendations would lead to an increase in population coverage of approximately 1 percent and an increase in land area coverage of over 4 percent. Implementation of these recommendations, as well as the advanced and intermediate functional level recommendations and the facility and service objectives associated with these functional levels, will result in approximately 96 percent of the Commonwealth's population and approximately 72 percent of its land area being within a 30-minute drive time of an airport with a paved primary runway length of at least 3,000 feet, having a published approach with decision height of 1,000 feet or less and a visibility minimum of three miles or less, and Avgas fuel facilities.

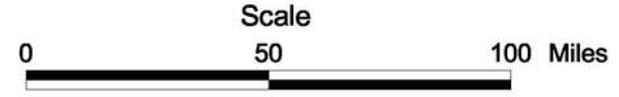


Total 30 Minute Drive Time Coverage Area:  
20,842,918 Acres (71.9% of State Total)

Population Served:  
11,723,939 People (95.5% of State Total)

### Legend

	Advanced Airports		2000 Population Density
	30 Minute Drive Time Coverage Area		1- 500 People
	Intermediate Airports		501 - 2,000 People
	30 Minute Drive Time Coverage Area		2,001 - 5,000 People
	Basic Airports		5,001 - 10,000 People
	30 Minute Drive Time Coverage Area		Interstate Highway
	Out-of-State Airports		Limited Access Highway
	30 Minute Drive Time Coverage Area		County Boundary



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

**Page 8-25**  
**Exhibit 8-3**  
Recommended Advanced,  
Intermediate, Basic Coverage  
Performance

#### D. Overall Airport Coverage Performance

**Table 8-11** presents the recommended final stratification of system airports. **Exhibit 8-4** graphically depicts the recommended final stratification of system airports and quantifies the coverage performance of all airports included in the analysis. As shown in Exhibit 8-4, overall coverage provided by airports in the four functional levels of airports identified in the SASP is approximately 98 percent of the Commonwealth’s total population and approximately 83 percent of its total land area. Coverage performance by the recommended system does not increase from the coverage performance identified based on the initial stratification of the system. However, in the recommended system, a greater proportion of the system’s coverage is provided by airports in the advanced, intermediate, and basic functional levels.

The SASP analysis of overall airport coverage performance identified several areas of the Commonwealth in which additional improvements to system coverage may be warranted. These areas were identified and discussed in Chapter Seven and include the following:

- ❑ Cumberland County
- ❑ Wayne County and Pike County
- ❑ Huntingdon County
- ❑ Area that includes northern Allegheny County, northern Westmoreland County, and central-southern Armstrong County

Some of the areas presented above are beyond the 30-minute drive time coverage area of any system airport, while others are provided coverage exclusively by airports in the limited functional level. Because these areas are relatively populous or are projected to experience significant population increases in the future, they must be examined to determine if improved aviation facilities are required to support current or future aviation demand. In some instances, existing airports in these areas may not be able to expand to provide the types of facilities and services that may be required to sufficiently accommodate aviation demand. Therefore, the option of developing new aviation facilities in some of these areas may also require analysis. The Bureau of Aviation should work with existing airports in these areas, existing or potential sponsors, local municipalities, county and regional government and planning agencies, and any other interested parties to examine the potential for improving airport system coverage in these areas.

Table 8-11  
Summary of Recommended Functional Levels 1/

Advanced Airports	Initial Stratification	Associated City
Lehigh Valley International	Advanced	Allentown
Altoona-Blair County	Advanced	Altoona
Beaver County	Advanced	Beaver Falls
Butler County	Intermediate	Butler
Chester County-G.O. Carlson	Advanced	Coatesville
Doylestown	Advanced	Doylestown
DuBois-Jefferson County	Advanced	DuBois
Erie International	Advanced	Erie
Venango Regional	Advanced	Franklin
Harrisburg International	Advanced	Harrisburg
Capital City	Advanced	Harrisburg
Hazleton Municipal	Advanced	Hazleton
Johnstown-Cambria County	Advanced	Johnstown
Lancaster	Advanced	Lancaster
Arnold Palmer Regional	Advanced	Latrobe
Port Meadville	Intermediate	Meadville
Pocono Mountains Municipal	Intermediate	Mount Pocono
Northeast Philadelphia	Advanced	Philadelphia
Philadelphia International	Advanced	Philadelphia
Wings Field	Advanced	Philadelphia
Allegheny County	Advanced	Pittsburgh
Pittsburgh International	Advanced	Pittsburgh
Pottstown Limerick	Advanced	Pottstown
Schuylkill County-Joe Zerbe	Intermediate	Pottsville
Reading Regional	Advanced	Reading
Penn Valley	Intermediate	Selinsgrove
University Park	Advanced	State College
Wilkes-Barre/Scranton International	Advanced	Wilkes-Barre/Scranton
Williamsport Regional	Advanced	Williamsport
York	Advanced	York

Intermediate Airports	Initial Stratification	Associated City
Queen City	Intermediate	Allentown
Bedford County	Intermediate	Bedford
Bradford Regional	Basic	Bradford
Carlisle	Intermediate	Carlisle
Clearfield-Lawrence	Intermediate	Clearfield
Perkiomen Valley	Intermediate	Collegeville
Connellsville	Intermediate	Connellsville
Indiana County-Jimmy Stewart	Intermediate	Indiana
Rostraver	Advanced	Monongahela
Donegal Springs Airpark	Intermediate	Mount Joy/Marietta
New Castle Municipal	Intermediate	New Castle
Pottstown Municipal	Intermediate	Pottstown
Quakertown	Intermediate	Quakertown
Mifflin County	Intermediate	Reedsville
Northumberland County	Intermediate	Shamokin
Rock	Basic	Tarentum
New Garden Flying Field	Intermediate	Toughkenamon
Bradford County	Limited	Towanda
Washington County	Intermediate	Washington
Brandywine	Intermediate	West Chester
Zelienople Municipal	Intermediate	Zelienople

Table 8-11  
Summary of Recommended Functional Levels

Basic Airports	Initial Stratification	Associated City
Bloomsburg Municipal	Basic	Bloomsburg
Chambersburg Municipal	Limited	Chambersburg
Clarion County	Basic	Clarion
Corry-Lawrence	Basic	Corry
Danville	Basic	Danville
Stroudsburg Pocono	Basic	East Stroudsburg
Easton (Braden Airpark)	Basic	Easton
Ebensburg	Basic	Ebensburg
Finleyville Airpark	Basic	Finleyville
Farmer's Pride	Basic	Fredicksburg
Gettysburg Airport and Travel Center	Basic	Gettysburg
Grove City	Basic	Grove City
Kutztown	Intermediate	Kutztown
Jake Arner Memorial	Basic	Lehighton
William T. Piper Memorial	Basic	Lock Haven
Huntingdon County	Limited	Mount Union
Deck	Basic	Myerstown
Reigle	Basic	Palmyra
Pennridge	Basic	Perkasie
Mid State	Basic	Philipsburg
Somerset County	Basic	Somerset
Smoketown	Intermediate	Smoketown
St. Marys Municipal	Basic	St. Marys
Titusville	Basic	Titusville
Greene County	Basic	Waynesburg
Grand Canyon State	Limited	Wellsboro
Wilkes-Barre/Wyoming Valley	Basic	Wilkes-Barre

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

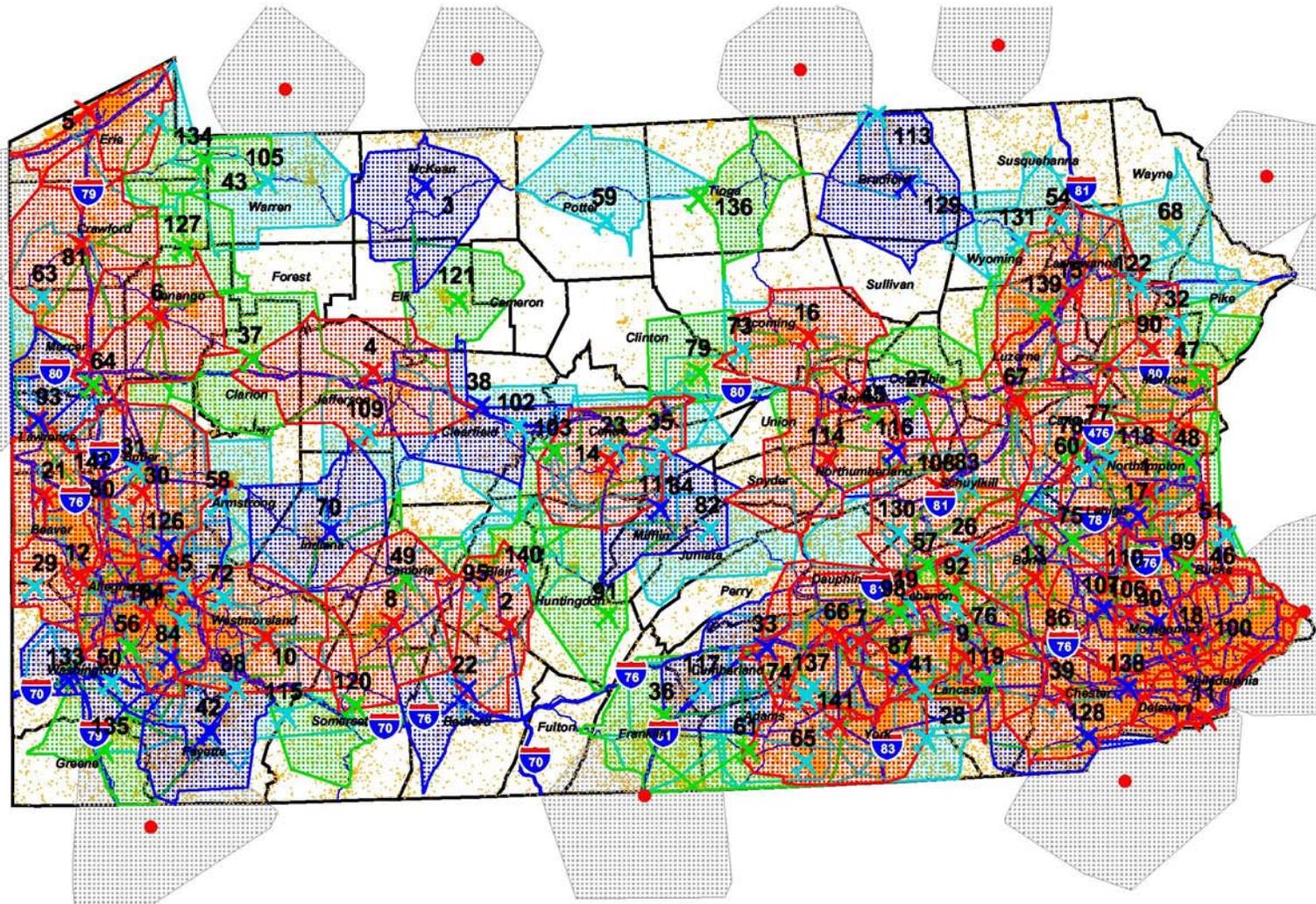
Table 8-11  
Summary of Recommended Functional Levels

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

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

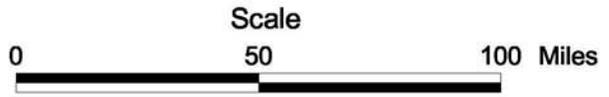


Total 30 Minute Drive Time Coverage Area:  
24,111,208 Acres (83.2% of State Total)

Population Served:  
11,994,037 People (97.7% of State Total)

**Legend**

	Advanced Airports		2000 Population Density
	30 Minute Drive Time Coverage Area		1- 500 People
	Intermediate Airports		501 - 2,000 People
	30 Minute Drive Time Coverage Area		2,001 - 5,000 People
	Basic Airports		5,001 - 10,000 People
	30 Minute Drive Time Coverage Area		Interstate Highway
	Limited Airports		Limited Access Highway
	30 Minute Drive Time Coverage Area		County Boundary
	Out-of-State Airports		30 Minute Drive Time Coverage Area



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

**Page 8-30**  
**Exhibit 8-4**  
Recommended Overall  
Airport Coverage  
Performance

### III. SUMMARY

The SASP has been developed as a planning tool that can be used by the Bureau of Aviation to direct the development of, and investment in, its airport system toward the vision identified for the system. The SASP document, and the analysis contained within, should be used by the Commonwealth to make complex decisions on funding issues, to prioritize funding, and to direct budgeting decisions. The plan establishes a rational approach for the allocation of available financial resources. This approach is based on performance-based analysis to determine those airports and projects most important to the success of the system. By blending the top-down approach of the system plan to the bottom-up planning processes of individual airport master plans, PennDOT can ensure that the Commonwealth’s aviation system continues to meet the needs of its residents and users, while at the same time promotes the development of individual airport facilities based on local needs and trends.

Recommendations for improving the system based on the performance measures and benchmarks used throughout the SASP are summarized in **Table 8-12**. Subsequent chapters present data on projects and funding associated with development of the recommended system.

Table 8-12  
System Recommendations Summary 1/

PERFORMANCE MEASURE	RECOMMENDATION
<b>Activity/Demand</b>	
Airfield Capacity	Capacity-enhancement projects
Aircraft Storage Capacity	Establishment of new hangar development policies
<b>Accessibility</b>	
Major Business Center Coverage	Upgrade Rock Airport to intermediate
Major Population Center Coverage	Existing coverage is sufficient
Surface Access	
- Advanced Airports	Work to promote improve limited access highway accessibility
- Commercial Service Airports	Altoona-Blair County Airport is only airport not meeting objective
Intermodal Accessibility	Targeted development of intermodal facilities
Medical Airlift Coverage	Existing coverage is sufficient
<b>Support/Commitment</b>	
Airport Ownership, Management Structure, and Grant Obligation	Development of system goals
<b>Facilities</b>	
Facility and Service Objectives	Prioritized improvements
Pennsylvania Licensing Standards	Implement system performance improvements
FAA Design Standards	Implement system performance improvements
<b>Optimization Potential</b>	
Airport Hazard Zoning	Promote total compliance
Current Airport Plans	Identify minimum planning document standards by functional level
<b>System Coverage Performance</b>	
Upgrade to Advanced	Butler County
	Penn Valley
	Schuykill County-Joe Zerby
	Pocono Mountains Municipal
	Port Meadville
Reclassify to Intermediate	Bradford Regional
	Rostraver
	Rock
	Bradford County
Reclassify to Basic	Grand Canyon
	Chambersburg Municipal
	Kutztown
	Huntingdon County
	Smoketown
Areas Needing Improved/Additional Coverage	Cumberland County
	Wayne County and Pike County
	Huntingdon County
	Portions of Allegheny County, Westmoreland County, and Armstrong County

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.

