

# AVIATION

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## 2006 Report Card for Pennsylvania's Infrastructure

*Philadelphia International Airport (PHL) is currently one of the fastest growing airports in the world. It is also one of the most delay-prone airports nationwide. Passenger travel is increasing rapidly at PHL and, because of the severe delays at the airport, the FAA has made PHL a national priority.*

*Although it is a newer airport, Pittsburgh International (PIT) has faced challenges due to decreased operations by US Airways, but low-cost carriers have now entered their market.*

*Some of the remaining commercial service airports in the Commonwealth require significant investment to satisfy stricter FAA requirements for minimum safety and security standards. The FAA has identified these needs and has planned for the necessary capital to accommodate the improvements.*

*PennDOT's Bureau of Aviation utilizes the Statewide Airport System Plan as a tool to address the needs of general aviation airports, along with a four-year program that prioritizes the funding requirements at these facilities. If the proposed budget cut to the Airport Improvement Program for FY 2007 becomes a reality, adjustments to PennDOT's general aviation airport funding program would be required to accommodate identified shortfalls.*

## BACKGROUND

In 2005, nationwide airline passenger travel increased by 49 million passengers, to a record 739 million passengers. Commercial air carrier domestic enplanements rose almost 7 percent and were 4.5 percent higher than pre-9/11 levels. Domestic US commercial aviation is estimated to reach *one billion passengers* by 2015.

Though airport funding has increased in the last decade, annual increases for airport infrastructure grants lag behind inflation. The proposed 2007 fiscal year budget of \$2.75 billion for the nationwide Airport Improvement Program (AIP) is \$950 million less than the authorized level of \$3.7 billion. In 2005, the PADOT Bureau of Aviation (BOA) allocated more than \$16 million in federal funds for projects to maintain airport infrastructure and to fund capital improvements at the state's 43 Block Grant airports. In addition, PennDOT BOA allocated \$13 million for airport projects from the two state-funded grant programs.

The Commonwealth of Pennsylvania is served by 15 commercial service airports, more than 120 general aviation airports and heliports. General aviation airports serve mostly air taxis and business, charter and private planes.

The September 11, 2001 terrorist attacks on our nation continue to have a significant impact on the aviation industry in the Commonwealth. Recent increases in fuel costs due to both the war in Iraq and natural disasters have further weakened the stability of the airlines. However, air travel is on the rebound and adequate funding is vital to ensure that existing infrastructure is properly maintained. Funding is also critical to enhance airport capacity to meet new demands, primarily at Philadelphia International Airport, thus allowing airports to achieve their full economic potential.

In 2002, the Commonwealth's Department of Transportation (PennDOT) published the *Pennsylvania Statewide Airport System Plan (SASP)*. A component of the SASP is the Recommended Infrastructure Development Plan, which includes facility recommendations and the associated costs needed both to maintain existing airport infrastructure and to improve airports to meet future local and system needs.

Another important effort completed by the BOA is the *Pennsylvania Statewide Pavement Evaluation Report* for airports. This exercise analyzed existing airport pavements statewide and provided important recommendations after evaluating the condition of airfield pavements at 93 public-use airports and heliports. Philadelphia and Pittsburgh International Airports were not inspected for the report, but information provided by both airports was included. Both PHL and PIT maintain independent pavement management systems.

The BOA Pavement Evaluation was implemented in 2001, establishing an Airport Pavement Management System (APMS). The APMS is a tool for the BOA to use in identifying, prioritizing and scheduling projects to maintain and rehabilitate pavements at the Commonwealth's airports. The APMS analysis was updated in April 2005. The Pavement Evaluation findings were also incorporated into the SASP Infrastructure Plan recommendations.

Philadelphia International Airport (PHL) is one of the most delay-prone airports in the nation. FAA guidelines dictate that an airport is considered congested when delay exceeds an average of 5 minutes per operation. The average delay at PHL was 10 minutes in 2000 and is expected to increase to nearly 20 minutes by 2010 with the current airfield configuration. Significant infrastructure modifications and improvements are underway to reduce delays. In order to develop a more efficient airfield infrastructure, the PHL staff is currently preparing a Master Plan Update, which is known as the Capacity Enhancement Program or CEP. The FAA is also conducting an Environmental Impact Statement (EIS) for the CEP. The US Secretary of Transportation has recognized the urgency of this work by listing the PHL CEP as one of 13 high priority transportation projects in the nation. Executive Order 13274 assigned the project for expedited environmental review (streamlining).

Pittsburgh International Airport (PIT) is undergoing a period of transition in the wake of the dominant carrier, US Airways, significantly reducing its connecting hub operations at the facility. Although US Airways still maintains a significant presence, several low-cost carriers have entered the market, fares to top destinations have been reduced and PIT is experiencing record passenger volume for trips originating at the airport.

## CONDITIONS

Demand for air travel service at the commercial service airports in the Commonwealth increased by 8% from the third quarter of 2004 to the same period in 2005. This increase exceeds the national average of 5.5%. Of the top 35 US airports, PHL is ranked seventh for increased operations since the year 2000.

The 2005 update of the Commonwealth's Statewide Pavement Evaluation identified nearly 143,500,000 square feet of airfield pavement. That area includes 55,765,000 square feet for general aviation facilities and 87,715,000 SF at commercial service airports. The overall, area-weighted Pavement Condition Index (PCI) was measured at 80, where the scale ranges from 0 (failed) to 100 (excellent condition). The area-weighted age of the pavement at general aviation airports is 15 years, while the average pavement age at commercial service airports is 12 years. A typical service life for airfield pavement is 15 to 20 years. The study findings noted that almost twenty million square feet of pavement currently require reconstruction or rehabilitation at Commonwealth service airports.

The Infrastructure Development Plan developed by the Commonwealth's SASP process outlined a twenty-year program for airport maintenance and improvement. The Plan identified the following improvement categories and their associated costs:

Runway Paving	\$27.8 million	Lengthening and widening
Runway and Taxiway Overlay	\$41.9 million	For strengthening
Taxiway Paving	\$15.3 million	Lengthening and widening
Apron Paving	\$26.3 million	
Pavement Management	\$373.9 million	
Navigational Aids	\$13 million	
Approach Lighting Aids	\$9.7 million	
Airfield Lighting	\$9.9 million	
Weather Reporting Systems	\$1.8 million	
Terminals and Hangars	\$120.4 million	GA terminals, corporate and T-hangars
Airport Facilities	\$2.0 million	Parking, Fuel Farms, etc.
Planning Projects	\$41.9 million	To prepare master plans, layout plans, action plans, and updates
<b>Total System Needs</b>	<b>\$662.2 million</b>	<b>Based on 2002 dollars</b>

Almost 55% of the needs are generated by the Pavement Management category alone. The above noted costs cover a 20-year planning period, thus the annual system need is more than \$33 million (in 2002 dollars) for Commonwealth airports excluding PHL and PIT. PennDOT BOA currently has roughly \$16 million available for Block Grant allocation under the AIP program, and another \$13 million to allocate from the Commonwealth's Aviation Development and Capital Budget Programs. With the additional funding provided by FAA, PennDOT anticipates that adequate funding is currently available to meet infrastructure needs. Any reductions in AIP funding for FY 2007 would require adjustment to PennDOT's general aviation airport program.

Philadelphia International Airport (PHL) and Pittsburgh International Airport (PIT) are not examined in detail in the SASP or the Statewide Pavement Evaluation. Because of the operational and administrative complexities, PHL and PIT conduct more thorough planning, pavement management and funding program administration. The 2002-2007 development

program for PHL is valued at approximately \$260 million, while PIT will perform about \$144 million in improvements from 2002 to 2006.

The key issue at Philadelphia International Airport is capacity. PHL experienced record operations and passengers in 2005. Although terminal development has advanced, airfield capacity is needed to sufficiently and efficiently move aircraft. The largest handicap to the current airfield infrastructure is the significant capacity decrease during instrument flight conditions. Inclement weather severely limits the arrival efficiency due to existing runway geometry and available navigational aid technology. This significance of this concern is demonstrated by the fact that the PHL development program is included with the FAA's Operational Evolution Plan (OEP) for immediate capacity improvements. PHL's improvement is also designated by USDOT as one of the 13 most critical projects in the nation for environmental streamlining, as dictated by Executive Order 13274.

Total FAA funding for the Commonwealth's aviation infrastructure was about \$106.7 million in FY 2005 per FAA records. This equates to about 3% of the \$3.4 billion spent nationwide. The Commonwealth is ranked 7<sup>th</sup> among states for allotted FAA funding.

## **POLICY OPTIONS**

Solutions that would ensure the increasing demands on Pennsylvania's aviation system are met are multi-faceted. The Commonwealth must continue to work to implement the development recommended by the *SASP*. A key to both meeting current needs and preparing for the future is to increase aviation infrastructure investment at all levels of government. Full funding of the AIP program will ensure PHL and PIT receive funding for their short-term maintenance and improvements, and will provide the expected allocations for the PADOT Bureau of Aviation Block Grant Program. For PHL, the Runway 17-35 extension construction and the CEP planning/environmental streamlining must stay on schedule, which will require funding the necessary components. For PIT, innovative funding and development programs to encourage alternate revenue-generating functions at the airport will ensure its long-term survival. For the one hundred airports located throughout the Commonwealth, adequate funding will ensure the preservation of this important aviation infrastructure.

## **RECOMMENDATIONS**

ASCE's Pennsylvania Sections recommend:

- Full funding for the Airport Improvement Program (AIP) at authorized levels
- Full funding for the PADOT Bureau of Aviation Block Grant Program, allowing all infrastructure projects ready for local implementation to proceed
- Removal of the Airport Trust Fund from the federal budget
- An increase in the cap on the Passenger Facility Charge (PFC)
- Full implementation of the environmental streamlining process, both for future projects and to keep the PHL Capacity Enhancement Program on schedule

- Full implementation of the Infrastructure Development Plan referenced in the Commonwealth Bureau of Aviation's Statewide Airport System Plan (SASP)

## SOURCES

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