# COMMONWEALTH of VIRGINIA

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January 11, 2017

The Honorable S. Chris Jones, Chairman
House Appropriations Committee
General Assembly Building, 2nd Floor
201 N. 9th Street
Richmond, VA 23219

Dear Chairman Jones:

Please find enclosed the Program and Funding Review of Virginia Airports. This report was requested by the 2016 General Assembly via the approved budget bill, House Bill 30.

To conduct the study, the Department of Aviation (DOAV) procured the services of an independent, third-party consultant, InterVISTAS, an international aviation consulting firm with an outstanding reputation in the aviation industry and an office in the District of Columbia. During the course of conducting their research, InterVISTAS, at the direction of DOAV, created a task force of members of the Virginia airport community. Specifically, the consultants reached out to the Virginia Airport Operators Council (VAOC) who assisted in this effort.

During the course of the study, the consultant and task force members brainstormed interesting concepts for discussion and possible considerations for future changes to our airport funding program. These concepts require further research with the airports to ensure that limited state aviation funds available are invested to provide the best return on investment for the Commonwealth and the communities served by these airports.

We are eager to assist in any way to further explain the results of this research effort and upon request would be pleased to provide feedback promptly.

Sincerely,

Randall P Burdette
Executive Director

Enclosure

cc: The Honorable Thomas K. Norment, Jr., Co-Chairman, Senate Finance Committee
The Honorable Emmett W. Hanger, Jr., Co-Chairman, Senate Finance Committee
The Honorable Charles W. Carrico, Sr., Chairman, Senate Transportation Committee
The Honorable Ronald A. Villanueva, Chairman, House Transportation Committee
The Honorable Aubrey L. Layne, Jr., Secretary of Transportation

# PROGRAM AND FUNDING REVIEW OF VIRGINIA AIRPORTS

**FINAL REPORT**

Prepared for

**Commonwealth of Virginia**
**Department of Aviation**

Prepared by

InterVISTAS
a company of Royal HaskoningDHV

December 14, 2016

# Contents

## Executive Summary

In a provision of the budget for Fiscal Year 2016, the General Assembly required a review of the program and funding that the Department of Aviation (DOAV) provides to the Commonwealth's public use airports. The requirement is limited to the DOAV program that is funded by the Transportation Trust Fund – the Commonwealth Airport Fund (CAF). This program provides funding for planning and engineering projects that focus on airport facility development – not operational costs. Projects supported by these funds may include land acquisition, airside facility design and construction, and terminal building design and construction. This report is prepared in response to that requirement. It reviews the amount of funds allocated by DOAV to those airports for the period 2011 through 2015.

The public use airports that receive these funds are divided into three classifications. Category one is "air carrier" airports -- those that receive commercial air service. Virginia is home to nine such airports.[1] Airports that are used by general aviation (GA) are classified either as "reliever" airports (specifically-designated GA airports that provide access to areas served by commercial service where GA activity might cause congestion in the surrounding airspace or on the airfield) or other GA airports. Category two includes the eight reliever airports in the Commonwealth. The 49 other GA airports providing service to the regions and localities are included in category three. In total, Virginia has 66 public use airports.

In accordance with the Code of Virginia (Section 58.1-638), funds are provided to airports on either an "entitlement" or "discretionary" basis. Air carrier airports can receive both "entitlement" and discretionary funds. The annual entitlement fund allocations are based on the number of passenger boardings ("enplanements") at each airport as a percentage of all air carrier airport enplanements within the Commonwealth. The amount of entitlement money that an airport may receive ranges from a minimum of $50,000 to a maximum $2 million annually. Entitlement funds can be spent on capital, facility and equipment and maintenance projects and certain projects that have been determined to be eligible only for the expenditure of state entitlement funds. Reliever and GA airports are only eligible for discretionary funds. Discretionary funds are allocated based on the formula set forth in the Code of Virginia and the project evaluation model approved by the Virginia Aviation Board (VAB). There are two discretionary funding programs: Air Carrier/Reliever Discretionary Program and General Aviation Discretionary Program. Air carrier airports can receive discretionary funds only after having fully obligated their entitlement funds.

From 2011 through 2015, the VAB allocated a total of $108 million to its public use airports under its CAF program. The funds are administered and used via DOAV's Airport Capital Program. As shown in Table ES-1, the VAB distributed $58.7 million in entitlement funds to air carrier airports between 2011 and 2015 (54 percent of the total). The VAB allocated $49.6 million in discretionary funds during the same period, with $32.7 million going to air carrier and reliever airports (30 percent of the total) and the remaining $16.9 million being allocated to GA airports (16 percent of the total). This report's

[1] The airports are Charlottesville Albemarle Airport, Lynchburg Regional Airport, Newport News-Williamsburg International Airport, Norfolk International Airport, Richmond International Airport, Roanoke-Blacksburg Regional Airport, Shenandoah Valley Regional Airport, and the two airports overseen by the Metropolitan Washington Airports Authority – Ronald Reagan Washington National Airport and Washington Dulles International Airport. Under the Code of Virginia, only Washington Dulles International Airport is eligible to receive funds from the Commonwealth – Ronald Reagan Washington National Airport is not.

appendices provide detailed breakdowns on the amount of funds DOAV allocated to each of those airports annually and cumulatively between 2011 and 2015.

**Table ES-1: Distribution by Funding Programs**

| Fiscal Year | Air Carrier Entitlement Funds | Air carrier / Reliever Discretionary Funds | General Aviation Discretionary Funds | Total |
|---|---|---|---|---|
| 2011 | $10,921,895 | $6,274,522 | $2,333,155 | $19,529,572 |
| 2012 | $12,005,254 | $5,938,718 | $3,586,615 | $21,530,587 |
| 2013 | $12,398,637 | $6,853,815 | $3,657,552 | $22,910,004 |
| 2014 | $12,153,687 | $4,247,283 | $4,112,834 | $20,513,803 |
| 2015 | $11,172,400 | $9,389,650 | $3,228,180 | $23,790,230 |
| **Total** | **$58,651,872** | **$32,703,988** | **$16,918,336** | **$108,274,197** |

Source: Inter*VISTAS* analysis of DOAV data

Of the total $108.2 million, the majority were allocated to air carrier airports. As shown in Table ES-2, the VAB provided $83.2 million (77% of the total) to the air carrier airports. (This figure stems from those airports' $58.7 million in entitlement funds plus $24.5 million in discretionary grants.) The Commonwealth's eight reliever received $8.2 million in discretionary funds and the 49 other GA airports received $16.9 million in discretionary funds.

**Table ES-2: Virginia Allocated $108 Million in Funding to its Public Use Airports, 2011 - 2015**

| | Airport Category | | | |
|---|---|---|---|---|
| Fiscal Year | Air Carrier | Reliever | General Aviation | Total |
| 2011 | $16,179,933 | $1,016,484 | $2,333,155 | $19,529,572 |
| 2012 | $15,962,573 | $1,981,399 | $3,586,615 | $21,530,587 |
| 2013 | $15,645,414 | $3,607,038 | $3,657,552 | $22,910,004 |
| 2014 | $15,299,752 | $1,101,218 | $4,112,834 | $20,513,803 |
| 2015 | $20,102,710 | $459,340 | $3,228,180 | $23,790,230 |
| **Total** | **$83,190,382** | **$8,165,478** | **$16,918,336** | **$108,274,197** |

Source: Inter*VISTAS'* analysis of data from DOAV.

The VAB sets policies through the Airport Program Manual to guide the funding programs and to promote and develop safe aviation practices and operations in Virginia. The Virginia Airport Operators Council (VAOC) and DOAV periodically review the Airport Program Manual and suggest changes as necessary. The VAB has determined that capital funding should be expended on specified elements of airport planning and development projects. It is VAB policy to allocate funding for airport improvements in order to:

- meet regulatory and policy obligations
- maximize benefits to the public
- improve access to airports

Examples of how airports have used these funds include runway extensions to increase safety and allow larger aircraft to operate at an airfield, construction and renovations to passenger terminals, upgrades to airport fuel systems, and obstruction removal to enhance the safety area near airports. These projects may be multi-year in nature. Terminal and runway projects, for example, are major efforts requiring complex environmental approvals, design efforts, and construction programs.

For many such projects, most of the funding is provided by the U.S. Federal Aviation Administration (FAA). Over the period 2011-2015, the FAA's Airports Improvement Program (AIP) provided over $270 million to Virginia's airports to fund projects that broadly enhanced the airports' safety, improved their infrastructure, and enhanced their security. These projects require matching financial contributions from non-federal (i.e., state and/or local) sources. Depending on the nature of the project, DOAV funds can provide either 80 percent of the non-federal share of a federally funded project or 80 percent of a state and local only funded project. In effect, the contributions from the Commonwealth leveraged the FAA's funding. The CAF grants are effectively leveraging approximately $11.25 in federal funding for every $1 that Virginia contributes toward FAA-funded projects. With some projects, it is highly likely that, were it not for the CAF grants, airports would not undertake those projects, as it would be beyond the ability of the locality to generate the required non-federal financial match. The Commonwealth's contributions to project funding also helps restrain costs that might otherwise be passed on to airport users. This helps airports attract or retain service by commercial airlines.

The CAF amount of funds available for allocation to airports remained relatively constant from 2011-2015, at approximately $20 million. In constant dollars, the amount available for allocation in 2015 ($20.1 million) is actually less than the $19.7 million available in 2011.

Not every dollar available may actually be allocated in a given year. There is some normal amount of funds that will remain unallocated because all requested grant amounts for proposed projects will not equal the exact amount of available funding. In addition, airports may return unused funds. Airports may also return an entire grant if a project does not move forward. If that happens near the end of the fiscal year, the VAB may not be able to award the funds to another airport for a different project in that same year. As a result, some funds may roll over to the next year as shown in Table ES-3.

**Table ES-3: Change in Status of Entitlement and Discretionary Funds** ($ millions)

| | Fiscal Year | | | | |
|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2015 |
| **CAF available for allocation from TTF** | 19.7 | 21.4 | 22.0 | 21.7 | 20.1 |
| Entitlement allocations made | 10.9 | 12.0 | 12.4 | 12.2 | 11.2 |
| Air carrier / Reliever Discretionary allocations made | 6.3 | 5.9 | 6.9 | 4.2 | 9.4 |
| GA Discretionary allocations made | 2.3 | 3.6 | 3.7 | 4.1 | 3.2 |
| Debt service to VA Resources Authority | -0.3 | -0.3 | -0.3 | -0.2 | -0.2 |
| Uncommitted (Discretionary) Funds from Prior Year | 0.5 | 0.9 | 1.9 | 1.8 | 3.3 |
| **Total Available for Allocation** | **19.7** | **22.1** | **24.5** | **22.1** | **26.9** |

Source: Inter*VISTAS* analysis of DOAV data.

For the FAA to achieve its mission to provide the world's safest, most efficient aerospace system, the agency and its state and local partners must plan and develop a safe and efficient national airport

system. This means that airport infrastructure must be maintained in a state of good repair, rehabilitated, and kept up to standards. Airports must also be developed and improved to accommodate growth in travel, including more passengers, cargo, and activity and larger aircraft.

Over the long term, DOAV and the Commonwealth's airports recognize that developing all of the public use airports to reach desired performance objectives[2] will require funding that far exceeds what can be reasonably expected to be available in the short term. The current Virginia Air Transportation System Plan Update noted that in the immediate 5-year planning period, annual system needs are $345 million while the total projected annual funding available from the Commonwealth and the FAA will average about $75 million. This suggests a funding gap of approximately $270 million. These figures exclude considerations of the funding needs of the two MWAA airports.

It is not accurate to conclude that there are significant gaps on a year-to-year basis between the amount of funds that airports requested from DOAV and the amount of funds allocated. Airports are to develop Capital Improvement Plans (CIPs) that outline improvements planned at the airport over the next six years. Annually, airports can submit requests for grants to fund the projects identified in their CIPs. DOAV then evaluates those project requests and makes recommendations to the VAB for funding. However, airports do not always provide copies of their CIPs to DOAV, nor do they always request funds for a project that they might have listed in their CIP. Similarly, an airport may not receive discretionary grants for certain projects if the FAA has indicated that AIP funds would not be available for that budget year. As a result, the data needed to provide a reliable estimate of "funding gaps" do not exist. Based on the information submitted by airports to the DOAV, actual airport requests for project funding have closely matched the resources that are available from the DOAV and the FAA. However, at any one point in time, the requests for funding from one category of airport may exceed the amount of funds available for allocation to those airports. This may prevent the VAB from providing grants to support some projects that would otherwise be funded.

Some other states allocate funds to support capital projects at their public use airports using some form of system similar to that used in Virginia. The experiences of six other states – four of which participate in the FAA's State Block Grant Program – revealed that they all use some variation of the method applied by DOAV, and that none differed in a way that warranted any change from DOAV's practices. In general, each state's system for allocating funds relies heavily on criteria established by the FAA. Those criteria support the safety and enhanced capacity of the national airport system. States differ in the extent to which they take into account the contribution of a project to the airport system's total economic impact on the state or to other state and local considerations. In addition, some states do not assist their largest commercial service airports with funds, unlike Virginia which provides an annual entitlement to the Metropolitan Washington Airports Authority (MWAA). Data from those states and

[2] The Virginia Air Transportation System Plan Update – doav.virginia.gov – explains in detail how the performance objectives are established. In general, the objectives are defined in terms of each airport's role in Virginia's and the nation's aviation system (e.g., one that receives commercial service or one that is important for supporting regional economies by connecting communities to statewide and interstate markets). The objectives take into account a large number of factors, including the expected or forecasted activity levels at the airport in the coming years.

Objectives provide directives ranging from runway lengths to hangar needs to suggested runway approaches. Not all airports necessarily need the same type of facilities and equipment. For example, the smallest GA airports do not need runways capable of handling (large, heavy) commercial aircraft.

the FAA in fact indicate that Virginia is particularly effective at obtaining federal funds. In 2015, Virginia's GA airports obtained more funds from the FAA on a per-airport basis than any of the other states reviewed.

Under the Code of Virginia (section 58.1-638), MWAA is annually provided with a maximum of $2 million. Because of this statutory requirement, DOAV treats these funds as an annual entitlement. For the period 2011 through 2015, DOAV allocated $2 million to MWAA annually for a total of $10 million. Under the Code of Virginia, MWAA is not eligible for discretionary funding. Washington Dulles International Airport is the principal international gateway for the Commonwealth. In October 2016, it averaged 63 daily international departures to 42 destinations, with nearly 13,000 daily outbound seats. These entitlement funds make an important, albeit relatively small, contribution to Washington Dulles' capital program. In its 2016 budget, the MWAA Board approved a three-year capital construction program at Dulles of $142 million, which will provide for various airfield, utility systems and roadway projects.

This review resulted in a number of ideas from Virginia Airport Operators Council (VAOC) members and airport stakeholders that DOAV and the VAB may want to consider as a means to incrementally improve its system for allocating funds to public use airports. These ideas include reviewing the adequacy of the current level of entitlement allocations among air carrier airports, differences among airports in seeking discretionary funds, and the overall fairness of the allocation of funds not only among categories of airports, but among individual airports. Depending on the results of a DOAV and VAB review of these ideas, recommendations could be made to the General Assembly if Code adjustments are warranted and/or modifications could be made to the Airport Program Manual by the VAB if appropriate.

# Introduction

Airports across Virginia fulfill a variety of roles, from supporting scheduled commercial air service for the traveling public, to supporting freight transportation, medical flights, aerial firefighting, disaster relief, pilot training, general recreational flying, and more.

In serving these roles, airports are important sources of economic activity in the communities and regions that they serve. The last analysis of the economic impact of the Commonwealth's public use airports[3] found that they created and sustained 259,000 jobs with a payroll of nearly $12 billion, contributing $30.9 billion in total economic activity (both figures in 2016 dollars).[4] Many citizens do not recognize, however, that airports are but one component of a larger aviation and transportation system in the U.S. that is largely self-sufficient. That is, the civil aviation system is mostly financed by the activities of the system's users – commercial airlines, passengers, and general aviation operators – rather than the general taxpayer or public at large. The public sector does support the system, but most of those funds come from the aviation system or other transportation sources.

This report is prepared in response to a specific requirement incorporated into Virginia House Bill 30 (Chapter 780), the Budget Bill enacted into law in 2016. Item 438 in that bill requires the Virginia Department of Aviation (DOAV) to review the program and funding of Virginia's airports. To meet that requirement, the report provides an overview of how the Commonwealth of Virginia financially supports its 66 public-use airports. The report first offers a background section that describes how airports are funded. This section summarizes the major sources of financial support for Virginia's public use airports -- funds from the U.S. Federal Aviation Administration (FAA), from the Commonwealth, and those generated locally by the airports. Restrictions and limitations on how those funds can be used are noted.

The report describes the process through which the Virginia Aviation Board (VAB) and DOAV determine how its limited funds will be allocated annually among the many competing needs identified by the state's airports. Virginia – like many other state governments – has a limited pool of funds that it distributes annually to airports to support certain projects that the airports could not otherwise finance on their own. Because the airports' requests for financial support exceeds the available funds, the VAB and DOAV , in accordance with state law and policy, must decide which projects will be supported in any one fiscal year. Priorities must be set and difficult decisions made. As a point of comparison, the report includes a discussion on how several other states decide how they should parse their financial support among competing requests.

Finally, the report offers observations and conclusions about the Commonwealth's system for financially supporting its airports. That discussion offers options for the state's leadership to consider as it evaluates potential revisions to the existing criteria and decision-making process. Each option raises distinct implications for the airports' varying users and stakeholders.

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[3] "Public use" airports are distinct from private use airports in that the former are available to be used by any aircraft operating in the U.S. "Private use" airports are privately-owned and may be intended for use only by the airport's owners. These could include, for example, helipads on corporate land that are reserved for corporate aircraft. In addition, "public use" airports generally refer to those intended for civil, non-military use.

[4] Virginia Department of Aviation, *Virginia Airport System Economic Impact Study, Technical Report*, August 2011.

The report's analysis is based on data from DOAV, FAA, and the states of Maryland, Pennsylvania, North Carolina, South Carolina, Georgia, and Tennessee. The DOAV also held two workshops with multiple airport sponsors representing air carrier, reliever, and GA airports, where the results of the analyses were discussed and their opinions taken into account.

## Objectives of the Report

In a provision of the 2016 Virginia Budget, the Virginia General Assembly required a review of the Department of Aviation's program and funding Virginia public use airports. Specifically:

> *"The Department of Aviation is directed to undertake a review of the programs and funding supported by the share of revenues from the Transportation Trust Fund dedicated to the department and to provide a report to the Chairmen of the House Appropriations, Senate Finance, and House and Senate Transportation Committees by November 15, 2016. Such report shall include (i) the allocation of funds by airport, annually and cumulatively over the preceding five fiscal years, (ii) a review of revenues, expenditures and balances by program for each of the preceding five fiscal years; (iii) a description of the goals, objectives and outcomes for each program funded by the Department; (iv) gaps in funding requested and allocated by program and by airport; and, (v) the statutory dedication of funding to the Metropolitan Washington Airports Authority."*

This report is submitted in response to these requirements. It includes an introductory section that provides basic background information on how airports are funded and the major sources of financial support to airports. The specific responses to the requirements outlined above are found in the following sections:



As a threshold matter, this report addresses the funding available only to the 66 public-use airports included in the Virginia Air Transportation System Plan (VATSP). The Virginia Airport System is comprised of nine airports with scheduled commercial airline service ("air carrier airports") and 57 airports at which only general aviation (GA) aircraft operate ("GA airports"). All of the air carrier airports and 39 of the GA airports in Virginia are included in FAA's National Plan of Integrated Airport Systems (NPIAS). Inclusion in the NPIAS indicates that the airport is eligible to compete for federal funding from the FAA. The remaining 18 airports in the Virginia system rely exclusively on local or private funds, along with grants from DOAV, to support their capital development needs.

## Background

Most people take transportation for granted. It is a fundamental aspect of life in this country that highways are available (if perhaps crowded), that public transit systems help move people in large urban areas, that ships traverse the waterways and load or off-load large amounts of freight at marine ports, and that people can fly on commercial airlines to far-off locations with relative ease. The FAA estimates that nearly 820 million people will board U.S. air carriers in 2016 – more than twice the total U.S. population. Similarly, U.S. Federal Highway Administration's latest report estimates that total vehicle miles traveled in the U.S. in 2014 exceeded 3 trillion. As of 2014, Americans owned nearly 250 million passenger cars, motorcycles, and light duty vehicles.[5]

Yet most people do not understand how transportation systems function, how they are funded, what factors influence their performance, and how they can be made to operate more efficiently. For the vast majority of people, travel is merely a means to a business or leisure end.

Airports are fundamentally different from other elements of transportation infrastructure.

- Airports are effectively the "end points" of the aviation system – literally, the terminals. Air traffic generally follows "highways in the sky" that are managed by the federal government on behalf of all citizens of the U.S., coordinated by the FAA's air traffic control system, and funded mostly by taxes and fees applied to users of the system.[6]

  The performance of the aviation system is most commonly measured in terms of safety (accidents and incidents), capacity (size of aircraft operated or miles flown), on-time arrivals and departures of commercial operations, and economic impact (direct and indirect jobs, wages, and economic activity). The U.S. Department of Transportation (DOT) tracks major metrics of system performance – especially on-time arrivals and departures. The U.S. operates the busiest air traffic system in the world, and most flights arrive and depart on time.[7] DOT reports that the main causes of delay in the system are airline operations (including late arriving aircraft), air traffic management, and weather.[8]

  Airport sponsors tend to be municipal or county governments. Only the states of Maryland, Connecticut, and Rhode Island own and operate their large commercial service airports (Thurgood Marshall Baltimore-Washington International Airport, Bradley International [Hartford, CT] Airport, and T.F. Green [Providence, RI] Airport). Airport sponsors' responsibilities are generally limited to maintaining the safe operating condition of the airport itself, including meeting financial and regulatory requirements. Sponsors have little if any responsibility for the

[5] http://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics-/html/table_01_11.html

[6] From FY 2001 through FY 2015, the U.S. Treasury's General Fund comprised an average of 22% of the FAA's budgets, with the Airport and Airways Trust Fund supporting 78%.

[7] At the time of this report, the most recent data reported covered all operations for July 2016. Those data showed that 75% of flights were on time. The major causes of delays were late-arriving aircraft (9% of delays), air carrier delays (i.e., maintenance or crew problems, aircraft cleaning, baggage loading, or fueling, 7%), and national aviation system delays (including severe weather, 6%).
http://www.transtats.bts.gov/OT_Delay/ot_delaycause1.asp?display=data&pn=1

[8] http://www.rita.dot.gov/bts/help/aviation/html/understanding.html#q4

performance of the broader national aviation system, which airports that airlines choose to serve, and the management and control of air traffic *per se*.

- Conversely, surface transportation in general and highways in particular differ greatly. Highways and bridges are essential to mobility, commerce, and economic development. But highways are the essential element of a national network and not a terminus. Their construction and maintenance are funded mostly by federal and state taxes. The performance of surface transportation – highway networks in particular – is often gauged in terms of safety, capacity, and mobility. Local and state governments are frequently in search of ways to increase highway capacity in cost-effective ways in order to improve mobility and enable economic development.

- Airports are inherently multimodal. It is important to note that airports are a key "customer" of the surface modes of transportation. As such, they have a vested interest in the success and effectiveness of other transport modes that serve the airport.

It is beyond the scope of this report – and the mandate included in HB 30 – to detail the major differences among all modes of transportation -- airports, highways, transit, marine ports, and other modes of transit. But it is critical that airports' role within the transportation system be remembered, particularly in regard to their ability to influence how for-profit deregulated commercial airlines determine which airport to serve, how the commercial and general air transportation system performs, and how airports and air service contribute to a region's economic activity.

## Airport Sponsorship

Airports in Virginia are owned and operated by a wide variety of organizations. DOAV defines the entity that is legally, financially, and otherwise able to assume and carry out the certifications, representations, warranties, assurances, covenants, and other obligations required as an airport "sponsor."[9] An airport sponsor has many obligations for its airport, ranging from financial dealings and long-term development planning to daily maintenance and operational activities. A sponsor is solely responsible for insuring that the airport is compliant with federal and state grant assurances, VAB policies, and relevant federal and state regulations. Other key responsibilities for sponsors include the completion and submission to DOAV of an annual Based Aircraft Survey, an Annual Certification of Financial Responsibility, and a six-year Airport Capital Improvement Plan.

Virginia's airport sponsors vary considerably. Many are municipality-owned airport. These include GA facilities that may be owned and sponsored by individual counties, cities or towns, such as Danville Regional Airport (owned by the City of Danville) and Lee County Airport (owned by Lee County). Airport authorities or commissions are the other most common form of sponsorship. The largest airports in the Commonwealth – Ronald Reagan Washington National Airport and Washington Dulles International Airport -- are operated by a unique interstate compact, the Metropolitan

**Virginia Public Use Airport Sponsors: Type of Ownership**

| Type | Number |
|---|---|
| Interstate Compact | 2 |
| Municipal Government (City or County) | 27 |
| Authority or Commission | 27 |
| Privately Owned | 10 |

[9] Virginia Department of Aviation, Airport Program Manual, Document 500 DOAVAS 20131121, p. 1-2, effective Nov. 2013. [hereafter, *Airport Program Manual*]

Washington Airports Authority (MWAA), which was created in 1987 by federal legislation.[10] Prior to that, the airports were owned and operated by the FAA. Other public use GA airports may be privately owned/public use (e.g., Eagle's Nest Airport near Waynesboro or Bridgewater Air Park).

## How Are Virginia's Airports Funded?

Airport funding can be thought of as that required to support two broad categories of needs – that needed for maintenance expenses and that needed for capital development. The specific combination of available funding depends on the type of airport being considered and its role in the state and national aviation systems. Federal funds – those mostly provided from the FAA -- are limited to specific types of projects at certain airports; not all GA airports in the Commonwealth are eligible for federal funding. Funding from the Commonwealth of Virginia is available to 65 public-use airports. (Under the Code of Virginia, one of the 66 public use airports in Virginia -- Ronald Reagan Washington National Airport -- is not eligible for funding from the Commonwealth.) Local governments may also support airports through local taxes; often, airport personnel are employees of the local municipal or county government. Both federal and state funded projects require local participation at some level.

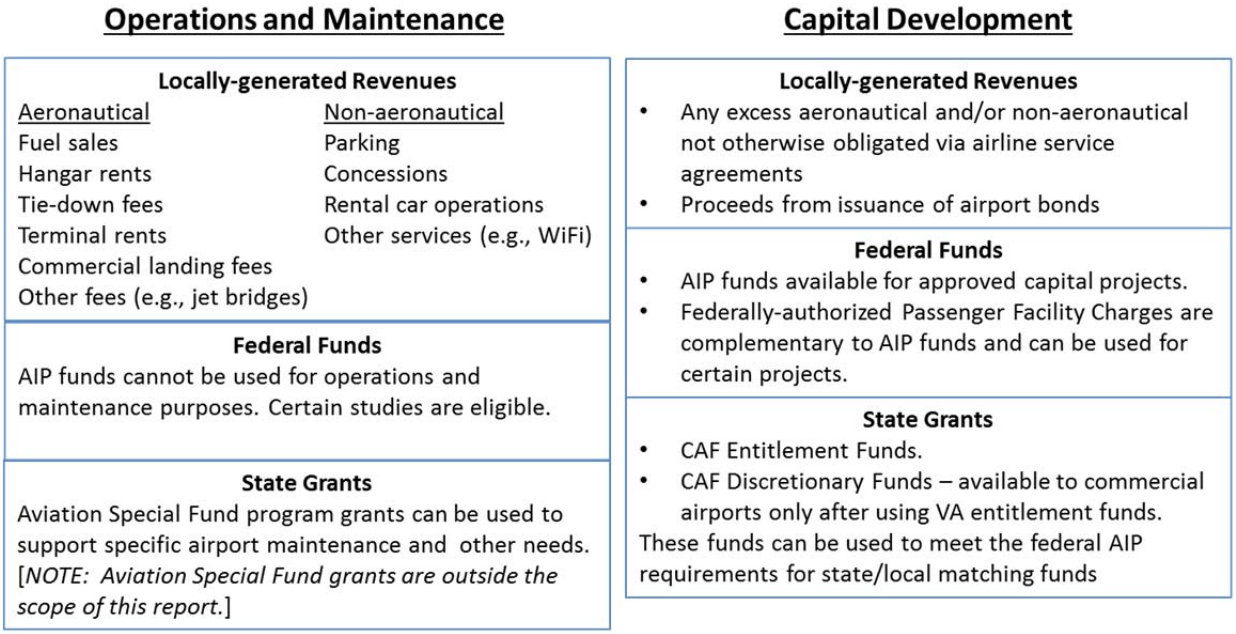
Virginia's public-use airports derive their funding from a combination of operational revenues along with federal, state, and local funds that are used to meet other maintenance and capital development needs. How individual airports are funded depends in part on their size and the type of activities that occur on their properties. Commercial service airports – especially international gateways like Washington Dulles – are complex enterprises that provide a range of facilities and services for a large and diverse set of users, ranging from international airlines and U.S. Customs and Border Protection to self-employed vendors managing concessions or restaurants and individual passengers. On the other end of the spectrum are the small local GA airports, whose focus is oriented around business aviation, private flying and providing access to the national air transportation system.[11]

This section provides an overview of airport funding, separately discussing the funding sources to meet operations and maintenance needs from the funding needed for capital development.

[10] Metropolitan Washington Airports Act of 1986, Title VI of Public Law 99-500.

[11] The FAA and federal law define GA airports as public-use airports that do not have scheduled service or have less than 2,500 annual passenger boardings (49 USC 47102(8)). For purposes of this report, the GA airports are all public use airports exclusive of the nine commercial service airports.

**Figure 1: Major Aspects of Airport Funding**




Notes: (1) Federal funding is available only for airports included in the FAA's National Airport System.
(2) The Aviation Special Fund is derived from a tax on aviation fuels and on aircraft sales and use. It supports five "non-capital improvement" grant programs, (airport maintenance, airport security, facilities and equipment, airport promotion, and air service development) and DOAV's operations budget. Because the Aviation Special Fund is not derived from the Transportation Trust Fund, it is outside the scope of this report.

## Funding Airport Operations and Maintenance

In general, operations expenses include costs associated with personnel compensation and benefits, contracted services, maintenance of the airport's physical plant, and utilities. At the large commercial service airports, these expenses can reach several hundred million dollars annually. At small GA airports, on the other hand, these expenses can be much less.

Airports fund their operational expenses from two broad categories: aeronautical and non-aeronautical sources. "Aeronautical revenues" are those directly attributable to airline or aircraft-related activity, such as fees paid for landing an aircraft or rents paid by airlines for the use of terminals. "Non-aeronautical revenues" are those not directly attributable to airline or aircraft activity, such as fees from parking, concessions revenues, or rental car fees. Commercial service airports rely heavily on non-aeronautical revenues to meet their operating expenses. Doing so allows them to constrain the fees charged to airlines, in order to minimize the carriers' costs of operating at the airport. (Airlines are highly sensitive to airport costs.) According to a recent report from the U.S. Government Accountability Office (GAO), commercial service airports on average obtained 55% of their operations funding from aeronautical revenue and 45% from non-aeronautical sources (mostly parking fees and rental cars).[12]

[12] U.S. Government Accountability Office, *Airport Finance: Information on Funding Sources and Planned Capital Development*, GAO-15-306, April 2015. (hereafter, GAO *Airport Finance 2015*).

### Federal Requirements on Airport Finances

Airports that receive federal funding are subject to requirements imposed by the FAA concerning rates and charges that can be levied.

Consistent with direction established in federal law, airports must maintain a fee and rental structure that makes the airport as financially self-sustaining as possible.[13] The requirement recognizes that individual airports will vary in their ability to be fully self-sustaining, given differences in conditions at each airport (e.g., aircraft and passenger traffic). The purpose of the self-sustaining rule is to maintain the utility of the federal investment in the airport.

FAA policy requires that charges for aeronautical uses of the airport must be reasonable. For aeronautical users, the FAA considers charges that reflect the cost of the services or facilities to satisfy the requirement that airports be as self-sustaining as possible.

Moreover, the FAA requires that all revenues generated by the airport will be spent on "the capital or operating costs of the airport; the local airport system; or other local facilities which are owned or operated by the owner or operator of the airport and which are directly and substantially related to the actual air transportation of passengers or property; or for noise mitigation purposes on or off the airport."[14] In other words, revenues generated by the airport must remain within the aviation system and cannot be diverted to other uses.

## Funding Airport Capital Development

Non-operating expenses generally are those concerned with capital improvements at an airport – changes to the airport's terminals, hangars, runways, taxiways, and ramp. These costs can also be funded from operating revenues. They can also be funded from other external sources, including local, state, and the federal government. Broadly speaking, an airport's options for capital funding depend on its role in the national airport system.

Estimated capital development needs are large. According to the most recent capital development estimates from the Airports Council International – North America, U.S. airports estimate that for the period 2015 through 2019, their capital development needs total $75.7 billion or $15.1 billion annualized. Of that amount, 56% is needed to accommodate growth in passenger and cargo activity, and 38% is needed to rehabilitate existing infrastructure, maintain a state of good repair, and keep airports up to standards for the aircraft that use them.

### The National Airport System

The U.S. federal government defines the National Airport System (sometimes abbreviated simply as the NAS) to include those facilities that are critical to the national transportation system. The airports that are included help air transportation contribute to the national economy and international competitiveness. The FAA's current national airport plan, known as the National Plan of Integrated Airport Systems (NPIAS), identifies 3,340 public-use airports that are important to national air

[13] The Congress set forth the requirement for airports to be as self-sustaining as possible in two acts: Section 511(a)(9) of the Airport and Airway Improvement Act of 1982 and Section 112(a) of the Federal Aviation Administration Authorization Act of 1994.

[14] https://www.faa.gov/airports/aip/grant_assurances/media/airport-sponsor-assurances-aip.pdf Part C, 25 (a), p. 12/20.

transportation and therefore eligible to receive grants under the FAA's Airport Improvement Program (AIP).[15]

The FAA groups NPIAS airports into two major categories: primary and non-primary.

- **Primary** airports are public airports with scheduled air carrier service and more than 10,000 enplaned passengers per year (enplanements). Based on preliminary 2015 data from the FAA on passenger enplanements, there are 393 airports meeting that threshold.
- The **nonprimary** airports include nonprimary commercial service airports, reliever airports, and general aviation airports.
    - Nonprimary commercial service airports have some scheduled air carrier service but are used mainly by general aviation.
    - Reliever airports are FAA-designated general aviation airports in major metropolitan areas that are intended to relieve congestion in the airspace around commercial service airports (where the presence of GA flights might cause additional delay) and to provide improved GA access to the overall community. These airports are not diversionary sites for commercial airliners. These may be publicly or privately-owned.
    - Finally, general aviation airports may be included in the national airport system if they account for enough activity (having usually at least 10 based aircraft) and are at least 20 miles from the nearest national system airport. ("Based aircraft" are those aircraft that are permanently stored at one airport.)

Figure 2 shows the 48 primary, non-primary commercial service, reliever, and GA airports in Virginia included in the FAA's current NPIAS. These include

- Virginia's eight (8) primary commercial service airports (listed in order of total passenger enplanements in 2015): Ronald Reagan Washington National Airport, Washington Dulles International Airport, Richmond International Airport, Norfolk International Airport, Roanoke-Blacksburg Regional Airport, Charlottesville Albemarle Airport, Newport News-Williamsburg International Airport, and Lynchburg Regional Airport.
- One (1) non-primary commercial service airport: Shenandoah Valley Regional Airport.
- Eight (8) reliever airports: Chesapeake Regional Airport, Richmond Executive-Chesterfield County Airport, Hampton Roads Executive Airport, Hanover County Municipal Airport, Leesburg Executive Airport, Manassas Regional Airport, Stafford Regional Airport, and Warrenton-Fauquier Airport.
- 33 other general aviation airports (listed in Appendix I.)

**Figure 2: Virginia Airports Included in the NPIAS**

[15] U.S. Department of Transportation, Federal Aviation Administration, Report to Congress: National Plan of Integrated Airport Systems (NPIAS), 2017-2021, September 2016, p. v (FAA *NPIAS Report*).


Source: Inter*VISTAS*.

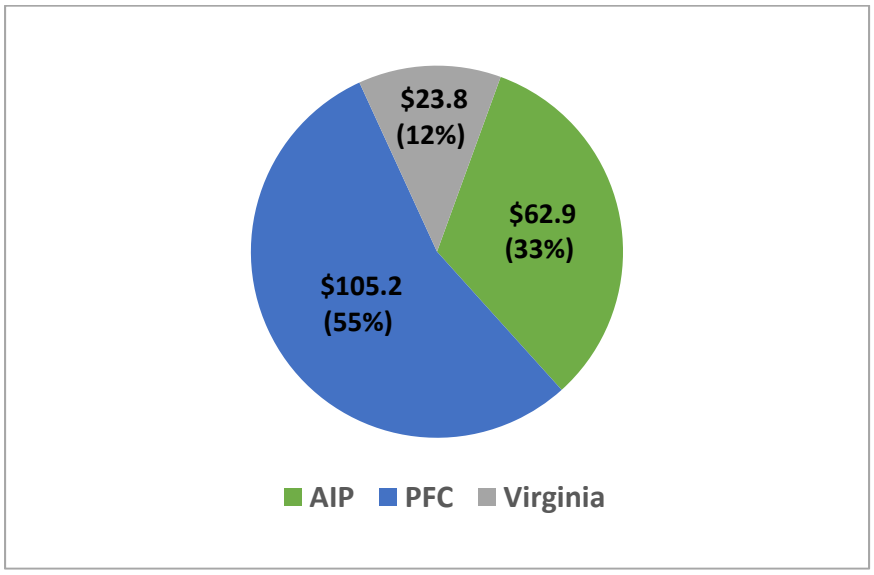
In addition to these 48, there are 18 other public-use airports in Virginia that are included in the Virginia Air Transportation System Plan but not included in the NPIAS (see Appendix II). As a result, they are not eligible to receive federal funds. These airports must rely on local or private funds, along with grants from DOAV, to support their operational, maintenance, and development needs.

## Federal, State, and Local Capital Funding Sources

Together, the federal government, the Commonwealth, and local sponsors make funds available to Virginia public-use airports. In general, the amount of funds provided by the federal government far exceeds that from the Commonwealth and localities. In fiscal year 2015, for example, the FAA provided $62.9 million to 29 airports in Virginia (along with the two MWAA airports). The VAB allocated $23.1 million in funding to 35 airports.

In addition, Virginia commercial service airports were authorized by the FAA to levy other charges on passengers to use for capital projects. These Passenger Facility Charges (PFCs) contributed to their available funds, generating over $105 million in 2015. The sponsor submits a request to the FAA specifying AIP-eligible projects for approval. PFCs are considered local funding. The Commonwealth has no authority over the PFC program. Figure 3 illustrates the share of funding available from these major sources for Virginia public use airports. Each funding source is described in more detail below.

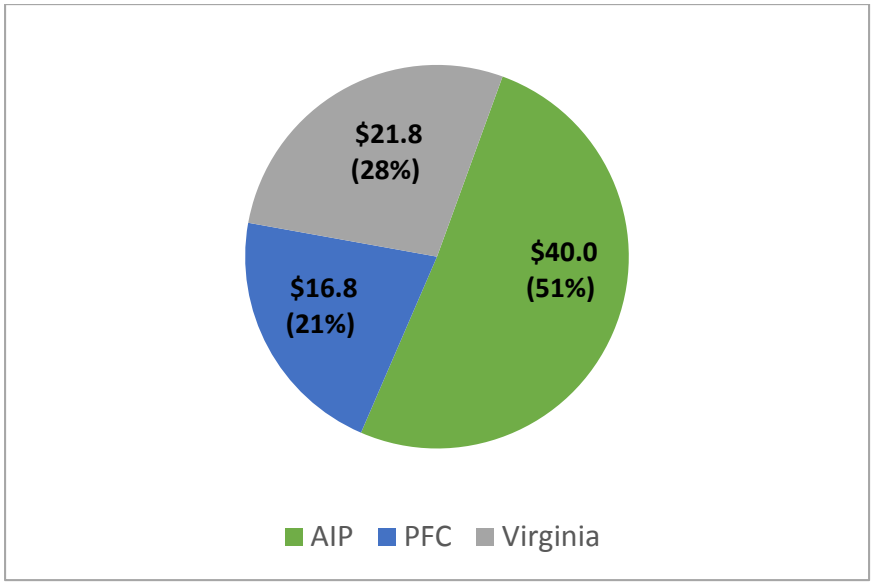
**Figure 3: Summary of Financial Support for the Commonwealth's Public Use Airports, 2015 (in $ millions)** (percent of total shown in parentheses)




Source: Inter*VISTAS* analysis of DOAV and FAA data.

The two MWAA airports are responsible for over $113 million of the total $191.8 million summarized, with most of that – over $88 million – stemming from PFCs. Removing MWAA's figures better highlights the importance of the FAA's AIP program to Virginia's airports. In 2015, nearly half of the remaining $78.6 million in funding for airports in Virginia (other than the two MWAA facilities) came from the AIP program. Richmond and Norfolk generated $13 million in PFCs (13%).

**Figure 4: Summary of Financial Support for the Commonwealth's Public Use Airports, 2015 – *Metropolitan Washington Airports Excluded* (in $ millions)** (percent of total shown in parentheses)




Source: Inter*VISTAS* analysis of DOAV and FAA data.

## Passenger Facility Charges

Subject to federal approval, commercial service airports may collect a local PFC from each enplaned (departing) passenger. PFC revenues can be used for many of the same types of projects as AIP grants. PFCs can also be used for debt service to finance infrastructure projects. Commercial airports must designate which projects PFCs will fund and must seek and obtain FAA's approval to charge a PFC. PFCs are seen as a complementary funding source to AIP grants.[16]

Federal legislation has limited the amount of PFCs that a single airport can charge to $4.50 since it was capped at that level in 2000. (A passenger can be charged a maximum of $18 per round trip.) Large and medium hub airports that collect PFCs of $3 or less per flight segment have their AIP entitlement funding reduced by 50 percent; such airports that collect PFCs of more than $3 have their AIP entitlement funding reduced by 75 percent.[17] Most of these reductions are then distributed to smaller airports through the AIP. FAA data indicate that most airports that levy PFCs do so at the maximum rate. Of the 390 approved airports that collect PFCs as of October 2014, 351 collect at the maximum rate.[18] The airport trade associations (e.g., Airports Council International – North America) have argued that the purchasing power of the capped PFCs has significantly eroded over time and that the Congress should consider raising the $4.50 limit. The Congress has not chosen to do so.

PFCs generate a significant amount of funds for commercial service airports. The GAO reported that between fiscal years 2009 and 2013, commercial airports had an annual average of $1.8 billion of their PFC collections available for capital projects. (Airports used 34% of all PFC collections to pay interest on other debt used for capital projects.)[19] All of the air carrier airports in Virginia – including the two MWAA airports – currently levy the maximum $4.50 PFC.

## Federal Airport Improvement Program (AIP) Grants

Airports included in the NPIAS are eligible to receive federal AIP grants to help fund airport infrastructure projects. AIP grants can only be used for eligible capital projects, equipment, and certain types of planning and environmental studies. In general, eligible projects include those improvements related to enhancing airport safety, capacity, security, and environmental concerns. Sponsors may use AIP funds for select airfield capital improvements, justified land acquisitions, and acquisition of

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[16] GAO *Airport Finance 2015,* pp. 1-2.

[17] As used with respect to federal programs, the term "hub" refers not to an airport that an airline uses in its network for connecting passengers (such as Delta Air Lines' use of Hartsfield-Jackson Atlanta International Airport or American Airlines' use of Charlotte-Douglas International Airport), but as a reference to the size of the airport in the overall U.S. system. The FAA categorizes commercial service airports into four primary hubs—large, medium, small, and nonhub. Large hubs are defined by statute as having at least 1 percent of total passenger traffic in the most recent year (approximately 8.3 million passengers in 2015), while medium hubs have between 0.25 and 1 percent (approximately 2.0 million to 7.0 million passengers in 2015) of total passenger traffic. Small hub airports are those with at least 0.05 percent but less than 0.25 percent of total passenger traffic and non-hub airports are at least 10,000 enplanements but less than 0.05 percent of enplanements. Non-primary commercial service airports that have scheduled air service and process at least 2,500 enplanements annually are eligible to collect PFCs. 49 U.S.C. § 40102(a), (29), (32). In Virginia, Ronald Reagan Washington National Airport and Washington Dulles International Airport are large hubs. Richmond and Norfolk are categorized as small hub airports. The other commercial service airports are nonhubs.

[18] U.S. Government Accountability Office, *Commercial Aviation: Raising Passenger Facility Charges Would Increase Airport Funding, but Other Effects Less Certain*, GAO-15-107, December 2014, p. 6.

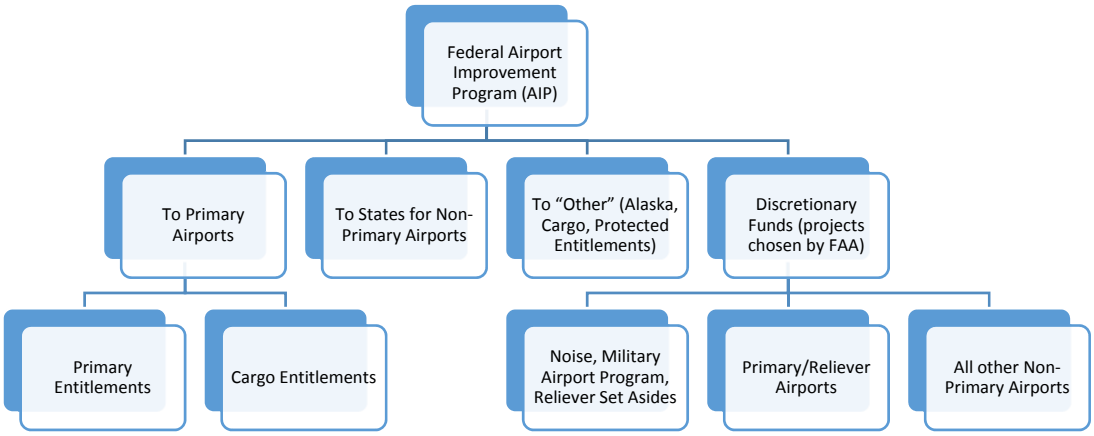
[19] GAO, *Airport Finance 2015*, pp. 19 and 22.

approved safety equipment. Such improvements must be for areas that are public-use and non-exclusive.[20] AIP grants can, for example, help fund airport projects to rehabilitate infrastructure, meet FAA standards for airport design, or accommodate larger aircraft or growth in passenger activity. AIP funds cannot be used for airport operating expenses (i.e. salaries, normal maintenance services, operations equipment, and supplies) or for debt financing.[21]

These projects must be planned and prioritized by airports, included in their capital improvement plans, and reviewed and approved by FAA. FAA's local district office is directly involved in the decisions on funding. For Virginia, AIP grants are managed by the FAA Washington Airports District Office, located at Washington Dulles International Airport in Chantilly, Virginia. The district office coordinates the federal funding requests they receive from individual airports with DOAV to determine the best use of the available funds. In addition, the district office works cooperatively with DOAV on airport planning and development decisions, as well as completing grant administrative requirements. The district office staff works closely with DOAV staff to help airports obtain funds to comply with safety and design standards, and to meet their development goals. The FAA is responsible for issuing the federal grants, monitoring the grant projects, processing federal payments, grant documentation, close-out and all aspects of the grant program management.

The FAA distributes AIP funds through a complex system that combines formula grants (often referred to as "entitlement grants") and discretionary grants that FAA awards.[22] Figure 5 summarizes how the FAA allocates AIP funds among different categories of airports.

**Figure 5: AIP Funds are Allocated among Different Categories of Airports**




Note: As described previously, "Primary" airports are those that receive commercial air service and have more than 10,000 annual enplanements. "Non-Primary" airports are commercial service nonhub airports that enplane at least 2,500 passengers but less than 10,000 enplanements and other GA airports.

[20] FAA, AIP Sponsor Guide – 100, June 28, 2013, p. 2.
[21] https://www.faa.gov/airports/aip/overview/#eligible_projects
[22] An airport that has scheduled service and enplanes 10,001 passengers will receive the minimum primary entitlement of $1 million. If that same airport enplanes only 9,999 passengers, it will receive an entitlement of $150,000. In addition to higher primary entitlement, airports with 10,001 passengers have greater access to discretionary funding. FAA *NPIAS Report*, p. 3.

For all AIP-funded projects, the airport must provide a share of matching funds (referred to as the "non-federal share"). The federal share is from 75 to 90 percent depending on the size of the airport or type of project.

Smaller airports are more dependent on AIP funds than larger airports. The NPIAS airports received an average of $3.3 billion per year between fiscal years 2009 and 2013.[23] (In FY 2016, the Congress appropriated $3.6 billion.[24]) Smaller airports received an average of 71% of those funds vs. 29% received by large airports. Smaller airports are more reliant on AIP grants for capital funding, with 69 percent of their available funding coming from these grants, compared to 15 percent for larger airports.[25]

The amount of funds provided annually by the FAA via its AIP is determined annually via the Congressional appropriations process. The AIP is funded from the federal Airports and Airways Trust Fund, which is itself financed by a variety of aviation-related taxes, such as taxes on tickets, cargo, general aviation gasoline, and jet fuel.

### *AIP Funding Is Tied to National Airport Development Priorities*

AIP funding is broadly connected to the FAA's national Airports Capital Improvement Plan (ACIP), which is the primary planning tool for systematically identifying, prioritizing, and assigning funds to airport development.[26] The ACIP serves as the basis for the distribution of AIP grant funds. Projects in the ACIP will respond to FAA's emphasis on the following goals:

(1) Ensure that the air transport of people, services and goods is provided in a safe and secure environment
(2) Preserve and upgrade the existing airport system in order to allow for increased capacity as well as to ensure reliable and efficient use of existing capacity
(3) Improve the compatibility of airports with the surrounding communities
(4) Provide sufficient access to an airport for the majority of the American public.

The ACIP includes a priority ranking system that generally ranks proposed projects in alignment with the FAA's goals and objectives. This ranking system takes into account four broad categories of factors – the type and size of airport (e.g., large commercial service or small GA), the purpose of the project (e.g., enhancing safety/security or improving capacity), the particular airport components involved (e.g., runway or apron), and the type of project (e.g., noise suppression, construction, de-icing equipment). The ACIP includes a matrix that shows priority ranking scores of many projects. It illustrates, for example, that a higher priority is awarded to a project that would install taxiway lighting as required by Part 139 over a project to rehabilitate a non-revenue-producing parking lot at a small GA airport.

## Virginia's Support for Aviation

In 1985 Governor Gerald Baliles established the Virginia Commission on Transportation in the 21st Century (COT21) to study how the Commonwealth could solve the increasing transportation needs

[23] GAO, *Airport Finance 2015,* p. 16.
[24] P.L. 114-113, 129 Stat. 2841.
[25] Smaller airports include small hubs, non-hubs, non-primary commercial service airports, relievers, and general aviation airports. Larger airports include medium and large hub commercial service airports. GAO, *Airport Finance 2015*, p. 17.
[26] FAA Order 5100.39A, Aug. 22, 2000.

across Virginia. In 1985 the Virginia General Assembly held a Special Session to consider the COT21 findings, which ultimately led to the establishment of the Transportation Trust Fund (TTF) (Code of Virginia, Section 58.1-638.3). The TTF obtains its revenues from dedicated state sources, including a portion of the proceeds from the Commonwealth's aviation fuel tax.

TTF revenues are distributed to all of the various modes of transportation. Funds are distributed by formula, as defined by the Code of Virginia, to the Construction Fund, the Mass Transit Fund, the Commonwealth Airport Fund (CAF) and the Port Fund. The 78.7% distributed to the Construction Fund is managed by VDOT. The 14.7% provided to the Mass Transit Fund supports transit operations, capital and special programs and is managed by the Virginia Department of Rail and Public Transportation. The 4.2% distributed to the Port Fund is managed by the Virginia Port Authority. The CAF's 2.4% is provided to the VAB. In FY 2016, the TTF allocation to the Commonwealth Airport Fund was $24,340,917.[27] On average over the past several years, aviation fuel taxes have added over $1.2 million to the TTF annually.

The original language in Section 58.1-638.3 directed 40 percent of the CAF would be allocated to air carrier airports as entitlement funds; 40 percent of the fund would be allocated as discretionary funds to Air Carrier and Reliever airports; and 20 percent would be allocated to general aviation airports as discretionary funds. The CAF funds were not fungible between the different categories and could only be used for capital projects. Airports leased or operated by MWAA were excluded. The VAB was deemed responsible for allocating CAF funds and setting policies and rules to ensure the fund is administered in a fair and equitable manner in accordance with the Code of Virginia. After two public-hearings and consideration of forty-four recommendations from across the Commonwealth, the VAB formulated rules and polices for the CAF and published them in the "Procedural Guide for Airport Sponsors."

In 1996, the General Assembly amended Section 58.1-638.3 in order to allocate entitlement funds to MWAA. The amendment restricted the use of the entitlement funds to capital projects on Washington Dulles International Airport. The MWAA airports are not eligible for discretionary funds.

### *Virginia Aviation Board*

The VAB establishes financial assistance programs and allocates funds for capital improvement projects. The VAB sets policies to guide the funding programs and to promote and develop safe aviation practices and operations in Virginia. The VAB's duties and responsibilities are set in Code of Virginia §5.1-2.1 et seq.

### *Virginia Department of Aviation*

The Virginia Department of Aviation (DOAV) provides financial and technical assistance to eligible airport sponsors for the planning, development, promotion, construction, and operation of airports and aviation facilities.[28] DOAV also administers applicable provisions of the Code of Virginia, plans for the development of the state aviation system, licenses airports and aircraft, and promotes aviation activities within the state. DOAV's duties and responsibilities are set in Code of Virginia §5.1-1.1 et seq.

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[27] Virginia Department of Transportation, Financial Planning Division, *Fiscal Year 2016 Commonwealth Transportation Trust Fund Budget*, June 2015.

[28] An airport sponsor generally is the recipient of the funds that is legally, financially, and otherwise able to carry out the assurances and obligations contained in a project application and grant agreement. A sponsor may be a public agency, a private owner, or a State entity that is associated with a public-use airport.

### *Overview of the Process for Allocating Funds to Virginia Airports*

Airports begin the process of identifying the projects that will require financial assistance as part of their annual capital development plan updates. These are captured in the Airport Capital Improvement Plan (ACIP), which identifies and prioritizes projects for an airport for a six-year planning period (the next six fiscal years). This plan is vital to securing project funding, whether it is federal, state, or local funding. These plans are usually submitted to DOAV prior to the beginning of each fiscal year.[29]

Airports make requests to DOAV for funding for capital development projects through an on-line system (called "Airport IQ"). Airport sponsors only request financial support using this method. DOAV then evaluates those project requests using a priority model approved by the VAB to insure that the qualities of the project are objectively considered. DOAV also uses the model to develop recommendations for prioritizing projects for funding, which are provided to members of the VAB. (Details on the scoring process and values can be found in DOAV's *Airport Program Manual.*)[30]

The VAB meets four times a year (February, May, August, and November) to discuss pertinent aviation issues, consider policy and program developments, and most notably allocate discretionary funds. The VAB works closely with DOAV staff, airport sponsors, and the private sector to gather and disseminate technical and policy information that is ultimately used to meet the needs of the Commonwealth with respect to airport and aviation matters.

## Other Sources of Airport Funding

**Airport-generated revenues.** Revenue that an airport generates in excess of its operating expenses (for example, revenues earned from parking charges or via its concessions program) can be used for capital development or for debt service on the principal for bonds issued to fund capital projects.

**Bonds.** Some airports also issue bonds to fund infrastructure projects. Because many airports are owned by local or state governments, bonds they issue may qualify as tax-exempt for federal income tax purposes. The tax-exempt status enables airports to issue bonds at lower interest rates than taxable bonds, thus reducing a project's financing costs.

**Virginia Resources Authority**. To support and induce more investment in Virginia public-use airports, the Virginia Resources Authority (VRA) created the Virginia Airports Revolving Fund (VARF) in 2000 with an appropriation of $25 million from the General Assembly. From this $25 million, VRA has invested over $87 million in below market interest rate loans to assist with over 30 projects at 20 airports. As with other state revolving funds, VRA partners with DOAV and other state agencies to administer the fund. The VAB prioritizes individual loan requests and VRA manages the financial aspects of the fund. All publically owned public use airports in Virginia are eligible to apply for loans. Localities typically borrow money to finance their share of large capital projects (terminal buildings, runway extensions, vehicle parking etc.) or revenue producing projects (such as hangar construction and parking facilities) that are not eligible for federal or state funding. They are in some cases eligible for federal funding.

[29] DOAV Airport Program Manual, sec 2.4.4
[30] DOAV Airport Program Manual, sec. 6.4.

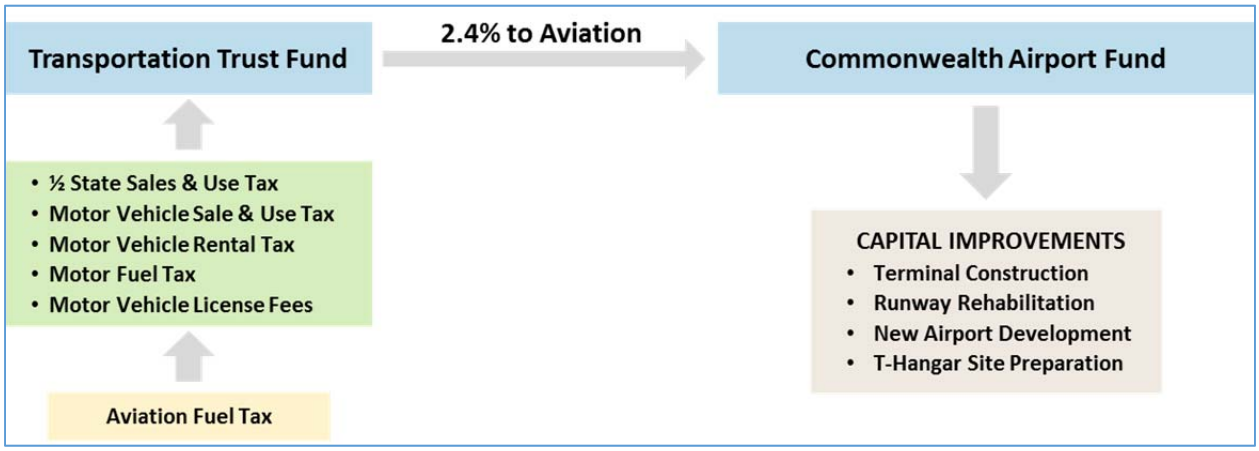
## Financial Support to Virginia Public Use Airports

The VAB has determined that state funding should be expended on specified elements of airport planning and development projects. Further, the VAB has determined that state funding should be allocated to sponsors who meet requirements established by the Virginia Aviation Regulations or board policy. It is VAB policy to allocate funding for airport improvements in order to:

- meet regulatory and policy obligations
- maximize benefits to the public
- improve access to airports

The VAB and DOAV participate in projects that are either federally funded or state funded. A "federally funded" project involves monies from local, state, and federal sources – most commonly, AIP grants. A state funded project involves state and local funding only.

**Figure 6: Overview of Virginia Airport Funds**




Source: Inter*VISTAS,* based on information from DOAV.
Note: On average over the past several years, Aviation Fuel Taxes have contributed over $1.8 million annually to the Transportation Trust Fund. Source: Virginia Auditor of Public Accounts – datapoint.apa.virginia.gov

## Commonwealth Airport Fund

Virginia's CAF supports its commercial service and general aviation airports. The CAF is available for capital projects – airside and landside infrastructure -- such as terminal construction, runway rehabilitation, new airport development, and T-hangar site preparation. The CAF receives its revenue from an annual allocation made by the Commonwealth Transportation Board to the VAB. The distribution of CAF resources is based on a formula set in the Code of Virginia, Section 58.1-638.3.[31] The allocation of funds from the CAF is made first based on the airport's service role, which is defined in the Virginia Air Transportation System Plan (VATSP). The CAF includes three funding sub-programs:

- Air Carrier Entitlement Fund: Commercial Service (or also known as Air Carrier Airports)
- Air Carrier/Reliever Airports Discretionary: Commercial Service Airports and Reliever Airports
- General Aviation Discretionary: GA – Regional, GA – Community and Local Service Airports

[31] Code of Virginia, section 58.1-638 (A)(3), establishes the CAF from the TTF and directs how the VAB is to allocate funds to public use air carrier, reliever, and general aviation airports.

Listed below are the VATSP definitions of those roles.

- **Commercial Service Airports** (also known as **Air Carrier airports**): provides scheduled commuter and/or air carrier service to surrounding communities.
- **Reliever Airports**: provides alternative general aviation facilities to reduce congestion at commercial service airports by providing comparable landside and airside facilities, often being multijurisdictional due to geographical isolation or the relative scarcity of other airport services and facilities.
- **GA-Regional Airports**: provides a full range of aviation facilities and services to businesses and recreational users in a broad market area with service areas.
- **GA-Community Airports**: provides aviation facilities and services to business and recreational users, typically serving a limited market area.
- **Local Service Airports**: provides limited facilities to its respective community, as typically development is constrained by airspace conflicts, environmental concerns, topography, competing services, and surrounding land use patterns.

### Allocation of CAF to Airports

The Code of Virginia 58.1-638 specifically directs how the CAF is to be allocated among the entitlement and discretionary funds.

- First, the base funding level of $12.1 million is allocated among commercial service, reliever, and GA airports.
- Then any available funds above that base amount are allocated.
    - MWAA gets 60 percent of the available funds, up to a maximum amount of $2 million.
    - Air carrier airports not under the control of the Metropolitan Washington Airports Authority (MWAA) receive 40 percent of the available funds.
    - Any remaining funds (above the 40 percent allocated to the non-MWAA airports and the funds set aside to MWAA) are then re-divided among the airports. Of that amount, 40 percent is to be allocated as entitlement funding for air carrier airports, 40 percent is to be allocated to air carrier and reliever airports as discretionary funding, and the remaining 20 percent is to be allocated on a discretionary basis to other GA airports.

As an example of how these funds are then divided among the different category of airports, Table 1 below summarizes the amount of funds that was *available* to DOAV to allocate among airports in FY 2015. As long as the total amount of funds available for allocation exceeds $15.5 million (as it has for many years), MWAA will receive the statutory maximum of $2 million per years.

**Table 1: Summary of Commonwealth Airport Funds Available for Allocation, FY 2015 ($ millions)**

| | Funding Category | | | |
|---|---|---|---|---|
| | Air Carrier Entitlement | AC / Reliever Discretionary | GA Discretionary | Total ($ millions) |
| Base resources | 4.840 | 4.840 | 2.420 | 12.100 |
| MWAA Funds | 2.000 | 0.000 | 0.000 | 2.000 |
| Non-MWAA Air Carrier Airport Entitlements | 3.208 | 0.000 | 0.000 | 3.208 |
| Remaining Funds | 1.125 | 1.125 | 0.562 | 2.812 |
| **Subtotal** | 11.172 | 5.965 | 2.982 | 20.119 |
| Debt service from prior years | | (0.222) | 0.00 | (0.222) |
| Uncommitted funds from FY 2014 | | 3.244 | 0.03 | 3.274 |
| **Total available for allocation** | **11.172** | **8.987** | **3.012** | **23.171** |

Source: DOAV

## Air Carrier Entitlement Fund

Air carrier airports receive annual entitlement funds based on each airport's enplanements as a percentage of all air carrier airport enplanements within the Commonwealth during the previous calendar year. The amount of money that an airport may receive ranges from a minimum of $50,000 to a maximum $2 million annually. MWAA has received the statutory maximum of $2 million annually for each of the years covered by this review.

Air carrier entitlement funds can be spent on capital projects, facility and equipment and maintenance projects, and certain projects that have been determined to be eligible only for the expenditure of state entitlement funds, referred to as "entitlement only" projects. Most of these projects relate to expanded maintenance projects and purchases or are directly related to meeting safety and performance standards established by certain FAA certification and safety regulatory requirements.[32]). Examples include

- construction of aircraft rescue and firefighting simulator facilities and the provision of their related equipment, such as simulator pad, airfield access, and propane
- maintenance contracts and repairs related to systems and equipment
- purchase of equipment for snow and ice removal and treatment that exceeds a snow removal equipment plan for an FAA- certificated airport
- purchase of firearms and body armor for law enforcement officers employed by the airport
- procurement of equipment, videos, and consultant services used to meet federal regulatory training requirements
- improvements and training needed for OSHA compliance
- debt service retirement
- aircraft removal systems

[32] FAA's regulations concern airports that are certificated to serve scheduled and unscheduled operations with aircraft containing more than 9 seats. These requirements are designed to ensure safety in air transportation. Airports must agree to certain operational and safety standards and provide for such things as firefighting and rescue equipment. These requirements vary depending on the size of the airport and the type of flights available. The Transportation Security Administration (TSA) also imposes requirements concerning security at these airports that must also be met.

Air carrier airports may use their entitlement funds to cover 100 percent of the non-federal share of federal projects. This provision applies only to federally funded projects where state entitlement funds will be used solely to fund the entire non-federal amount.

### Discretionary Funds

The Code of Virginia specifies how some funds are to be allocated to certain airports (the entitlement funds), the VAB's authority is limited to the allocation of discretionary funds. The VAB allocates discretionary funds based on the formula set forth in Section 58.1-638.3 of the Code of Virginia and recommendations from DOAV. There are two discretionary funding programs: Air Carrier/Reliever Discretionary Program and General Aviation Discretionary Program.

- Under the *Air Carrier/Reliever Discretionary Program*, air carrier airports can receive discretionary funds only after having fully obligated its entitlement funds. Air carrier airports cannot receive discretionary funds for entitlement-only projects. The eight reliever airports are eligible to receive discretionary funding under this program for capital projects only. In addition, DOAV encourages airports to use other available federal, state, and local funding options, such as PFCs, before applying for state discretionary funds.
- The *General Aviation Discretionary Program* provides capital funding for eligible projects at GA-Regional, GA-Community, and Local Service Airports.

It is important to note that these two discretionary program funds are mutually exclusive (not fungible).

For a federally-funded project where state discretionary funds will be used, the state participates at the rate of 80 percent of the non-federal share of eligible project costs. The federal share of these projects is 90 percent, so the state share is eight 8 percent and the local share is 2 percent.

## Allocation of Funds to Airports

Table 2 summarizes the total amount of funds allocated by DOAV to Virginia's public use airports between fiscal years 2011 and 2015. These funds include only those from the Commonwealth Airport Fund. Over the five-year period, DOAV has allocated over $108 million to the airports. Commercial service (air carrier) airports received $83.2 million (76.8 percent). The reliever airports received $8.2 million (7.5 percent). The other GA airports were allocated $16.9 million for capital projects (15.6 percent).

**Table 2: Total Virginia Funds Allocated to the Commonwealth's Public Use Airports**

| | Airport Category | | | |
|---|---|---|---|---|
| Fiscal Year | Air Carrier | Reliever | General Aviation | Total |
| 2011 | $16,179,933 | $1,016,484 | $2,333,155 | $19,529,572 |
| 2012 | $15,962,573 | $1,981,399 | $3,586,615 | $21,530,587 |
| 2013 | $15,645,414 | $3,607,038 | $3,657,552 | $22,910,004 |
| 2014 | $15,299,752 | $1,101,218 | $4,112,834 | $20,513,803 |
| 2015 | $20,102,710 | $459,340 | $3,228,180 | $23,790,230 |
| **Total** | **$83,190,382** | **$8,165,478** | **$16,918,336** | **$108,274,197** |

Source: DOAV

The total amount of funds allocated in a given year may vary from the amount available from the TTF for three important reasons. First, funds from prior years that were uncommitted roll over to be available for the current year. This can occur, for example, if an airport returns funds that were unused. Second, many projects' final costs will differ from the amounts budgeted. The residual amounts are returned to DOAV. Third, DOAV staff also proactively review grant awards to ensure that the moneys are being used in accordance with VAB and DOAV policy; funds that cannot be applied on a project may be swept back to be re-allocated for other projects.

## Funds Allocated to Air Carrier Airports

As shown above, the bulk of the moneys from the CAF are provided to the Commonwealth's air carrier airports. Table 3 below summarizes the federal, state (both entitlement and discretionary funds), and local funding that each of the air carrier airports received between 2011 and 2015. The table lists each funding source and total, and calculates the percent of each airport's total funding (including locally-generated but federally-authorized PFCs) that Virginia's contributions represented.

## Table 3: Funding at the Air Carrier Airports

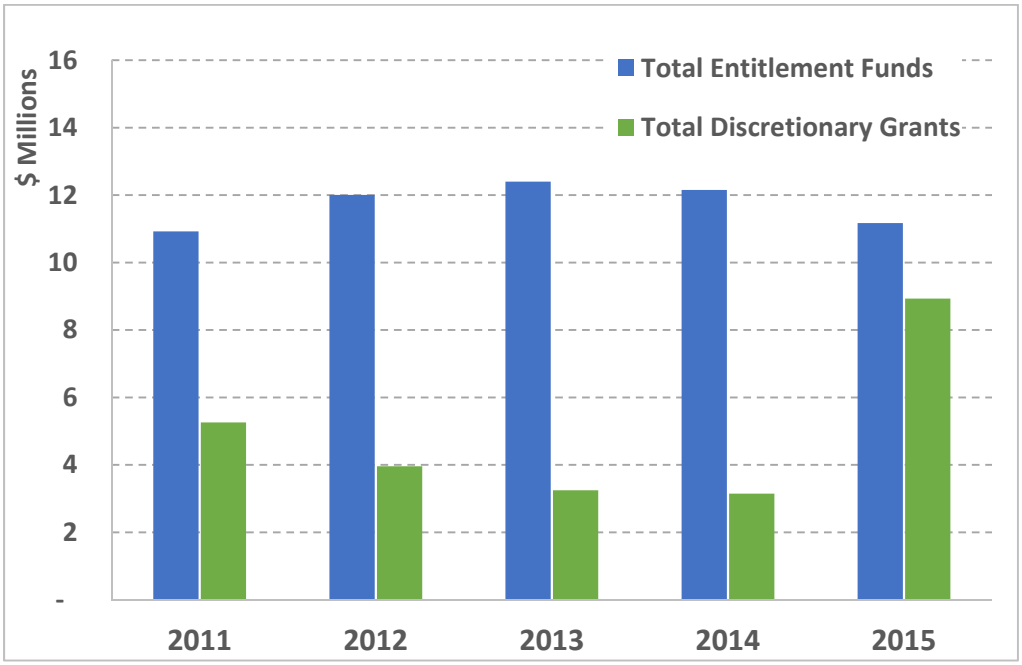
| Airport | Funding Source | 2011 | 2012 | 2013 | 2014 | 2015 | Average |
|---|---|---|---|---|---|---|---|
| Charlottesville Albemarle Airport | PFC | $888,992 | $967,815 | $934,216 | $1,048,406 | $1,130,433 | $993,972 |
| | AIP | $2,118,411 | $9,166,870 | $3,671,088 | $1,024,650 | $532,800 | $3,302,764 |
| | Virginia | $3,018,234 | $3,168,054 | $4,265,183 | $1,516,767 | $4,019,787 | $3,197,605 |
| | **Total** | $6,025,637 | $13,302,739 | $8,870,486 | $3,589,823 | $5,683,020 | $7,494,341 |
| | **Virginia $ as % of total** | 50% | 24% | 48% | 42% | 71% | 47% |
| Lynchburg Regional Airport | PFC | $339,562 | $325,781 | $330,392 | $340,209 | $315,344 | $330,257 |
| | AIP | $0 | $2,715,210 | $4,171,320 | $0 | $1,132,176 | $1,603,741 |
| | Virginia | $438,944 | $622,729 | $584,736 | $535,226 | $445,866 | $525,500 |
| | **Total** | $778,506 | $3,663,719 | $5,086,447 | $875,434 | $1,893,387 | $2,459,499 |
| | **Virginia $ as % of total** | 56% | 17% | 11% | 61% | 24% | 34% |
| Newport News / Williamsburg International Airport | PFC | $2,240,622 | $1,453,760 | $1,145,076 | $1,028,949 | $858,407 | $1,345,363 |
| | AIP | $3,444,781 | $10,214,131 | $774,000 | $9,408,309 | $0 | $4,768,244 |
| | Virginia | $2,000,000 | $2,000,000 | $2,000,000 | $2,000,000 | $1,512,857 | $1,902,571 |
| | **Total** | $7,685,403 | $13,667,891 | $3,919,076 | $12,437,258 | $2,371,264 | $8,016,179 |
| | **Virginia $ as % of total** | 26% | 15% | 51% | 16% | 64% | 34% |
| Norfolk International Airport | PFC | $6,764,674 | $6,776,022 | $6,584,225 | $5,821,221 | $6,007,924 | $6,390,813 |
| | AIP | $865,540 | $7,884,897 | $2,028,643 | $12,648,600 | $0 | $4,685,536 |
| | Virginia | $2,000,000 | $2,000,000 | $2,000,000 | $2,000,000 | $2,000,000 | $2,000,000 |
| | **Total** | $9,630,214 | $16,660,919 | $10,612,868 | $20,469,821 | $8,007,924 | $13,076,349 |
| | **Virginia $ as % of total** | 21% | 12% | 19% | 10% | 25% | 17% |
| Richmond International Airport | PFC | $6,790,284 | $6,565,031 | $6,702,890 | $6,676,126 | $7,256,394 | $6,798,145 |
| | AIP | $10,633,991 | $15,190,463 | $542,086 | $17,772,312 | $0 | $8,827,770 |
| | Virginia | $3,220,165 | $3,954,492 | $2,293,300 | $5,139,607 | $8,232,728 | $4,568,058 |
| | **Total** | $20,644,440 | $25,709,986 | $9,538,276 | $29,588,045 | $15,489,122 | $20,193,974 |
| | **Virginia $ as % of total** | 16% | 15% | 24% | 17% | 53% | 25% |
| Roanoke / Blacksburg Regional Airport | PFC | $1,300,342 | $1,253,954 | $1,285,248 | $1,192,321 | $1,188,099 | $1,243,993 |
| | AIP | $5,309,287 | $1,106,190 | $0 | $1,130,588 | $5,600,000 | $2,629,213 |
| | Virginia | $1,514,522 | $2,000,000 | $2,000,000 | $2,000,000 | $1,778,394 | $1,858,583 |
| | **Total** | $8,124,151 | $4,360,144 | $3,285,248 | $4,322,909 | $8,566,493 | $5,731,789 |
| | **Virginia $ as % of total** | 19% | 46% | 61% | 46% | 21% | 38% |
| Shenandoah Valley Regional Airport | PFC | $49,434 | $54,339 | $91,555 | $45,054 | $24,854 | $53,047 |
| | AIP | $113,621 | $1,946,035 | $0 | $658,134 | $55,028 | $554,564 |
| | VA | $1,988,069 | $217,299 | $502,196 | $108,152 | $113,079 | $585,759 |
| | **Total** | $2,151,124 | $2,217,673 | $593,751 | $811,340 | $192,960 | $1,193,370 |
| | **VA $ as % of total** | 92% | 10% | 85% | 13% | 59% | 52% |
| Washington Dulles International Airport | PFC | $40,926,983 | $41,968,595 | $42,727,115 | $40,331,923 | $41,802,957 | $41,551,515 |
| | AIP | $6,662,414 | $20,000,000 | $19,560,987 | $16,747,121 | $17,178,482 | $16,029,801 |
| | Virginia | $2,000,000 | $2,000,000 | $2,000,000 | $2,000,000 | $2,000,000 | $2,000,000 |
| | **Total** | $49,589,397 | $63,968,595 | $64,288,102 | $59,079,044 | $60,981,439 | $59,581,315 |
| | **Virginia $ as % of total** | 4% | 3% | 3% | 3% | 3% | 3% |

Notes: * "Virginia $" refers to the total amount of entitlement and discretionary funding allocated by the DOAV.

Source: InterVISTAS analysis of data from DOAV and FAA.

Most of the funds that the commercial service airports received from Virginia were in the form of entitlements. On average, the DOAV annually allocated $11.7 million in entitlement funds to the eight commercial service airports. In addition to MWAA's annual $2 million entitlement, both Richmond International and Norfolk International annually received $2 million entitlements. Roanoke/Blacksburg Regional and Newport News/Williamsburg International often received the maximum $2 million entitlements. On the other hand, Lynchburg typically receives approximately $525,000 in entitlements, and Shenandoah Valley Regional's annual entitlement averages only $85,000. Some commercial service airports also frequently receive discretionary grants. Charlottesville Albemarle, Richmond International, and Shenandoah Valley Regional have frequently received discretionary grants. Figure 7 summarizes the differences in the annual entitlement allocation and discretionary grants awarded to the air carrier airports.

**Figure 7: Total Entitlement Allocations and Discretionary Grants Provided to Air Carrier Airports, 2011 – 2015**




Source: Inter*VISTAS* analysis of data from DOAV.

Figure 7 highlights an unusually large amount of discretionary funds allocated to air carrier airports in 2015. That amount is due mostly to funding allocated to two projects – the construction of an access road at Richmond International Airport and a project to expand and renovate the passenger terminal at Charlottesville Albemarle Airport – which accounted for $8.4 million.

Table 4 summarizes the annual and cumulative funds provided by DOAV to the commercial service airports, with separate accountings for entitlement and discretionary funds. It reveals notable differences in airport practices regarding discretionary funds. Washington Dulles International is not eligible under the Code of Virginia to receive discretionary funds. The airports in Lynchburg, Norfolk, and Roanoke have received no discretionary funding. However, according to DOAV officials, these airports have not submitted any requests for discretionary funding. DOAV officials could only speculate about possible reasons that these airports might choose to not make requests for discretionary funds.

Conversely, Richmond International and Charlottesville Albemarle have requested and received large amounts of discretionary funds.

**Table 4: Entitlement and Discretionary Funds Allocated to Air Carrier Airports, Per Year and Cumulatively** ($ in thousands)

| Airport | Category of Fund | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|
| **Charlottesville Albemarle** | Entitlement | $918 | $1,313 | $1,719 | $1,517 | $1,322 | $6,789 |
| | Discretionary | $2,100 | $1,855 | $2,547 | $0 | $2,698 | $9,199 |
| | Total | $3,018 | $3,168 | $4,265 | $1,517 | $4,020 | $15,988 |
| **Lynchburg Regional** | Entitlement | $439 | $623 | $585 | $535 | $446 | $2,628 |
| | Discretionary | $0 | $0 | $0 | $0 | $0 | $0 |
| | Total | $439 | $623 | $585 | $535 | $446 | $2,628 |
| **Newport News / Williamsburg International** | Entitlement | $2,000 | $2,000 | $2,000 | $2,000 | $1,513 | $9,513 |
| | Discretionary | $0 | $0 | $0 | $0 | $0 | $0 |
| | Total | $2,000 | $2,000 | $2,000 | $2,000 | $1,513 | $9,513 |
| **Norfolk International** | Entitlement | $2,000 | $2,000 | $2,000 | $2,000 | $2,000 | $10,000 |
| | Discretionary | $0 | $0 | $0 | $0 | $0 | $0 |
| | Total | $2,000 | $2,000 | $2,000 | $2,000 | $2,000 | $10,000 |
| **Richmond International** | Entitlement | $2,000 | $2,000 | $2,000 | $2,000 | $2,000 | $10,000 |
| | Discretionary | $1,220 | $1,954 | $293 | $3,140 | $6,233 | $12,840 |
| | Total | $3,220 | $3,954 | $2,293 | $5,140 | $8,233 | $22,840 |
| **Roanoke/Blacksburg Regional** | Entitlement | $1,515 | $2,000 | $2,000 | $2,000 | $1,778 | $9,293 |
| | Discretionary | $0 | $0 | $0 | $0 | $0 | $0 |
| | Total | $1,515 | $2,000 | $2,000 | $2,000 | $1,778 | $9,293 |
| **Shenandoah Valley Regional** | Entitlement | $50 | $69 | $95 | $102 | $113 | $429 |
| | Discretionary | $1,938 | $148 | $407 | $6 | $0 | $2,500 |
| | Total | $1,988 | $217 | $502 | $108 | $113 | $2,929 |
| **Washington Dulles International** | Entitlement | $2,000 | $2,000 | $2,000 | $2,000 | $2,000 | $10,000 |
| | Discretionary | $0 | $0 | $0 | $0 | $0 | $0 |
| | Total | $2,000 | $2,000 | $2,000 | $2,000 | $2,000 | $10,000 |
| **TOTAL** | Entitlement | $10,922 | $12,005 | $12,399 | $12,154 | $11,172 | $58,652 |
| | Discretionary | $5,258 | $3,957 | $3,247 | $3,146 | $8,930 | $24,539 |
| | Total | $16,180 | $15,963 | $15,645 | $15,300 | $20,103 | $83,190 |

Source: Inter*VISTAS* analysis of DOAV data.

Note: Washington Dulles International Airport is not eligible to receive discretionary funds.

## Funds Allocated to Reliever Airports

Table 5 summarizes the discretionary funds provided to the eight reliever airports from 2011 through 2015. By statute, reliever airports are not eligible for entitlement funds.

**Table 5: Discretionary Funds Allocated to Reliever Airports, Per Year and Cumulatively**
($ in thousands)

| Airport | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|
| Chesapeake Regional Airport | $62.7 | $76.3 | $221.6 | $7.2 | $12.8 | $380.6 |
| Hampton Roads Executive Airport | $166.6 | $415.1 | $351.8 | $585.9 | $326.2 | $1,845.7 |
| Hanover County Municipal Airport | $165.1 | $257.9 | $139.2 | $9.4 | $42.2 | $613.8 |
| Leesburg Executive Airport | $19.8 | $282.0 | $477.4 | $216.0 | $13.8 | $1,009.1 |
| Manassas Regional Airport | $142.5 | $637.0 | $339.4 | $178.9 | $64.3 | $1,362.0 |
| Richmond Executive-Chesterfield County Airport | $421.7 | $35.7 | $20.3 | $0.0 | $0.0 | $477.7 |
| Stafford Regional Airport | $35.1 | $80.6 | $1,967.4 | $73.7 | $0.0 | $2,156.8 |
| Warrenton-Fauquier Airport | $3.0 | $196.8 | $90.0 | $30.1 | $0.0 | $319.8 |
| **Total** | **$1,016.5** | **$1,981.4** | **$3,607.0** | **$1,101.2** | **$459.3** | **$8,165.5** |

Source: Inter*VISTAS* analysis of DOAV data.

## Funds Allocated to GA Airports

Table 6 summarizes the discretionary funds provided to the GA airports from 2011 through 2015. By statute, general aviation airports are not eligible for entitlement funds. The total amount of discretionary funds awarded to GA airports ranged from $0 at eight airports to nearly $2 million at Culpepper Regional Airport.

**Table 6: Discretionary Funds Allocated to GA Airports, Per Year and Cumulatively** ($ in thousands)

| Airport | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|
| Accomack County | $9.0 | $0.0 | $0.0 | $69.6 | $40.8 | $119.4 |
| Allen C. Perkinson Municipal | $0.0 | $0.0 | $22.1 | $0.0 | $0.0 | $22.1 |
| Blue Ridge Regional | $237.2 | $31.2 | $73.0 | $60.7 | $20.0 | $422.1 |
| Bridgewater Airpark | $0.0 | $18.3 | $0.0 | $16.0 | $0.0 | $34.3 |
| Brookneal-Campbell County | $103.8 | $0.0 | $3.4 | $0.0 | $7.0 | $114.2 |
| Chase City Municipal | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| Crewe Municipal | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| Culpeper Regional | $12.1 | $0.0 | $0.0 | $1,725.0 | $221.2 | $1,958.2 |
| Danville Regional | $0.0 | $738.1 | $432.8 | $80.2 | $55.3 | $1,306.4 |
| Dinwiddie County | $0.0 | $50.5 | $0.0 | $0.0 | $0.0 | $50.5 |
| Eagle's Nest | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| Emporia-Greenville Regional | $111.4 | $165.9 | $157.9 | $249.6 | $35.6 | $720.3 |
| Falwell | $0.0 | $0.0 | $14.8 | $1.0 | $0.0 | $15.8 |
| Farmville Regional | $0.0 | $26.2 | $0.9 | $0.0 | $0.0 | $27.1 |
| Franklin Municipal | $0.0 | $14.8 | $16.4 | $0.0 | $106.6 | $137.8 |
| Front Royal-Warren County | $3.6 | $55.5 | $13.2 | $0.0 | $0.0 | $72.3 |
| Gordonsville Municipal | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| Grundy Municipal | $3.8 | $14.3 | $0.0 | $0.0 | $0.0 | $18.0 |
| Hummel Field | $0.0 | $0.0 | $0.0 | $0.0 | $17.2 | $17.2 |
| Ingalls Field | $1.9 | $48.7 | $5.3 | $26.7 | $72.6 | $155.1 |
| Lake Anna | $44.0 | $24.0 | $16.9 | $5.6 | $0.0 | $90.6 |
| Lake Country Regional | $0.0 | $0.0 | $55.2 | $184.2 | $32.4 | $271.8 |
| Lawrenceville-Brunswick Municipal | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| Lee County | $0.0 | $18.9 | $36.9 | $0.0 | $0.0 | $55.8 |
| Lonesome Pine | $0.0 | $158.2 | $57.9 | $1.6 | $0.2 | $217.8 |
| Louisa County | $7.0 | $54.0 | $47.9 | $13.2 | $77.2 | $199.2 |
| Lunenburg County | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| Luray Caverns | $16.3 | $96.8 | $196.4 | $0.0 | $52.1 | $361.6 |
| Mecklenburg-Brunswick Regional | $109.1 | $18.0 | $3.2 | $0.0 | $0.0 | $130.3 |
| Middle Peninsula Regional | $26.2 | $237.8 | $394.9 | $643.4 | $4.6 | $1,306.8 |
| Mountain Empire | $850.8 | $4.6 | $0.0 | $18.4 | $174.1 | $1,047.9 |
| New Kent County | $0.0 | $12.1 | $49.5 | $2.7 | $0.0 | $64.2 |
| New Market | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| New River Valley | $4.1 | $8.9 | $2.9 | $15.2 | $7.1 | $38.1 |
| Orange County | $87.9 | $535.6 | $53.1 | $310.0 | $35.7 | $1,022.3 |
| Shannon | $0.0 | $0.0 | $0.0 | $0.0 | $34.7 | $34.7 |
| Smith Mountain Lake | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| Suffolk Executive | $57.4 | $78.6 | $368.7 | $53.9 | $108.4 | $667.1 |
| Tangier Island | $0.0 | $0.0 | $0.0 | $0.0 | $8.7 | $8.7 |
| Tappahannock-Essex County | $0.0 | $0.0 | $2.6 | $45.0 | $111.6 | $159.1 |
| Tazewell County | $10.4 | $52.1 | $229.2 | $46.6 | $41.5 | $379.8 |
| Twin County | $0.0 | $561.4 | $713.4 | $94.9 | $47.3 | $1,417.0 |
| Virginia Highlands | $185.9 | $82.5 | $248.6 | $29.5 | $998.4 | $1,544.9 |
| Virginia Tech-Montgomery Executive | $178.1 | $1.0 | $168.4 | $3.3 | $455.0 | $805.8 |
| Wakefield Municipal | $0.0 | $0.0 | $0.0 | $7.1 | $448.0 | $455.1 |
| William M. Tuck | $18.9 | $14.7 | $31.3 | $0.0 | $0.0 | $64.9 |
| Williamsburg-Jamestown | $28.7 | $386.4 | $175.0 | $24.6 | $0.0 | $614.7 |
| Winchester Regional | $225.6 | $77.7 | $66.0 | $384.9 | $15.2 | $769.4 |
| **Total** | **$2,333.2** | **$3,586.6** | **$3,657.6** | **$4,112.8** | **$3,228.2** | **$16,918.3** |

Source: Inter*VISTAS* analysis of DOAV data.

It is important to recognize that airports that have not received any funds from the Commonwealth may not have requested grants.

## Comments of Airport Sponsors

The VAB and DOAV have always valued airport sponsor participation in the development of programs, policies and procedures affecting aviation in the Commonwealth. The preparation of this report is no different. To ensure transparency and garner support from airport sponsors and other key stakeholders, DOAV (along with InterVISTAS) conducted two workshops and participated in subsequent meetings with airport sponsors to discuss the preliminary analyses and results.

The workshop attendees agreed that both the commercial air service and GA industries have undergone significant changes over time. Further, those changes have potential implications for how the CAF is currently allocated, especially in the overall distribution of funds between air carrier, reliever, and GA airports. Some of the emerging issues that these sponsors identified, with the intent of spurring a discussion that would lead to a more effective funding program, include the following:

- Based on how the TTF is funded, it is likely that the total allocation of funds provided to the CAF will grow over time. Eventually, it will reach a point (approximately $27 million) at which the statutory formulae that dictate the distribution of funds among the entitlement and discretionary accounts lead to a situation in which funds in excess of the maximum allowable $2 million per air carrier airport are allocated to the entitlement fund. That is, more money will be channeled into the entitlement fund account than the VAB is authorized to allocate to air carrier airports.
- Sponsors also raised the issue of whether the minimum entitlement level is appropriate. The questions arose whether that minimum is adequate and whether it could be raised, especially if the total CAF continues to rise.
- In addition, sponsors raised the issue of possibly merging the two discretionary funds into one pool of money, after a certain time in the fiscal year. The sponsors felt that this would allow other airports to access the available combined fund balances, rather than face what they perceived to be arbitrarily-constructed restrictions on airport funding. Related to this, sponsors also discussed but could not reach agreement on the issue of air carrier airports' ability to access discretionary funds, in light of the fact that those airports receive entitlement funds and have access to a mechanism for raising funds (i.e., PFCs) that reliever and GA airports do not.

Lastly, in consideration of the long-term changes in commercial air service at small community airports, the sponsors discussed a potential mechanism that could create additional flexibility in the Commonwealth's funding mechanism should the need arise. Airport sponsors are aware that many small community airports in other parts of the country have lost all air service. This has happened for a variety of reasons, but mostly related to consolidation in the industry. The airport sponsors noted that if something like this were to occur in Virginia, the existing formula – and the definitions that are used to define different categories of airports – could inadvertently create confusion and uncertainty. If an existing air carrier airport lost commercial service, how that airport would be categorized is unknown. As a result, the airport sponsors suggested that the categories of airports be redefined in a way that would allow airports to move more easily from one category to another. The sponsors felt that allowing some possible overlap in the definitions of categories would more clearly indicate into which category an air carrier airport that lost its commercial service would migrate. This is broadly similar to how the FAA holds two categories of commercial service airports – primary and nonprimary. An airport can move between those latter characterizations depending on the volume of passenger enplanements.

The suggested new categories would also incorporate a reference to broader transportation themes that are used in the surface transportation scheme, which recognize the value of transport infrastructure in terms of its global, national, and state/regional impact. The potential categories are:

a) **Airports of Global Significance (AoGS)-** Airports that have scheduled airline service and are identified as Commercial Service Airports in the VATSP.

b) **Airports of National Significance (AoNS)-** Airports that are defined as either Commercial Service or Reliever Airports in the VATSP. These airports support the national and state system by providing communities with access to national and international markets in multiple states and throughout the U.S.

c) **Airports of Regional Significance (AoRS) -** These airports support regional and local economies by connecting communities to statewide and interstate markets. They also provide GA services and activities such as emergency service, charter or critical passenger service, cargo operations, flight training, and personal flying.

## Review of Revenues, Expenditures, and Balances by Program

The total amount of funds that the VAB has received from the TTF has remained relatively constant during the five year period 2011-2015, approximately $21 million. As shown below, the CAF allocation rose slightly between 2011 and 2013 before dropping again. In constant dollars, the amount available for allocation in 2015 ($20.1 million) is actually less than the $19.7 million available in 2011.

The amount of funds that the VAB can actually allocate to airports on an annual basis regularly exceeds the amount initially allocated to the CAF from the TTF because of carry-over funds from prior years. Due to the nature of airport capital development projects, some funds available for allocation in a given fiscal year may not be spent. Consequently, some discretionary funds may carry over from one year to the next. (Air carrier airports are not obligated to return entitlement funds that are not spent in a given year; entitlement funds can be "banked.") There is some normal amount of funds that will remain unallocated because all requested grant amounts for proposed projects will not equal the exact amount of available funding. In addition, throughout the year, airports may return unused funds. For example, projects may come in under budget if construction costs were less than what had been earlier estimated, or if the final cost of acquiring land was less than that originally budgeted. In these situations, unused funds are returned when the grants are "closed out" administratively. In other cases, an airport may return the entire grant amount that had been allocated. For example, one airport received an allocation of $376,000 to fund a project to renovate hangars in FY 2011, but returned those funds in 2012. If this happens near the end of the fiscal year, the VAB may not have time to consider and award funds to another airport for a different project in that same year. As a result, at the end of every fiscal year, some funds remain unallocated, as shown below. Those funds are available for allocation in the next fiscal year. Table 7 summarizes the change in the CAF balances over time.

**Table 7: Change in Revenues, Expenditures, and Balance over Time** (in $ millions)

| | Fiscal Year | | | | |
|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2015 |
| **CAF available for allocation from TTF** | 19.7 | 21.4 | 22.0 | 21.7 | 20.1 |
| Entitlement allocations made | 10.9 | 12.0 | 12.4 | 12.2 | 11.2 |
| Air carrier / Reliever Discretionary allocations made | 6.3 | 5.9 | 6.9 | 4.2 | 9.4 |
| GA Discretionary allocations made | 2.3 | 3.6 | 3.7 | 4.1 | 3.2 |
| Debt service to VA Resources Authority | -0.3 | -0.3 | -0.3 | -0.2 | -0.2 |
| Uncommitted (Discretionary) Funds from Prior Year | 0.5 | 0.9 | 1.9 | 1.8 | 3.3 |
| **Total Available for Allocation** | **19.7** | **22.1** | **24.5** | **22.1** | **26.9** |

Source: DOAV

## Goals, Objectives, and Outcomes

CAF monies are allocated to the Commonwealth's public use airports through DOAV's Airport Capital Program. The goals of the Airport Capital Program (ACP) are to:

1. Develop a safe and efficient air transportation system that effectively complements a balanced multi-modal transportation system for the Commonwealth;
2. Provide access to the national air transportation system and global business markets;
3. Foster economic development and the growth of jobs across the Commonwealth;
4. Maximize federal funding;
5. Foster sustainability and develop resilience;
6. Develop an airport system that minimizes loss and inefficient use of natural resources and avoids the degradation of human and natural environments; and
7. Develop an air transportation system which is technically, economically, and politically feasible for implementation.

The ACP provides funding for planning and engineering projects that focus on airport facility development. In general, these projects include master plan and airport layout plan studies, environmental studies, land acquisition, airside facility design and construction, and terminal building design and construction.

It is the intent of the VAB that sponsors properly plan for airport development. Long-range planning, typically for a 20-year horizon, is conducted through the development of airport master and layout plans. Planning for the near term is guided by the six-year Airport Capital Improvement Plan (ACIP) that identifies and prioritizes projects for facility development.

### VAB Policy on Project Eligibility

The VAB has determined that state funding should be expended on specified elements of airport planning and development projects. It is VAB policy to allocate funding for airport improvements in order to:

- meet regulatory and policy obligations

- maximize benefits to the public
- improve access to airports[33]

In accordance with that policy, DOAV generally restricts how airports can use monies from different funds. Projects must meet eligibility requirements. In general, proposed projects must:

- Be shown on an airport layout plan approved by DOAV and FAA,
- Include documentation of environmental coordination and the findings and acceptance from the appropriate authorities on all environmental actions as required by federal or state law, and
- Include any required approval from the FAA if a benefit-cost analysis is required as a condition of receiving federal funds.

Only safety and preservation projects are eligible for local service airports, with the exception of terminal buildings, fuel systems, and promotion activities. Eligible safety and preservation projects include, but are not limited to:

- pavement rehabilitation
- obstruction removal to meet visual approach standards including the acquisition of easements needed for such obstruction removal
- lighting system rehabilitation

Funds from the Commonwealth cannot be used for projects that are revenue-producing to the airport (e.g., parking garages which customers pay to use, thus generating revenues to the airport).

DOAV's *Airport Program Manual* includes more specific requirements for program eligibility.

## How Have Virginia Airports Used These Funds?

Reviewing the reports of CAF allocations for the years 2011 – 2015 shows that DOAV awarded grants to Virginia airports for a wide variety of projects – both those that included federal FAA funds and those that were funded exclusively with Virginia and local funds. Grants often covered only discrete phases of multi-year projects, and ranged in size from about $2,000 to $5.5 million. Projects involving airport terminal buildings – renovations, expansion, site preparation, design, etc. – are relatively common, as are those relating to apron and taxiway rehabilitation or expansion.

Representative examples of how airports have used these funds include:

- Chesapeake Regional Airport. The VAB provided nearly $200,000 for projects to purchase a new fire suppression system and for new hangar site preparation.

- Charlottesville Albemarle Airport. The airport's main runway was 6,000' long. With that length, depending on the type of aircraft used, air carriers could be forced to restrict the number of passengers allowed on board to meet strict safety standards. So to accommodate growing passenger demand and allow airlines to use larger aircraft, the airport needed to lengthen that runway, and undertook a multi-year effort to add 800 feet.

[33] *Airport Program Manual*, p. 3-1.

Between FY 2011 and 2013, Charlottesville Albemarle received over $5.8 million for an extension of runway 3-21 (including the taxiway). The project was also supported by federal AIP funds. The Commonwealth's contribution supported additional work needed relating to the runway and leveraged the FAA AIP funds, which may not have supported the project without the Commonwealth's funding.

- Hampton Roads Executive Airport. Virginia has provided $1.3 million in funds as part of a $16 million project to replace the runway. The VAB also provided over $330,000 to purchase an easement for obstruction removal (e.g., removing or topping vegetation that adversely affects or has the potential to adversely affect the safe and efficient use of the airport, such as an instrument approach).

- Hanover County Municipal Airport. The VAB provided over $230,000 (out of a total project cost of about $900,000) for obstruction removal, along with another $42,000 for the eastside development.

- Lynchburg Regional Airport. Virginia contributed $1.8 million to replace the air traffic control tower (total cost, $4.7 million) and $1 million for an expansion of the existing aircraft ramp ($1.25 million total).

- Middle Peninsula Regional Airport. The VAB provided $1.04 million for site preparation (Fulcrum Concepts) and an access road ($1.3 million total cost) and an additional $10,000 to upgrade the airport's fueling system ($15,000 total cost).

- New Kent County Airport. The VAB supported funding of obstruction removal ($61,520 grant in support of a $769,000 total cost) and an upgrade to the airport's fueling system ($2,668 grant for a project with a total cost of $3,982).

- Norfolk International Airport. The VAB provided $10 million to renovate and improve the airport's air carrier terminal building ($12.5 million total cost) and $3.4 million to renovate the GA terminal building ($6.2 million total cost).

- Richmond Executive/Chesterfield County Airport. The VAB provided a $36,542 grant to support an environmental assessment for a runway extension ($456,775 total cost)

- Richmond International Airport. VAB grants covered $2 million for new aircraft rescue firefighting vehicles ($2.5 million total cost) and $2.1 million for an air carrier apron expansion ($14 million total cost)

- Shenandoah Valley Regional Airport. Virginia provided $2.1 million to renovate its passenger terminal facility ($2.3 million total cost) and $265,332 to rehabilitate the airport's T-hangar taxilanes ($331,665 total).

- Virginia Highlands Airport. The VAB provided nearly $900,000 to fund a project for land acquisition and the design of a runway extension ($3.8 million total cost) along with nearly $350,000 to rehabilitate the state police apron ($435,000 total cost)

- Virginia Tech/Montgomery Executive Airport. The VAB provided over $602,000 for a runway extension ($7.5 million total cost) and nearly $200,000 for a hangar site preparation design ($245,000 total cost).

Virginia's contributions to commercial airports can have long-lasting effects on the amount and type of air service offered at the facility. As indicated by the example at Charlottesville Albemarle Airport, lengthening the main runway creates capacity that would otherwise prevent some airlines from operating at the facility. State contributions may also influence the costs that airlines pay to operate at a facility by constraining facility costs. All else being equal, airlines would prefer to operate at a location where the costs of doing so are less. Similarly, making improvements to a passenger terminal can make the facility a more pleasant and attractive location, helping to encourage passengers to use a facility. (Airlines sometimes take the opposite position, arguing that passengers do not need lavish, costly facilities – that basic amenities are sufficient.)

Further, DOAV funding has the indirect effect of improving the competitiveness of the air carrier airports. Keeping cost per enplaned passenger (CPE) competitive with other states in the region is a goal of every airport, and DOAV funds help lower those costs. For example, the actual average CPE for Charlottesville Albemarle Airport for the years 2011 – 2015 was $4.12. However, if there were not DOAV funds to fulfill project needs and Charlottesville Albemarle Airport would have to look at alternative funding mechanisms, the average CPE for the period would have increased to $7.02 (an increase of over 70%). Shenandoah Valley Regional Airport also relies on the Department to fund a number of their projects. Conversely, at because of the large numbers of passenger enplanements and their ability to generate PFCs to support capital development projects, the impact of DOAV funding at Norfolk International Airport and Richmond International Airport – while still important for constraining costs -- appears to be smaller. Nonetheless, the program in Virginia can be seen to support the overarching goal of keeping airports competitive to the air service providers.

**Table 8: DOAV Funds Help Restrain Airport Costs – Estimated Average Increase in Costs per Enplaned Passenger at Air Carrier Airports without DOAV Funding**

| | 2011 - 2015 | | |
|---|---|---|---|
| Airport | Average CPE | CPE Without DOAV Funding | Pro Forma Change |
| Charlottesville Albemarle Airport | $4.12 | $7.02 | 70% |
| Lynchburg Regional Airport | $4.31 | $5.31 | 23% |
| Newport News / Williamsburg International Airport | $2.16 | $2.64 | 22% |
| Norfolk International Airport | $6.60 | $6.96 | 5% |
| Richmond International Airport | $5.97 | $6.63 | 11% |
| Roanoke/Blacksburg Regional Airport | $6.31 | $7.93 | 26% |
| Shenandoah Valley Regional Airport | $7.92 | $10.79 | 36% |

Source: Inter*VISTAS* calculations based on data from DOAV and the FAA.

Table 8 is illustrative only. It does not show the actual costs per enplaned passenger at each airport. Those costs are calculated by individual airports based on various local factors (e.g., debt service, revenues from the airport's concessions program, and agreements with airlines). The data in Table 8 were obtained from information submitted by airports to the FAA. The estimated increases in CPEs assume that DOAV funds would be replaced by local funds. Consequently, the data are most useful for demonstrating the scale of the potential increases in CPEs and the contribution that DOAV funds make toward restraining costs that would otherwise be passed on to airlines, to the detriment of their operations and passenger fares.

## Gaps in Funding Requested and Allocated

For the FAA to achieve its mission to provide the safest, most efficient aerospace system in the world,[34] the agency and its state and local partners must plan and develop a safe and efficient national airport system to satisfy the needs of U.S. aviation interests. This means that airport infrastructure must be maintained in a state of good repair, rehabilitated, and kept up to standards. Airports must also be developed and improved to accommodate growth in travel, including more passengers, cargo, and activity and larger aircraft.[35]

Over the long term, DOAV and the Commonwealth's airports recognize that developing all of the public use airports to reach desired performance objectives[36] will require funding that far exceeds what can be reasonably expected to be available in the short term.

In its most recent Virginia Air Transportation System Plan Update, DOAV estimated the differences between the costs of all identified airport system development needs versus the estimated funding available from the Commonwealth and the FAA for various planning periods (e.g., 0-5 years, 5-10 years and 10-25 years). The estimated costs of these recommended improvements were compiled from individual ACIPs and airport master plans, and by costing the necessary airport upgrades and improvements to meet objectives relating to airports' facilities, services, and equipment.[37] DOAV estimated that in the immediate 5-year planning period, annual system needs are $345 million while the total projected annual funding available from the Commonwealth and the FAA will average about $75 million. This suggests a funding gap of approximately $270 million. It should be noted that the above cost estimates do not include development costs for the two Metropolitan Washington Airport

[34] https://www.faa.gov/about/mission/

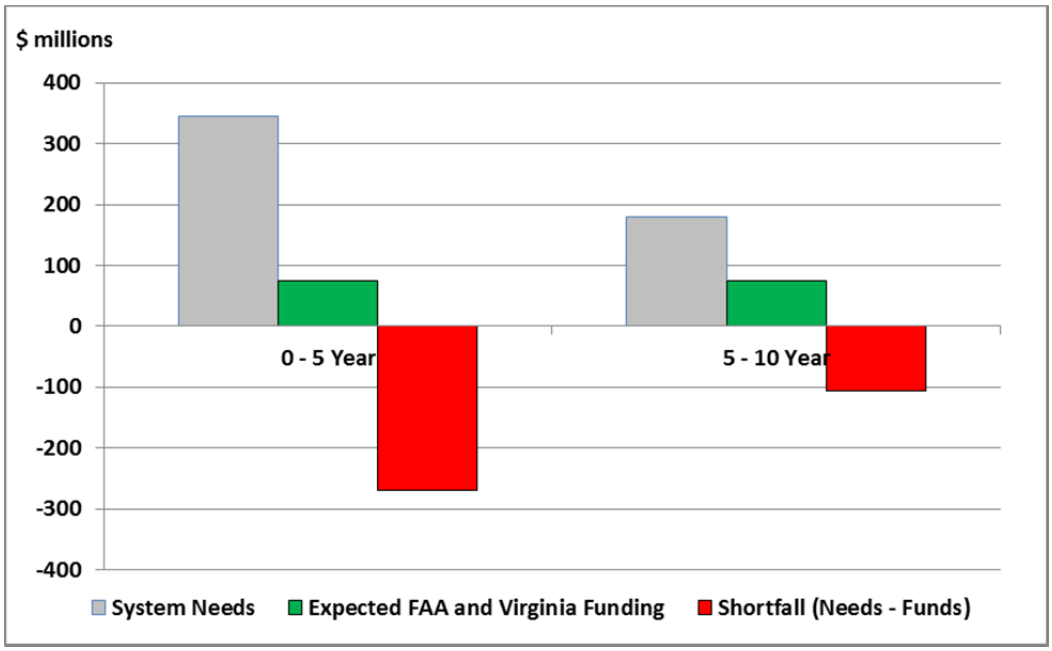
[35] See FAA NPIAS 2015, p. vi.

[36] Objectives provide directives ranging from runway lengths, to hangar needs, to suggested runway approaches. Not all airports necessarily need the same type of facilities and equipment. For example, the smallest GA airports do not need runways capable of handling (large, heavy) commercial aircraft. The objectives are stated in terms of each airport's role in Virginia's airport system.

[37] The Commonwealth established a set of objectives for each airport's facility, service, and equipment , which include directives ranging from runway lengths, to hangar needs, to suggested runway approaches. Analyzing airports' existing conditions against these objectives yields information to DOAV and system airports on improvements that are considered desirable to enhance the airport's individual performance relative to its system role. If these airport improvements are fulfilled, it is assumed that the enhanced facilities will contribute to an overall improvement in system performance.

Authority (MWAA) airports, because Washington Dulles International Airport and Ronald Reagan Washington National Airport are not eligible for discretionary funding from the Commonwealth Airport Fund. The MWAA is eligible for a $2 million annual entitlement allocation.

**Figure 8: Estimated Annual Airport Capital Development Shortfalls During Next 0-5 Year and 5-10 Year Planning Timeframes**




Source: VATSP Update, p. 365.

To provide another estimate of the "funding gap" that may have existed during the period FY 2011-2015, the project team examined the funding requests that were submitted by airports to DOAV along with the amount of funds allocated to each airport annually. The project team attempted to include in the analysis an assessment of the amounts that airports had included in their capital improvement plans. However, many airports did not submit ACIPs to DOAV, and some airports did not submit requests for projects for each year within the ACIP's six-year period, so the data are incomplete.

As a result, the analysis is inconclusive. One cannot conclude that there are significant gaps *on a year-to-year basis* between the amount of funds that airports included in their ACIPs, the amount of funds requested from the DOAV, and the amount of funds allocated in any given year. There are several reasons for this. First, DOAV does not have reliable data on the amount of funds that airports believe are needed for capital improvements, because airports do not regularly submit ACIP updates to DOAV. Second, even if a project is listed in an airport's ACIP, the sponsor may not submit a request for DOAV funding. If the sponsor is apprehensive about the availability of the needed local funding, it may opt to hold off on submitting any request. Third, an airport may identify a new priority project that it believes should be completed first. Fourth, an airport may not request discretionary grants for certain projects if the FAA has indicated that AIP funds would not be available for that budget year.

Based on the ability of the Commonwealth in obtaining AIP funds from the FAA, it appears that DOAV staff has been successful at maximizing available FAA dollars. Actual airport requests for project funding have closely matched the resources that are available.

However, there are indications that the segmentation of CAF into different funding streams may prevent some projects from being funded in a given year. Although outside of the 2011-2015 timeframe of this study, relatively current information from DOAV shows that there are imbalances in the amount of funds available for allocation in the two discretionary funds vis-à-vis the requests for funding from airports that are preventing the VAB from considering some projects for grants. As of August 2016, the Air Carrier/Reliever Discretionary Fund had a balance of $8.2 million and requests totaling $1.3 million. At the same time, the GA Discretionary Fund had a balance of $3.4 million and requests totaling $5.8 million. This is not to imply that the all of these GA airport projects meet all eligibility requirements and *should* necessarily be funded. However, if the projects would otherwise meet eligibility requirements, it is only the segmentation of the two funds that prevents the VAB from taking action to support them.

Information on each airport's identified estimated capital funding needs and the funds allocated are provided in Appendix VI.

## Do Other States' Experiences with Allocating Airport Grants Offer Lessons Learned for Virginia?

Many states face similar challenges in making decisions on how to allocate available funds. States differ in the amount of funds available, the sources of those funds, and the key criteria applied in determining how to allocate funds among their airports. To give some perspective to the processes that Virginia uses, the systems used by several nearby states – Pennsylvania, Maryland, Tennessee, Georgia, North Carolina, and South Carolina – were examined.

Like Virginia, each of these states developed an Airports System Plan (ASP) within the past decade, following guidance established by the FAA.[38] According to that guidance, the main purpose of the airport system planning process is to determine the type, extent, location, timing, and cost of the airport development needed in a state to establish a viable system of airports. FAA's guidance on airport planning recognizes inherent differences among states in their approaches to and funding of aviation. Similarly, the FAA acknowledges the evolving nature of aviation and a need to use federal, state, and local resources effectively in developing "an efficient network of airports for current and projected needs."[39] "The overall goal … is to ensure that the air transportation needs of a state … are adequately served by its system of airports, both now and in the future."[40]

This guidance laid out six key steps in developing statewide airport systems plans. These are:

1. Developing an inventory of the state's existing public-use airports
2. Identifying each airport's role in the broader statewide system -- determining how each airport currently contributes to meeting a state's air transportation needs and goals.
3. Evaluating each airport's performance relative to its functional role
4. Identifying deficiencies

[38] FAA Advisory Circular 150 / 5070 -7 The Airport System Planning Process.
[39] Ibid., sec. 201(c).
[40] Ibid., sec. 202(a).

5. Identifying specific projects that should be implemented to allow individual airports to fulfill their functional role and to increase performance to targeted levels
6. Estimating the costs that may be incurred to enable system airports to comply with established facility and service objectives

The FAA's guidance indicates that an airport's Capital Improvement Plan (CIP) is the compilation of proposed projects for an individual airport for a three- to five-year period, and includes costs, priorities, AIP eligibility, and expected funding sources for each element.

Each of the states we surveyed, like Virginia, has developed an airports strategic plan. Some are less current than Virginia's. Further, each state asks their public use airports to develop airport capital improvement plans.

### Federal State Block Grant Program

Several of these states participate in the federal State Block Grant Program. Under U.S. law (49 USC § 47128), the FAA may qualify up to 10 states to administer a block grant program. As shown in the sidebar, 10 states are participating in the program now, so there is no open slot available for any additional state. Under this program, the FAA provides funds directly to participating states that in turn, select and fund AIP projects and manage other related airport planning and development activities. The participating states also perform FAA's administrative and compliance responsibilities for the AIP at these airports.

Under the terms of the agreement between the FAA and the participating states, a state's priorities for the selection of projects to fund must be consistent with Federal priorities.[41] Only existing (not planned), non-primary public-use airports that are included in the FAA's NPIAS are eligible for SBGP funding. The block grant program does not include air-carrier airports, so participation in the program has no direct effect on air-carrier airport capital funding.

**States Participating in the FAA's State Block Grant Program**

- Georgia
- Illinois
- Michigan
- Missouri
- New Hampshire
- North Carolina
- Pennsylvania
- Tennessee
- Texas
- Wisconsin

At one time, the State of New Jersey was among the ten states that participated in the State Block Grant Program. In 2009, it dropped out of the program and returned to the federal grant program that is in place for all non-block grant states. State officials noted that although they appreciated the additional influence that the program provided in setting funding priorities and directing funding to particular airports, it determined that it was administratively too burdensome. The State Block Grant Program does not include any allowance for offsetting increased administrative costs that state aviation programs would bear (e.g., costs for staffing). In New Jersey's experience, it was unable to fund the additional needed personnel from other resources and subsequently decided that the benefits obtained in directing funding to its airports did not justify the additional costs.

The block grant program transfers the responsibility and cost of managing the AIP grant program for GA airports from the FAA offices to participating state aviation departments. If Virginia became a block

[41] FAA AC 150/5000 XX p. 2-2.

grant state, DOAV would assume unilateral decision authority for state and federal capital funds for GA airports within the Commonwealth. DOAV would receive the annual block grant from FAA, and issue sub-grants to the individual airports for capital projects. DOAV would be responsible for ensuring compliance with the federal and state grant requirements, contract regulations, environmental compliance, payment processing, close-out and all aspects of the grant program. The FAA District Office's operational responsibility in the grant area would be eliminated but the office would retain its role in oversight of the state's execution of the grant process.

The funds granted to states are limited to the state apportionment and non-primary entitlement (NPE) funds. The average annual Virginia state apportionment is approximately $4.5 million. The NPE funds are allocated to individual airports that are included in the FAA's NPIAS. (There are 37 NPIAS airports in Virginia that receive NPE funds.) If each airport obtained their maximum NPE allocation of $150,000, the total would be $5.5 million annually. Under the block grant program, the state is responsible for issuing and managing grants for the NPE funds. However, the decisions for how NPE funds can be used on projects reside with individual airports. Therefore, under a block grant program, Virginia would have decision authority for approximately $4.7 million state apportionment funds, and project management responsibility for approximately $10 million of combined state apportionment and NPE funds.

Additionally, under the block grant, states may apply to FAA for discretionary funds to support specific general aviation projects. If discretionary funds are approved by the FAA, those funds are added to the annual block grant that year for state management.

### *Advantages of the Block Grant Program*

The advantage of the State Block Grant program arises from the fact that states are given the responsibility to determine which general aviation airports receive federal state apportionment funds. A state can also apply for discretionary funds for specific projects, and if granted by FAA, the state would be responsible for managing those funds. (Since the NPE funds are earmarked for specific airports, those individual airports (not the state) have the authority to make funding decisions for the NPE funds under a block grant scenario.)

### *Disadvantages of the Block Grant Program*

Under the block grant, the states are responsible for managing AIP funds for the entire general aviation airport system within their state. The additional grant management workload is estimated to require approximately 3 to 4 additional professional staff positions (Full-time equivalents) at an estimated cost between $400,000 and $500,000 annually. Funds to pay for the additional staffing cannot be taken from the block grant funds. Therefore, the requirement to add staff would reduce funds available for other aviation programs. In addition, the general aviation airports would lose the expertise and assistance that is available and routinely provided by the FAA district office. Lastly, having the FAA district office involved with airport capital planning will result in a level of FAA ownership and advocacy for airport development plans. In the past, this has given an opportunity for DOAV and Virginia's airports to capture additional federal funds at the end of each fiscal year, and thereby maximize federal funds. Under the block grant, the FAA's role in airport planning and development, and support for additional funding, would be eliminated. Data from the FAA indicate that DOAV has been successful at obtaining additional funds from the FAA, especially near the end of the federal fiscal year, when other states have not been able to obligate these funds.

### *Opinion of Virginia Airport Managers*

The airport managers at Virginia airports have knowledge and experience with the block grant program. Some airport managers have held similar positions at airports in states that were included under the block grant program. All airport managers are aware of this program. They have discussed the program at various airport management conferences with their counterparts in other states. Representatives of each Virginia air-carrier airport and a cross section of general aviation airports were consulted during development of this report. The question of Virginia's participation in the State Block Grant Program was raised to the airport managers. There was unanimous consensus among those airport managers that the benefits of the program do not outweigh the disadvantages and cost. They recommended that Virginia not consider applying to FAA to participate in the block grant program.

## Summary of Comparative Analysis of States

After having reviewed these states' airport system plans and how they allocate state resources, the project team concluded that all are done in accordance with FAA guidance, which sets fairly strict priorities for airport development. Some restrict funds to non-commercial airports, but otherwise, these states' allocation methods are very similar to that used by the Commonwealth. The project team does not believe that any of the methods used by these states provide any immediate "lessons learned" that are obviously superior to that used by the Commonwealth. Moreover, as shown in Table 9, at a high level of aggregation, Virginia appears to be more "successful" in obtaining funds for its public use GA airports than are the other states reviewed. In 2015, for example, Virginia was able to secure more funds *per GA airport* than any of the other states examined. In terms of all airports, Virginia trailed only Maryland. (Maryland's results are unusual because that state has so few airports, and AIP funds provided to Baltimore-Washington Thurgood Marshall International Airport skew the results.) As a result, the project team does not recommend that Virginia replace its allocation methodology with that used by any of these states.

**Table 9: Summary Comparison of AIP Funding by State, 2015** (in $ millions)

| State | FAA Region | Number of Airports * | | | | Block Grant State? | | AIP 2015 | Total FAA grants 2015 | 2015 AIP per Airport | 2015 AIP per GA Airport |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Air carrier | Reliever | GA | Total | Y/N | Block Grant Funds 2015 | | | | |
| Virginia | Eastern | 9 | 8 | 31 | 48 | N | N/A | $62.85 | $62.85 | $1.31 | $0.83 |
| Maryland | Eastern | 3 | 8 | 9 | 20 | N | N/A | $32.95 | $32.95 | $1.65 | $0.69 |
| Pennsylvania | Eastern | 9 | 12 | 42 | 63 | Y | $12.10 | $53.30 | $65.00 | $1.03 | $0.39 |
| Georgia | Southern | 7 | 4 | 87 | 98 | Y | $23.60 | $46.50 | $70.10 | $0.72 | $0.46 |
| Tennessee | Southern | 5 | 5 | 59 | 69 | Y | $13.20 | $42.40 | $55.52 | $0.80 | $0.29 |
| North Carolina | Southern | 9 | 3 | 60 | 72 | Y | $18.24 | $55.60 | $70.45 | $0.98 | $0.29 |
| South Carolina | Southern | 6 | 2 | 45 | 53 | N | N/A | $63.40 | $63.40 | $1.20 | $0.51 |

Source: State documents, FAA, InterVISTAS calculations.

Note: * Only airports eligible for AIP funds included. "AIP 2015" figures are exclusive of Block Grant funds. N/A = Not applicable. State does not participate in FAA State Block Grant Program.

## Funding to the Metropolitan Washington Airports Authority

Under the Code of Virginia, the Metropolitan Washington Airports Authority (MWAA) is annually provided with a specified amount of funds, up to a maximum of $2 million. Because of this statutory requirement, DOAV treats these funds as an annual entitlement allocation to MWAA. For the period 2011 through 2015, DOAV allocated $2 million annually to MWAA, for a total of $10 million.

The two MWAA airports enplane the vast majority passengers in the Commonwealth. In 2015, Ronald Reagan Washington National and Washington Dulles International combined for 84% of all passenger enplanements in the Commonwealth.

**Table 10: 2015 Passenger Enplanements**

| Airport Name | Airport Code | 2015 Enplanements | % of total |
|---|---|---|---|
| Ronald Reagan Washington National | DCA | 11,242,375 | 43.7% |
| Washington Dulles International | IAD | 10,363,918 | 40.3% |
| Richmond International | RIC | 1,740,380 | 6.8% |
| Norfolk International | ORF | 1,515,198 | 5.9% |
| Roanoke-Blacksburg Regional | ROA | 300,181 | 1.2% |
| Charlottesville Albemarle | CHO | 274,759 | 1.1% |
| Newport News/Williamsburg International | PHF | 202,102 | 0.8% |
| Lynchburg Regional | LYH | 75,824 | 0.3% |
| Shenandoah Valley Regional | SHD | 5,534 | 0.0% |
| **TOTAL** | | **25,720,271** | |

Source: Inter*VISTAS* analysis of FAA data

Washington Dulles is the major international gateway serving the Commonwealth. In October 2016, the airport was hosting 31 airlines (including United Airlines, which operates a hub at the airport) flying to 43 different international destinations, with nearly 13,000 daily seats. In addition, 10 airlines scheduled nearly 260 daily flights to 72 domestic destinations, with over 25,000 daily seats.

According to the 2011 economic impact study completed of the Commonwealth's public use airports, Ronald Reagan Washington National and Dulles International were responsible for approximately $18.7 billion (or 60.6%) of the economic impact attributable to all 66 of Virginia's public use airport (2016 dollars). A new economic impact study is now underway to update those figures.

The entitlements awarded to MWAA for its use at Dulles are small – but important -- in relation to the airport's total capital program. In its 2016 budget, the MWAA Board approved a three-year capital construction program at Dulles of $142 million, which will provide for various airfield, utility systems and roadway projects. The capital construction program at Dulles International will be primarily debt-funded, and MWAA will seek grant funding where available.[42]

MWAA's longer-term 2015-2024 capital construction program authorizes projects at Dulles International estimated to cost approximately $155.9 million. The majority of the work focuses on rehabilitation of existing infrastructure including pavements, concourses, AeroTrain, utilities and data / telecommunications. Projects include facility modifications to increase the operational efficiencies of

[42] Metropolitan Washington Airports Authority, 2016 Budget, January 1, 2016 – December 31, 2016, p. 3.

Concourse C/D, including elevator, boiler, HVAC, electrical and fuel delivery improvements. In addition, the 2015-2024 capital construction program includes repair and maintenance of two buildings, airfield pavement panel replacement, roadway and utility system improvements and various engineering planning studies.[43]

Separately, the budget for Dulles also includes another $25.8 million in projects relating to ongoing major repair work, including airfield and roadway rehabilitation, utility system repairs, rehabilitation of buildings and equipment, in addition to MWAA initiatives.[44]

Washington Dulles International is challenged by its relatively high costs to airlines. The airport's 2016 budget noted that MWAA has taken steps to lower the costs that it must pass on to carriers operating there. The 2016 Budget results in an "average cost per enplanement (CPE) (total airline costs divided by the number of enplaned passengers)" of $13.65 at Ronald Reagan Washington National and $22.59 at Dulles International. Costs of that magnitude may be a disincentive to airlines considering starting or expanding operations at the airport.

The Commonwealth has already acknowledged the value of Washington Dulles International's economic contribution to the state and the challenges that the airport faces with its costs. Governor McAuliffe proposed and the General Assembly approved $50 million in the budget for Fiscal Year 2017-18 as an investment in the airport. The funding will increase Dulles' competitiveness by reducing the cost per customer for airlines flying in and out of the airport.

## Conclusions

The Commonwealth of Virginia benefits from an extensive system of public use airports, which provide a wide range of services, from local recreational flying and flight training to complex commercial operations served by some of the largest international airlines in the world. A study of the economic impact of these airports in 2011 found that they supported nearly 280,000 jobs with a payroll in excess of $11 billion, generating nearly $29 billion in total economic activity. Clearly, airports and aviation are major contributors to the Commonwealth's economy.

Most public funding of Virginia's air carrier, reliever, and GA airports is driven by the FAA's NPIAS, which defines the national airport system. This plan aims to maintain and improve airports throughout the nation, ensuring that the civil aviation system is safe, efficient, and supportive of economic activity and growth. In support of those objectives, between 2011 and 2015, the FAA's AIP has provided Virginia's NPIAS airports with $270 million.

Over the same period, the Commonwealth has allocated $108 million to its public use airports to preserve or improve terminals, runways, taxiways, fueling systems, and other infrastructure critical to safe and efficient flight operations. Much of that was used to fund the non-federal share of FAA AIP grants. Although some airports and their local communities might be able to generate the non-federal match required to secure the FAA funds, it is highly likely that most airports and municipalities would struggle to do so. It is clear that the Commonwealth's funding leverages the FAA money; with projects

[43] Ibid., p. 133.
[44] Ibid., p. 101.

eligible for FAA assistance, every $1 of funding that DOAV provides to Virginia's airports secures $11.25 in federal funds.

DOAV also supports airport projects that are not eligible for federal assistance. DOAV funding is instrumental in assisting airports with those projects, which are also important for maintaining or improving airport property and services offered.

Virginia's air carrier airports vary enormously, featuring some of the largest airports in the United States – Ronald Reagan Washington National and Washington Dulles International – to some of the smallest – Shenandoah Valley Regional. Because of their commercial operations and passenger activity, these airports are able to generate funds to support their capital development needs in ways that the GA airports cannot. The Code of Virginia also dedicates annual entitlements to these airports. Air carrier airports are also eligible for discretionary grants from DOAV, provided certain conditions are met. During the fiscal years 2011-2015, DOAV allocated $87.5 million (76.6 percent) of all CAF funds to air carrier airports. The reliever airports received $8.7 million (7.6 percent). The other GA airports were allocated $18.0 million for capital projects (15.8 percent).

DOAV and the VAB rely on a process for evaluating potential projects that prioritizes projects for funding approval based on a sound and clearly-stated set of criteria that reflect national and state objectives. Virginia's system for allocating scarce public resources is similar to several other states' systems that we examined. There are some notable differences – especially regarding whether the states opted to participate in the FAA's State Block Grant Program and whether or to what extent a state's aviation program provides support for its largest commercial service airports. The Block Grant program is at its maximum of 10 participants, so there is no slot for Virginia to gain access to that program. Further, considering what seems to be Virginia's success in obtaining FAA AIP funds for its airports compared to that of the other states examined, there does not seem to be a case to be made for how participation would increase the amount of federal funding coming to the Commonwealth. In addition, differences between states on providing funding to large commercial airports reflect simple differences in policy positions. It is not clear that one policy is necessarily "better" than the other. Thus, we would not say that the other states experiences that we examined clearly suggest that a different approach or tactic is warranted.

Nevertheless, it is reasonable to consider whether some potential incremental adjustments to the system of allocating funds could produce results that are possibly more in line with the policy interests of the Commonwealth. This review of Virginia's airport funding raised some issues that might stimulate a discussion among policy-makers.

- Consider the amount of funds provided to air carrier airports through entitlement allocations, the level of entitlements provided, and differences in airport practices regarding discretionary funds. Is the minimum amount of entitlement appropriate?
- Consider how different airports have apparently been more proficient at obtaining discretionary funds.
    - Is that an artifact of the snapshot of experiences examined during the period 2011-2015? Is it a reflection of staff capabilities at certain airports, to the relative disadvantage of smaller airports? Or do other underlying factors explain the difference?
    - Have some GA airports been unable to obtain needed discretionary grants because of an inherent disadvantage? If so, what has been the effect of that inability?

- Have some GA airports been unable to obtain discretionary funds because requests for those funds exceeded available balances in the one fund for which they are eligible to receive funding, while uncommitted balances sat in other funds?
- Taking into consideration the ability of air carrier airports to raise funds that GA airports simply do not have, coupled with their statutory access to receive entitlement funds, should those airports be authorized to "compete" against GA airports for discretionary funds? Would the Commonwealth achieve similar outcomes if it altered the level of entitlements but prohibited air carrier airports from requesting discretionary funds? At the workshops held with airport sponsors, some suggested that the air carrier airports be restricted in their ability to access any discretionary funds for some time (perhaps for 6 months) until other airports have first had opportunities to seek funding for their projects. However, the airport sponsors were not able to reach any consensus on whether to limit air carrier airports' access to discretionary funds. This may be a topic that the VAB could consider under its existing authority to set policies, rules and regulations.

- Do airport practices in returning some allocated funds indicate that an adjustment to the system of grant decisions is needed? Does the volume of funds that are allocated and returned prevent other airports from obtaining funds that for projects that are more "shovel-ready"?
- Have all airports received their "fair share" of state funds? What are the most appropriate means to gauge what that "fair share" might be? What accounts for the disparity in the amount of discretionary funds allocated among reliever airports – from a five-year total of $330,000 provided to Warrenton-Fauquier airport to $2.2 million allocated to Stafford Regional? Why have some GA airports received no funding from DOAV during the period? Did they not request funding? Could this indicate that those facilities already meet state and federal performance objectives (e.g., "state of good repair")?

# Appendix I: Virginia's Airports Included in the NPIAS

| City | Airport | LocID | Service Level |
|---|---|---|---|
| Abingdon | Virginia Highlands | VJI | GA |
| Blacksburg | Virginia Tech/Montgomery Executive | BCB | GA |
| Brookneal | Brookneal/Campbell County | 0V4 | GA |
| Charlottesville | Charlottesville-Albemarle | CHO | P |
| Culpeper | Culpeper Regional | CJR | GA |
| Danville | Danville Regional | DAN | GA |
| Dublin | New River Valley | PSK | GA |
| Emporia | Emporia-Greensville Regional | EMV | GA |
| Farmville | Farmville Regional | FVX | GA |
| Franklin | Franklin Municipal-John Beverly Rose | FKN | GA |
| Front Royal | Front Royal-Warren County | FRR | GA |
| Galax Hillsville | Twin County | HLX | GA |
| Grundy | Grundy Municipal | GDY | GA |
| Hot Springs | Ingalls Field | HSP | GA |
| Jonesville | Lee County | 0VG | GA |
| Leesburg | Leesburg Executive | JYO | R |
| Louisa | Louisa County/Freeman Field | LKU | GA |
| Luray | Luray Caverns | LUA | GA |
| Lynchburg | Lynchburg Regional/Preston Glenn Field | LYH | P |
| Manassas | Manassas Regional/Harry P. Davis Field | HEF | R |
| Marion/Wytheville | Mountain Empire | MKJ | GA |
| Martinsville | Blue Ridge | MTV | GA |
| Melfa | Accomack County | MFV | GA |
| Newport News | Newport News/Williamsburg International | PHF | P |
| Norfolk | Chesapeake Regional | CPK | GA |
| Norfolk | Hampton Roads Executive | PVG | R |
| Norfolk | Norfolk International | ORF | P |
| Orange | Orange County | OMH | GA |
| Petersburg | Dinwiddie County | PTB | GA |
| Quinton | New Kent County | W96 | GA |
| Richlands | Tazewell County | JFZ | GA |
| Richmond | Richmond Executive-Chesterfield County | FCI | R |
| Richmond | Richmond International | RIC | P |
| Richmond/Ashland | Hanover County Municipal | OFP | GA |
| Roanoke | Roanoke Regional/Woodrum Field | ROA | P |
| South Boston | William M Tuck | W78 | GA |
| South Hill | Mecklenburg-Brunswick Regional | AVC | GA |
| Stafford | Stafford Regional | RMN | R |
| Staunton/Waynesboro/Harrisonburg | Shenandoah Valley Regional | SHD | P |
| Suffolk | Suffolk Executive | SFQ | GA |
| Tangier | Tangier Island | TGI | GA |
| Tappahannock | Tappahannock-Essex County | XSA | GA |
| Warrenton | Warrenton-Fauquier | HWY | R |
| Washington | Ronald Reagan Washington National | DCA | P |
| Washington | Washington Dulles International | IAD | P |
| West Point | Middle Peninsula Regional | FYJ | GA |
| Winchester | Winchester Regional | OKV | GA |
| Wise | Lonesome Pine | LNP | GA |

Source: FAA NPIAS 2017-2021, Appendix A

## Appendix II: Virginia Public Use Airports Not Included in the NPIAS

1. Blackstone AAF
2. Bridgewater Airpark
3. Bumpass – Lake Anna
4. Chase City
5. Clarksville Lake Country
6. Crewe
7. Forest – New London
8. Fredericksburg - Shannon
9. Gordonsville
10. Kenbridge - Lunenburg
11. Lawrenceville
12. Lynchburg – Falwell
13. Moneta – Smith Mt. Lake
14. New Market
15. Saluda - Hummel
16. Wakefield
17. Waynesboro – Eagles Nest
18. Williamsburg-Jamestown

## Appendix III: Virginia and AIP Funding for Reliever Airports

(in $ thousands)

| Airport | Funding Source | Fiscal Year 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|
| Chesapeake Regional Airport | AIP | $266.0 | $553.5 | $135.0 | $0.0 | $2,070.0 | $3,024.5 |
| | Virginia | $62.7 | $76.3 | $221.6 | $7.2 | $12.8 | $380.6 |
| | **Total** | **$328.7** | **$629.8** | **$356.6** | **$7.2** | **$2,082.8** | **$3,405.1** |
| Richmond Executive-Chesterfield County Airport | AIP | $0.0 | $563.0 | $0.0 | $0.0 | $0.0 | $563.0 |
| | Virginia | $421.7 | $35.7 | $20.3 | $0.0 | $0.0 | $477.7 |
| | **Total** | **$421.7** | **$598.7** | **$20.3** | **$0.0** | **$0.0** | **$1,040.7** |
| Hampton Roads Executive Airport | AIP | $0.0 | $4,035.2 | $4,770.0 | $3,577.5 | $0.0 | $12,382.7 |
| | Virginia | $166.6 | $415.1 | $351.8 | $585.9 | $326.2 | $1,845.7 |
| | **Total** | **$166.6** | **$4,450.3** | **$5,121.8** | **$4,163.4** | **$326.2** | **$14,228.4** |
| Hanover County Municipal Airport | AIP | $275.5 | $493.2 | $441.0 | $0.0 | $574.6 | $1,784.3 |
| | Virginia | $165.1 | $257.9 | $139.2 | $9.4 | $42.2 | $613.8 |
| | **Total** | **$440.6** | **$751.1** | **$580.2** | **$9.4** | **$616.8** | **$2,398.1** |
| Leesburg Executive Airport | AIP | $779.0 | $3,213.0 | $924.5 | $540.0 | $360.0 | $5,816.5 |
| | Virginia | $19.8 | $282.0 | $477.4 | $216.0 | $13.8 | $1,009.1 |
| | **Total** | **$798.8** | **$3,495.0** | **$1,401.9** | **$756.0** | **$373.8** | **$6,825.6** |
| Manassas Regional Airport | AIP | $0.0 | $3,974.7 | $6,312.3 | $1,541.8 | $0.0 | $11,828.8 |
| | Virginia | $142.5 | $637.0 | $339.4 | $178.9 | $64.3 | $1,362.0 |
| | **Total** | **$142.5** | **$4,611.7** | **$6,651.7** | **$1,720.7** | **$64.3** | **$13,190.8** |
| Stafford Regional Airport | AIP | $881.1 | $523.4 | $450.0 | $0.0 | $0.0 | $1,854.5 |
| | Virginia | $35.1 | $80.6 | $1,967.4 | $73.7 | $0.0 | $2,156.8 |
| | **Total** | **$916.2** | **$604.0** | **$2,417.4** | **$73.7** | **$0.0** | **$4,011.3** |
| Warrenton-Fauquier Airport | AIP | $90.3 | $201.7 | $0.0 | $148.5 | $1,032.2 | $1,472.6 |
| | Virginia | $3.0 | $196.8 | $90.0 | $30.1 | $0.0 | $319.8 |
| | **Total** | **$93.3** | **$398.4** | **$90.0** | **$178.6** | **$1,032.2** | **$1,792.4** |
| **Grand Total** | AIP | $2,291.9 | $13,557.7 | $13,032.8 | $5,807.8 | $4,036.8 | $38,726.9 |
| | Virginia | $1,016.5 | $1,981.4 | $3,607.0 | $1,101.2 | $459.3 | $8,165.5 |
| | **Total** | **$3,308.4** | **$15,539.1** | **$16,639.8** | **$6,909.0** | **$4,496.1** | **$46,892.3** |

Source: Inter*VISTAS* analysis of data from DOAV and FAA.

## Appendix IV: Allocation of Funds by Airport – GA Airports

(in $ thousands)

| Airport | Funding Source | Fiscal Year 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|
| Accomack County | AIP | $166.3 | $0.0 | $252.0 | $819.3 | $0.0 | $1,237.5 |
| | Virginia | $9.0 | $0.0 | $0.0 | $69.6 | $40.8 | $119.4 |
| | **Total** | **$175.3** | **$0.0** | **$252.0** | **$888.8** | **$40.8** | **$1,356.9** |
| Allen C. Perkinson Municipal | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $22.1 | $0.0 | $0.0 | $22.1 |
| | **Total** | **$0.0** | **$0.0** | **$22.1** | **$0.0** | **$0.0** | **$22.1** |
| Blue Ridge Regional | AIP | $553.0 | $88.7 | $821.1 | $0.0 | $210.8 | $1,673.6 |
| | Virginia | $237.2 | $31.2 | $73.0 | $60.7 | $20.0 | $422.1 |
| | **Total** | **$790.2** | **$119.8** | **$894.1** | **$60.7** | **$230.8** | **$2,095.7** |
| Bridgewater Airpark | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $18.3 | $0.0 | $16.0 | $0.0 | $34.3 |
| | **Total** | **$0.0** | **$18.3** | **$0.0** | **$16.0** | **$0.0** | **$34.3** |
| Bridgewater Airpark | AIP | $276.3 | $0.0 | $38.5 | $79.0 | $441.9 | $835.6 |
| | Virginia | $103.8 | $0.0 | $3.4 | $0.0 | $7.0 | $114.2 |
| | **Total** | **$380.0** | **$0.0** | **$41.9** | **$79.0** | **$448.9** | **$949.9** |
| Chase City Municipal | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | **Total** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** |
| Crewe Municipal | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | **Total** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** |
| Culpeper Regional | AIP | $0.0 | $0.0 | $0.0 | $325.2 | $0.0 | $325.2 |
| | Virginia | $12.1 | $0.0 | $0.0 | $1,725.0 | $221.2 | $1,958.2 |
| | **Total** | **$12.1** | **$0.0** | **$0.0** | **$2,050.2** | **$221.2** | **$2,283.5** |
| Danville Regional | AIP | $0.0 | $10,179.2 | $0.0 | $0.0 | $161.6 | $10,340.8 |
| | Virginia | $0.0 | $738.1 | $432.8 | $80.2 | $55.3 | $1,306.4 |
| | **Total** | **$0.0** | **$10,917.3** | **$432.8** | **$80.2** | **$216.9** | **$11,647.2** |
| Dinwiddie County | AIP | $0.0 | $0.0 | $0.0 | $85.5 | $0.0 | $85.5 |
| | Virginia | $0.0 | $50.5 | $0.0 | $0.0 | $0.0 | $50.5 |
| | **Total** | **$0.0** | **$50.5** | **$0.0** | **$85.5** | **$0.0** | **$136.0** |
| Eagle's Nest | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | **Total** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** |

| Airport | Funding Source | Fiscal Year 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|
| Emporia-Greenville Regional | AIP | $2,878.5 | $0.0 | $0.0 | $0.0 | $211.5 | $3,090.0 |
| | Virginia | $111.4 | $165.9 | $157.9 | $249.6 | $35.6 | $720.3 |
| | **Total** | **$2,989.9** | **$165.9** | **$157.9** | **$249.6** | **$247.1** | **$3,810.3** |
| Falwell | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $14.8 | $1.0 | $0.0 | $15.8 |
| | **Total** | **$0.0** | **$0.0** | **$14.8** | **$1.0** | **$0.0** | **$15.8** |
| Farmville Regional | AIP | $283.8 | $0.0 | $0.0 | $214.5 | $233.1 | $731.3 |
| | Virginia | $0.0 | $26.2 | $0.9 | $0.0 | $0.0 | $27.1 |
| | **Total** | **$283.8** | **$26.2** | **$0.9** | **$214.5** | **$233.1** | **$758.4** |
| Franklin Municipal | AIP | $99.8 | $256.5 | $0.0 | $1,017.0 | $0.0 | $1,373.3 |
| | Virginia | $0.0 | $14.8 | $16.4 | $0.0 | $106.6 | $137.8 |
| | **Total** | **$99.8** | **$271.3** | **$16.4** | **$1,017.0** | **$106.6** | **$1,511.0** |
| Front Royal/Warren County | AIP | $0.0 | $25.0 | $0.0 | $270.0 | $123.3 | $418.3 |
| | Virginia | $3.6 | $55.5 | $13.2 | $0.0 | $0.0 | $72.3 |
| | **Total** | **$3.6** | **$80.5** | **$13.2** | **$270.0** | **$123.3** | **$490.6** |
| Gordonsville Municipal | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | **Total** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** |
| Grundy Municipal | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $3.8 | $14.3 | $0.0 | $0.0 | $0.0 | $18.0 |
| | **Total** | **$3.8** | **$14.3** | **$0.0** | **$0.0** | **$0.0** | **$18.0** |
| Hummel Field | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $0.0 | $0.0 | $17.2 | $17.2 |
| | **Total** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$17.2** | **$17.2** |
| Ingalls Field | AIP | $84.5 | $554.3 | $0.0 | $300.0 | $1,086.0 | $2,024.8 |
| | Virginia | $1.9 | $48.7 | $5.3 | $26.7 | $72.6 | $155.1 |
| | **Total** | **$86.4** | **$603.0** | **$5.3** | **$326.7** | **$1,158.5** | **$2,179.9** |
| Lake Anna | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $44.0 | $24.0 | $16.9 | $5.6 | $0.0 | $90.6 |
| | **Total** | **$44.0** | **$24.0** | **$16.9** | **$5.6** | **$0.0** | **$90.6** |
| Lake Country Regional | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $55.2 | $184.2 | $32.4 | $271.8 |
| | **Total** | **$0.0** | **$0.0** | **$55.2** | **$184.2** | **$32.4** | **$271.8** |
| Lawrenceville-Brunswick Municipal | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | **Total** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** |

| Airport | Funding Source | Fiscal Year 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|
| Lee County | AIP | $421.8 | $414.7 | $0.0 | $0.0 | $0.0 | $836.5 |
| | Virginia | $0.0 | $18.9 | $36.9 | $0.0 | $0.0 | $55.8 |
| | **Total** | **$421.8** | **$433.7** | **$36.9** | **$0.0** | **$0.0** | **$892.3** |
| Lonesome Pine | AIP | $0.0 | $651.2 | $0.0 | $0.0 | $333.0 | $984.2 |
| | Virginia | $0.0 | $158.2 | $57.9 | $1.6 | $0.2 | $217.8 |
| | **Total** | **$0.0** | **$809.4** | **$57.9** | **$1.6** | **$333.2** | **$1,202.0** |
| Louisa County | AIP | $1,710.0 | $0.0 | $0.0 | $117.0 | $576.0 | $2,403.0 |
| | Virginia | $7.0 | $54.0 | $47.9 | $13.2 | $77.2 | $199.2 |
| | **Total** | **$1,717.0** | **$54.0** | **$47.9** | **$130.2** | **$653.2** | **$2,602.2** |
| Lunenburg County | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | **Total** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** |
| Luray Caverns | AIP | $516.6 | $0.0 | $0.0 | $0.0 | $0.0 | $516.6 |
| | Virginia | $16.3 | $96.8 | $196.4 | $0.0 | $52.1 | $361.6 |
| | **Total** | **$532.9** | **$96.8** | **$196.4** | **$0.0** | **$52.1** | **$878.2** |
| Mecklenburg-Brunswick | AIP | $756.9 | $188.6 | $0.0 | $0.0 | $429.6 | $1,375.1 |
| Regional | Virginia | $109.1 | $18.0 | $3.2 | $0.0 | $0.0 | $130.3 |
| | **Total** | **$865.9** | **$206.6** | **$3.2** | **$0.0** | **$429.6** | **$1,505.3** |
| Middle Peninsula Regional | AIP | $813.2 | $0.0 | $999.0 | $189.0 | $0.0 | $2,001.2 |
| | Virginia | $26.2 | $237.8 | $394.9 | $643.4 | $4.6 | $1,306.8 |
| | **Total** | **$839.4** | **$237.8** | **$1,393.9** | **$832.4** | **$4.6** | **$3,308.0** |
| Mountain Empire | AIP | $137.6 | $0.0 | $40.5 | $243.9 | $301.3 | $723.3 |
| | Virginia | $850.8 | $4.6 | $0.0 | $18.4 | $174.1 | $1,047.9 |
| | **Total** | **$988.4** | **$4.6** | **$40.5** | **$262.3** | **$475.3** | **$1,771.2** |
| New Kent County | AIP | $78.5 | $745.4 | $0.0 | $0.0 | $1,677.7 | $2,501.6 |
| | Virginia | $0.0 | $12.1 | $49.5 | $2.7 | $0.0 | $64.2 |
| | **Total** | **$78.5** | **$757.4** | **$49.5** | **$2.7** | **$1,677.7** | **$2,565.8** |
| New Market | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | **Total** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** |
| New River Valley | AIP | $0.0 | $42.3 | $0.0 | $251.4 | $4,280.7 | $4,574.3 |
| | Virginia | $4.1 | $8.9 | $2.9 | $15.2 | $7.1 | $38.1 |
| | **Total** | **$4.1** | **$51.2** | **$2.9** | **$266.6** | **$4,287.8** | **$4,612.5** |
| Orange County | AIP | $493.6 | $363.3 | $66.2 | $366.3 | $0.0 | $1,289.4 |
| | Virginia | $87.9 | $535.6 | $53.1 | $310.0 | $35.7 | $1,022.3 |
| | **Total** | **$581.5** | **$898.9** | **$119.2** | **$676.3** | **$35.7** | **$2,311.6** |

| Airport | Funding Source | Fiscal Year 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|
| Shannon | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $0.0 | $0.0 | $34.7 | $34.7 |
| | **Total** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$34.7** | **$34.7** |
| Smith Mountain Lake | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | **Total** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$0.0** |
| Suffolk Executive | AIP | $3,121.2 | $0.0 | $0.0 | $216.0 | $3,640.2 | $6,977.4 |
| | Virginia | $57.4 | $78.6 | $368.7 | $53.9 | $108.4 | $667.1 |
| | **Total** | **$3,178.7** | **$78.6** | **$368.7** | **$269.9** | **$3,748.6** | **$7,644.5** |
| Tangier Island | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $0.0 | $0.0 | $8.7 | $8.7 |
| | **Total** | **$0.0** | **$0.0** | **$0.0** | **$0.0** | **$8.7** | **$8.7** |
| Tappahannock-Essex County | AIP | $0.0 | $88.1 | $0.0 | $750.0 | $0.0 | $838.1 |
| | Virginia | $0.0 | $0.0 | $2.6 | $45.0 | $111.6 | $159.1 |
| | **Total** | **$0.0** | **$88.1** | **$2.6** | **$795.0** | **$111.6** | **$997.2** |
| Tazewell County | AIP | $128.3 | $432.0 | $101.3 | $675.0 | $126.0 | $1,462.5 |
| | Virginia | $10.4 | $52.1 | $229.2 | $46.6 | $41.5 | $379.8 |
| | **Total** | **$138.7** | **$484.1** | **$330.4** | **$721.6** | **$167.5** | **$1,842.3** |
| Twin County | AIP | $0.0 | $299.6 | $0.0 | $0.0 | $117.9 | $417.5 |
| | Virginia | $0.0 | $561.4 | $713.4 | $94.9 | $47.3 | $1,417.0 |
| | **Total** | **$0.0** | **$860.9** | **$713.4** | **$94.9** | **$165.2** | **$1,834.4** |
| Virginia Highlands | AIP | $0.0 | $0.0 | $2,121.6 | $0.0 | $1,842.4 | $3,964.1 |
| | Virginia | $185.9 | $82.5 | $248.6 | $29.5 | $998.4 | $1,544.9 |
| | **Total** | **$185.9** | **$82.5** | **$2,370.2** | **$29.5** | **$2,840.9** | **$5,509.0** |
| Virginia Tech-Montgomery | AIP | $0.0 | $0.0 | $0.0 | $747.0 | $8,040.1 | $8,787.1 |
| Executive | Virginia | $178.1 | $1.0 | $168.4 | $3.3 | $455.0 | $805.8 |
| | **Total** | **$178.1** | **$1.0** | **$168.4** | **$750.3** | **$8,495.0** | **$9,592.9** |
| Wakefield Municipal | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $0.0 | $0.0 | $0.0 | $7.1 | $448.0 | $455.1 |
| | **Total** | **$0.0** | **$0.0** | **$0.0** | **$7.1** | **$448.0** | **$455.1** |
| William M. Tuck | AIP | $940.5 | $45.0 | $0.0 | $0.0 | $327.1 | $1,312.6 |
| | Virginia | $18.9 | $14.7 | $31.3 | $0.0 | $0.0 | $64.9 |
| | **Total** | **$959.4** | **$59.7** | **$31.3** | **$0.0** | **$327.1** | **$1,377.6** |
| Williamsburg / Jamestown | AIP | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 |
| | Virginia | $28.7 | $386.4 | $175.0 | $24.6 | $0.0 | $614.7 |
| | **Total** | **$28.7** | **$386.4** | **$175.0** | **$24.6** | **$0.0** | **$614.7** |

| Airport | Funding Source | Fiscal Year 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|
| Winchester Regional | AIP | $7,345.3 | $351.9 | $540.0 | $3,431.7 | $727.8 | $12,396.7 |
| | Virginia | $225.6 | $77.7 | $66.0 | $384.9 | $15.2 | $769.4 |
| | **Total** | **$7,570.9** | **$429.6** | **$606.0** | **$3,816.6** | **$743.0** | **$13,166.1** |
| **Grand Total** | AIP | $20,805.5 | $14,725.7 | $4,980.1 | $10,097.7 | $24,888.0 | $75,497.0 |
| | Virginia | $2,333.2 | $3,586.6 | $3,657.6 | $4,112.8 | $3,228.2 | $16,918.3 |
| | **Total** | **$23,138.6** | **$18,312.3** | **$8,637.7** | **$14,210.6** | **$28,116.1** | **$92,415.4** |

Source: Inter*VISTAS* analysis of data from DOAV and FAA.

# Appendix V: How Other States Allocate Funds to Public Use Airports

The project team discussed how other selected other states in the region decide how to allocate their funds. This section summarizes the information obtained via interviews with state officials and a review of state documents. It highlights the differences among the various states, including the number and type of public use airports in each state, but does not offer any conclusions about the relative effectiveness of any state funding mechanism. The project team did not include Maryland, because it includes only two air carrier airports.

## Pennsylvania

Pennsylvania's airport system ranks 11th in the country in the number of public-use aviation facilities, with 130 airports, heliports and seaplane bases. The 130 public-use facilities provide an annual economic impact of $23.6 billion to the state. The aviation industry also supports more than 300,000 jobs making it one of the largest employment sectors in the state.

Under Pennsylvania law (Act 164 of 1984), the Department of Transportation (PennDOT) is authorized to provide assistance to all public airports, including those privately-owned. Act 164 also provided for expanded airport development and real estate tax relief to public airports. Pennsylvania's responsibilities under this law are to preserve, upgrade, and, when possible, build new airport facilities. These funds are needed to ensure the growth and development of Pennsylvania's airport system.

### Funding Options for Airports

PennDOT's Bureau of Aviation (BOA) administers four grant programs for airport development: the federal Block Grant Program, the state Aviation Development Program, the state Capital Budget/Transportation Assistance Program and a Real Estate Tax Reimbursement Program. Collectively, these programs invest approximately $35 million annually into airport development.[45] Each is briefly discussed below.

#### *Block Grants*

Pennsylvania became one of the 10 FAA-designated participants in the AIP state block grant program in 1998 and assumed responsibility for programming approximately $15 million annually. The Block Grant Program is available only to general-aviation airports, airports designated as reliever airports, and non-primary commercial airline airports (those with less than 10,000 annual enplaned passengers) that are part of the FAA's NPIAS. Airports receive up to 95 percent of eligible project costs for projects included in the Federal Airport Capital Improvement Program and the state's 12-Year Transportation Program.

Under the block grant program agreement with the FAA, Pennsylvania receives a portion of its federal authorization to manage directly. Its share of the annual authorization is determined through the following methods:

- State Apportionment Funds – This state-level funding allocation is based upon a prescribed area/population formula. These funds are available to general aviation public-use airports and non-primary commercial airports (less than 10,000 annual enplanements) that are part of the FAA's NPIAS.

[45] http://www.penndot.gov/Doing-Business/Aviation/AviationGrants/Pages/default.aspx

• Non-Primary Entitlement (NPE) Funds – NPE provides annual funding of up to $150,000 for each NPIAS non-primary airport based on its documented capital needs (i.e., included in an airport's five-year Capital Improvement Program). Since NPE is specific to each airport, these funds are designated and only available to that airport. If not expended by the designated airport within a four-year period, these funds are forfeited and lost to both the airport and Pennsylvania. These funds may represent up to 90 percent of the total project costs.

### *Aviation Development Program*

The Pennsylvania Aviation Development Program is funded through the collection of state taxes on jet fuel, and the revenues are deposited into Pennsylvania's Aviation Restricted Account in order to preserve, upgrade, and, when practical, build new airport facilities. These funds are typically used to pay for up to a maximum of 75 percent of the total eligible project costs and 50 percent of the non-federal share of federally funded projects. The amount available for funding through the ADP averages approximately $6 million annually.

### *Transportation Assistance Program*

Appropriately-licensed public-use airports are eligible to receive funding from this program (also known as the Capital Improvement Program), which comes directly from the state's General Fund for the purpose of improving the state's aviation infrastructure. Projects receiving funding may receive up to 75 percent of the non-federal amount for federally eligible projects and a state reimbursement of up to 50 percent for non-federally eligible projects.

### *Real Estate Tax Reimbursement Program*

The Real Estate Tax Reimbursement Program is funded through the collection of a state tax on avgas that are deposited into the state's Aviation Restricted Account. The program allows for annual reimbursement of local real estate taxes paid by qualifying public airport owners. Reimbursement is limited to local real estate taxes paid only on those areas of airport property that have a direct aviation-related use.

Separately, Pennsylvania may also occasionally receive FAA National AIP Discretionary Funds. This funding is available for individual projects that are competitively selected against a nationwide set of proposed projects. Discretionary funding fluctuates yearly and is not formula-based.

## Planning and Evaluation of Proposed Projects

As with other states reviewed, Pennsylvania has a Statewide Airport System Plan, which assists BOA with making decisions about the performance, enhancement, and promotion of Pennsylvania's air transportation system.[46] The role of each airport within the system is defined, and standards are established for airports of various types and categories. "Projects that help airports get up to par are given a higher priority for funding."[47]

The BOA receives requests for funding airport capital improvements far in excess of the amount of funding they receive from federal and state sources. The BOA prioritizes projects based on their

[46] Pennsylvania Department of Transportation, Bureau of Aviation, PennDOT Multi-Modal Planning and Implementation Services, *State Aviation System Plan Update,* 2007 [hereafter Pennsylvania Update 2007].

[47] Pennsylvania Department of Transportation, Bureau of Aviation, *Desk Reference Guide, Aviation Development Airport Sponsor's Guide*, Pub. 405, p. 5, August 2012.

knowledge of the airports in the state system, input from airport sponsors, and the FAA's national priority ranking (NPR) system.[48] (These criteria are also incorporated into FAA Order 5100.38C, The Airport Improvement Program (AIP) Handbook.) This system generally assigns the highest ranking to projects that are most consistent with the FAA's goals and objectives.

The statewide airport system plan explains how BOA uses a process to analyze and prioritize projects that provide the greatest operational benefit to the state aviation system. As described in the system plan update,[49] this system uses a three-factor approach:

1. Define *performance criteria* that enable the BOA to identify projects that provide the greatest system operational benefit. The performance criteria vary by the type of airport (e.g., commercial service or intermediate GA). The key amenities for enhancing an airport's operational contribution include:
    - Primary runway length
    - A parallel taxiway for the primary runway
    - Based and transient aircraft parking apron
2. Define *demand versus capacity* at the Commonwealth's key airports. Demand is measured based on operations and an airport's capacity determination is made using the FAA Advisory Circular 150/5060-5, "Airport Capacity and Delay." Airport planning rules of thumb are to initiate planning for capacity enhancements when the demand-capacity ratio reaches 60%, and to initiate construction of those improvements when the demand-capacity ratio reaches 80%.
3. Develop a simple *benefits analysis* for proposed projects in terms of their operational contribution to the system. This analysis considers numerous factors, including the contribution that the project would make to overall system capacity and the project's contribution to total system economic impact

The results of these considerations are then assembled into a decision-support matrix.

Pennsylvania BOA officials also note that, when assigning an airport's NPE allocation,

- NPE will be the first source of federal grant funds allocated to an airport's highest priority project.
- Projects will not automatically be selected solely because a portion of entitlement is requested.

For projects funded only by state/local moneys, Pennsylvania relies on a quantitative scoring of each project's elements against a set of four criteria, allowing each project to be rank ordered. This system is similar to that used by other states. The criteria are:

[48] FAA Order 5100.39A, Airport Capital improvement Plan, Section 6(a), August 22, 2000. This order allows states that participate in the block grant program to use their own priority systems, provided that those systems are not inconsistent with the national priority system and that they have been reviewed by the FAA and found to be consistent with the national priority system. Section 8(a) of this order highlights that, beyond the quantitative scoring of potential projects, various qualitative factors may also weigh into decisions on which projects to support. "The numerical priority rating is intended to be used in conjunction with qualitative factors to select airport development projects."

[49] Pennsylvania Update 2007, Chapter 7, System Capacity Needs and Prioritization.

1. Airport class and activity, where projects at commercial service airports are given weights than those at GA airport, and where projects at local service GA airports receive the smallest weight.
    a. This criteria also captures difference in enplanements and aircraft at airports
2. Project elements, where those involving runways/planning are weighted higher than those involving taxiways, terminals or aprons, or landside.
3. Considerations of equity and the number of open grants ongoing at the airport, which generally favors airports that have fewer grants open.
4. Departmental goals, reflecting policy preferences first for system preservation (including safety, maintenance or infrastructure-type projects), followed by economic development (projects that produce revenue; create jobs directly or indirectly; or bring in new business to the area), and then intermodal (projects that establish a link to other modes of transportation) projects over other types of requests.

## Georgia

Georgia's aviation demand is served by a diverse mixture of airports ranging in size from small general aviation airports to Hartsfield Atlanta International, the nation's busiest commercial airport. The Georgia Aviation System is made up of 103 public use airports – 9 commercial service and 94 GA airports – that provide a range of commercial, business, personal, recreational, and training activities.

Georgia's Airports System Plan[50] (Georgia ASP) followed the general guidance from the FAA. Georgia's Aviation Programs took a strategic approach to planning for the future aviation system. The approach was performance-based, enabling Aviation Programs to determine how the airport system is currently performing, to set objectives for its future performance, and to determine the actions necessary to direct the airport system toward established goals.

The Plan segmented the airports into three categories:

- Level I – Minimum standard general aviation airport. These airports should accommodate all single-engine and some small twin-engine general aviation aircraft and have a minimum runway length of 4,000 feet.
- Level II – Business airport of local impact. These airports should be capable of accommodating all business and personnel use single and twin-engine general aviation and a broad range of the corporate/business jet fleet. For Level II airports, a minimum runway length objective of 5,000 feet is expected, and operations should also be aided by a non-precision instrument approach.
- Level III – Business airport of regional impact. These airports should be capable of accommodating commercial aircraft or a variety of business and corporate jet aircraft. Level III airports should have a minimum runway length of 5,500 feet, and operations should be aided by a precision instrument approach.

The state then developed aviation activity projections for its airports to assess the need for and phasing of future system improvements.

[50] Georgia Department of Transportation, Office of Intermodal Programs, *Georgia Aviation System Plan Update, Executive Summary*, Summer 2003.

Costs. The Georgia ASP estimated that $313 million would be required to satisfy the System Plan's performance objectives over the next 20 years.[51] (Capital development needs associated with Hartsfield-Jackson Atlanta International Airport are also not counted, as that airport is not eligible for state funding.) That figure excludes most pavement maintenance costs along with other costs that may be contained in individual airport capital improvement plans. The state recognizes that such an investment will require significant contributions from local, state and federal governments. Yet it maintains that the economic benefits associated with aviation far outweigh the investment costs.

Allocating the state's funds. Unlike many other states, Georgia's financial support for its airports originates in the state's general fund. The Georgia Airport Aid Program (GAAP) is designed to provide state funding assistance for planning, capital improvements, maintenance, and approach aids to publicly-owned, public use airports (excluding Hartsfield-Jackson Atlanta International). The state has approximately $13 million for these projects.

> FAA State Block Grant Program. Georgia is a participant in the FAA state block grant program. In the last fiscal year, the FAA provided approximately $43.5 million that the state could award to nonprimary airports under this program.
>
> Local match required. Georgia requires local communities to participate in funding airport projects. Depending on the size of the project, the mandatory local match can vary from 5% (for larger projects) up to 25% for certain smaller projects. In total, in fiscal year 2016, local governments supplied roughly $5.5 million to support airport development projects.

To allocate those scarce resources among the state's airports, the state uses a project priority system. Project priority ranking for the GAAP is designed to give:

**First Priority** to:

- Safety-related projects – first and foremost.
- Airports with less than 20 based aircraft – because they do not typically compete for federal apportionment or discretionary funds.
- Pavement maintenance or extension of the primary runway.
- Projects with an economic development component or support local or regional development initiatives, as up to 10 additional priority points can be added if sufficient documentation is provided by the airport owner.

**Secondary Priority** to:

- Airports with more than 20 based aircraft.
- Taxiway and taxi-lane projects.
- Apron projects.
- Navigational Aids.

**Lowest Priority** to:

- Commercial Service Airports – Albany, Athens, Augusta, Brunswick, Columbus, Macon, Savannah, and Valdosta. GDOT does not financially participate in projects at Hartsfield-Jackson Atlanta International Airport.

[51] Ibid, p. 21.

Georgia's Airport Aid Program established a priority ranking system for projects that are eligible for state funding assistance. The resultant project priority number is the basis for the selection of projects that will receive state funding assistance. The priority system differentiates airports based on whether they are GA or commercial facilities and the types of runways. The system assigns priority rankings to projects ranging from Runway Safety Area /Obstruction Clearing /Land Acquisition for Clearing at the smallest airports for their primary runways (priority score = 90) to access roads at commercial service airports (priority score = 23). Additional points can be added for projects that generate significant local economic impacts.[52]

In the most recent fiscal year (ending in 2016), using both the state's funds and the FAA block grant monies, Georgia funded 80 projects. Of the states 104 airports, 71 received funds – 5 commercial service airports and 66 GA airports.

## Tennessee

There are 74 public use airports in Tennessee – six commercial service airports (Chattanooga, Jackson, Knoxville, Memphis, Nashville and Tri-Cities) and 68 GA airports.

The State's aviation program is overseen by the 5-member Tennessee Aeronautics Commission (TAC), whose members represent GA and the three major geographic regions of the state – eastern, middle, and western Tennessee. The members are appointed by the governor and serve staggered 5-year terms. The staff is organizationally housed in the Tennessee Division of Aeronautics (DoA), which is part of the Department of Transportation.

Until recently, compared with other states that we examined, Tennessee was in an unusually enviable financial position. The State's director of aeronautics reported that until 2015, the state had no problem prioritizing how its funds would be awarded to competing projects because there was an excess of funds. Tennessee's aviation program was funded via a 4.5% tax on jet fuel. Due to the size of its operations at Memphis, FedEx was providing approximately two-thirds of the total funds available for distribution to the state's airports – in 2014, about $32 million out of the total $48.6 million. (As the cost of avgas and jet fuel has collapsed, however, the total amount of funds that the state can distribute to its airports has also declined. As an illustration of how far fuel prices have fallen, the spot price of Gulf Coast jet fuel hit a high of $4.81 on September 12, 2008, but was $1.40 on August 29, 2016 – a decline of 71%.) Tennessee revised its funding formula in 2015 to set a cap on the amount of funds that can be paid into the Trust Fund by any single person or corporation. That limit was $23 million in 2016 and will continue to decline to $10.5 million for the fiscal year beginning July 1, 2018.

Tennessee splits its funds between its commercial service and GA airports. Half of the available funds were set aside for projects at the state's six commercial service airports, and the other half was reserved for the GA airports. The funds for commercial service airports were allocated using a formula based mostly upon passenger enplanement and cargo tonnage. These moneys could roll over from year to year without expiration, allowing the airports to use them as they saw fit. The funds for GA airports were allocated via a process in which projects were reviewed and approved by the Tennessee Airports Commission. The funds are mostly used to as the required state and local match for federal AIP grants.

[52] Georgia Department of Transportation, Aviation Program, Georgia Airport Aid Program, Policies and Standards Guide, Sixth Edition, Feb. 2012, p. 39.

Projects to develop, improve, or maintain Tennessee's GA airport facilities are included in the state's Airport Capital Improvement Plan (ACIP), which the DoA uses to evaluate airport facilities for short and long term planning purposes. The goal of the ACIP is to provide the DoA and FAA with advance information concerning potential project planning, engineering and funding assistance needs for both the upcoming year and several years into the future. The DoA maintains a list of potential projects and evaluates airport facility needs in relation to the current ALP and available funding sources.

Airport sponsors are asked to update their lists of potential projects for the ACIP on an annual basis, with a 3-year planning horizon. Airport sponsors are expected to include in these plans only projects that are realistic (i.e., those for which local funds have already been updated or approved) and reasonable (within the scope of the current, or soon-to-be updated, Airport Layout Plan). Airports failing to provide an update to their existing CIP record by the requested deadline run the risk of having future funding requests penalized by an elimination of ranking points, at least until the time of the next CIP update.

Tennessee requires that local airports also contribute matching funds – 5% on federal AIP-funded projects.

According to the state's Director or Aeronautics, the projects that receive funding follow a relatively strict hierarchy of priorities:

1. Safety
2. Security
3. Maintenance of existing infrastructure (state of good repair)

The state requires airports to use their non-primary entitlement funds first.

## North Carolina:

North Carolina's airport system includes 72 public-owned, public use airports. The airports vary in size and function and contribute to North Carolina's aviation and economic needs in different ways. North Carolina's Airport System Plan (NCASP) categorizes those airports by the role they play in a given community, taking into account both characteristics of the associated county and airport-specific characteristics. The groupings were used to establish baseline performance of the system and to evaluate opportunities to improve the future system performance along the lines of three major categories of goals – safety, infrastructure health, and mobility.[53]

North Carolina developed 23 performance measures to operationalize those goals and assess the system's performance. Included among those 23 measures was a single measure that evaluated each airport's ability to meet facility objectives contained in the Division of Aviation's (DoA) Airport Development Plan.

To meet the target goals established in the NCASP, both airport-specific and system-wide improvements are needed. The State estimated that meeting those goals will cost an estimated $1.2 billion. That figure does not include the cost of other projects identified by individual airports that go beyond targets

[53] North Carolina Department of Transportation, Division of Aviation, North Carolina Airports System Plan, 2015 Executive Summary.

identified in the NCASP. Including those costs, the state estimates that the total financial needs of the system over the next 20 years is approximately $3.2 billion.[54]

The NC DOA receives on average about $42 million annually from the FAA and the NC Department of Transportation to distribute to airports, compared to the estimated system needs of $144 million annually to address identified needs. The funds that originate in the state mostly come from its Motor Fuel Tax and vehicle/driver registration.

Project Selection Criteria/Priority Rating. DoA uses a prioritization process to rank the importance and priority of all requested airport projects. This prioritization is a data-driven process that assigns point values based on the priority and need of the project. The priority ranking system is based on the objectives established in the NC Airport Development Plan and Airport System Plan.

North Carolina participates in the FAA's state block grant program. The Division of Aviation assumes the responsibility for administering AIP funds to airports classified as non-primary commercial service, reliever, and general aviation airports. The DoA is responsible for determining which airports will receive federal funds for various eligible projects.

In North Carolina, local communities and counties also play a large role in funding their local airport projects. The local match for both State and federal funded projects is 10% of the total project cost. While some airports can use excess revenue from airport operations and leases to fulfill their match, other airports must rely on additional public funds, especially when funding large projects.

## South Carolina

The South Carolina Department of Commerce, Division of Aeronautics' (SCDOA) produced an Airports System Plan (SCASP) in 2008 to serve as the state's 20-year plan for development at South Carolina's 60 public use airports.[55] The goal of the SCASP is to provide guidelines for future system development, which will satisfy aviation demand in a cost-effective, feasible manner, in accordance with FAA guidance.

The SCASP categorizes the state's public use airports into four groups:

- Commercial Service (SC-I). These airports provide scheduled service by airlines and/or commuter airlines, which are certificated under FAR Part 121 or 135. The airport must comply with FAR Part 139. Commercial service airport should have minimum instrument approach procedure minima of 200-½ and unobstructed approaches in accordance with FAA guidance.
- Corporate/Business (SC-II). These airports should have runways that are a minimum of 5,000 feet by 100 feet with ARC designations of B-II or C-II. The airport's annual economic impact to the State of South Carolina has been quantified within the range of $2.0 million to $222.0 million. These airports offer the full range of fuels and aviation services, and instrument approach procedures and are forecasted to have a growing population of based aircraft and annual operations. The future activity profile consists of between 30 percent and 50 percent of corporate and business operations with a smaller number of recreational or private users.
- Business / Recreation (SC-III). These airports serve small business and recreation aircraft. These airports should have runways that are a minimum of 3,600 feet by 75 feet with ARC designations

[54] Ibid., p. 13.
[55] South Carolina Department of Commerce, Division of Aeronautics, *South Carolina Airports System Plan*, 2008 (*SCASP*).

of B-I or B-II. The airport's economic impact to the state is within a range of $0.25 million to $2.0 million. A future airport profile consists of 5 percent to 20 percent of corporate and business use but a higher percentage of recreation use.

- Recreation / Local Use (SC-IV). These airports provide very limited facilities and services and may have safety or development constraints that limit their need, as well as their ability to expand. Runway lengths are typically less than 3,600 feet by 60 feet in width, with ARC designations of A-I or B-I.

Airport priority system. The SCASP recognizes that because the State will not always have adequate funds to support every eligible need at every eligible airport in the state, the SCDOA needed a system whereby all projects are properly ranked in order of system importance. The resulting system included four major categories of factors, each one with multiple elements. They are outlined and illustrated below in Table V-1. The table does not include every type of project. It includes examples to highlight how different types of projects could be scored.

**Table V-1: South Carolina Airport Project Rating System**

| | Element | Examples | Points |
|---|---|---|---|
| I. Project Justification | Safety and Security Projects | | |
| | | Obstruction removal to meet R/W end siting criteria | 60 |
| | | Rehab non-functioning lighting system | 50 |
| | | Runway safety area project | 44 |
| | | New or replacement NAVAID or visual aid | 42 |
| | Preserve/Rehab. Existing Facilities | | |
| | | Primary Runway | 40 |
| | | Apron | 38 |
| | | Terminal building | 34 |
| | New Air Service / Economic Development | | |
| | | New air service | 40 |
| | | New corporate/business with itinerant aircraft | 30 |
| | Planning Studies | | |
| | | Master Plan, ALP and updates | 30 |
| | | Regional system plans | 20 |
| | | Air service and air cargo studies | 10 |
| | Environmenal Studies | | |
| | | Environmental assessments and EIS | 40 |
| | | Curtural resource studies | 20 |
| | Upgrade to Standards | | |
| | | Primary Runway | 30 |
| | | Primary Apron | 26 |
| | | Secondary taxiway | 22 |
| | | Access roads | 18 |
| | Capacity Enhancements | | |
| | | Enhance landing area capacity | 20 |
| | | New apron or apron expansion | 16 |
| | | Auto parking expansion | 11 |
| | Land Acquisition | | |
| | | Land for obstruction removal | 50 |
| | | Land for noise control | 25 |
| | | Land for future expansion | 15 |

| | Element | Examples | Points |
|---|---|---|---|
| II. Airport Classification and Demand | Air Carrier Airports | | |
| | | Cat. I - Air Carrier Airport | 40 |
| | Annual Enplanements | | |
| | | 500,000+ | 25 |
| | | 0 - 99,999 | 10 |
| | Air Cargo (Annual Tonnage) | | |
| | | 500,000+ | 25 |
| | | 100,000 - 249,999 | 15 |
| | GA Airports | | |
| | | Cat II - Corporate | 30 |
| | | Cat IV - Recreational / Local Service | 15 |
| | Annual Operations | | |
| | | 25,000 + | 25 |
| | | 0 - 1,999 | 10 |
| | Based Aircraft | | |
| | | 100 + | 25 |
| | | 0 - 9 | 5 |
| III. Sponsor Responsibility | Airport Security | | |
| | | Approved Security Plan | 10 |
| | Airport Minimum Standards | | |
| | | Approved Minimum Standards | 10 |
| | Airport Maintenance | | |
| | | Does not meet expectation | -15 |
| | Compatible Zoning | | |
| | | Yes | 10 |
| IV. Other Relevant Factors | Federal Funding | | |
| | | Project in current year ACIP | 10 |
| | | Eligible for AIP but not requested | -15 |
| | Personal Property Tax Initiative | | |
| | | Initiative Implemented | 10 |
| | Special Conditions | | |
| | | Phase project or design approved | 50 |

Source: Inter*VISTAS* adaptation from SCASP Table 4.2-1, Priority System Scoring Values for Capital Improvement Program, p. 19.

Projects supporting safety and the preservation/rehabilitation of facilities at larger airports will be rated higher than other projects at smaller airports. The table also illustrates how projects can be penalized – for example, if an airport failed to apply for AIP aid for a project that the SCDOA believed was otherwise eligible.

The SCASP included estimates of the expected shortfall of funding for identified airport capital improvements. The SCASP estimated that the total cost of the facility requirements for all sectors of the South Carolina airports system (including non-NPIAS airports) totaled approximately $2.05 billion for the years 2009 through 2028.[56] The plan also estimated that the annual funding gap for the period would be approximately $1.3 billion. During the first 5 years of the plan, the estimated unmet financial needs approached $280 million.[57]

## Maryland

Of the states examined, Maryland has the smallest number of public use airports. The state's public use airport system includes 20 airports that are included in the NPIAS:

- 3 air carrier airports, most notably Baltimore-Washington International Thurgood Marshall Airport. The other two air carrier airports are much smaller facilities in Hagerstown and Salisbury.
- 8 reliever airports, and
- 9 "General Airports." This classification of airport serves light multi-engine and single engine aircraft flying for business, pleasure, and training.

In addition, there are another 16 "local airports" that principally serve light single-engine piston aircraft, including two "special facility" airports – a seaplane base in Havre de Grace and a public use heliport on Baltimore's inner harbor. Those facilities are not included in the NPIAS and are therefore ineligible for federal funding.

Approximately 50 percent of Maryland's public-use airports are privately owned. (Four of Maryland's NPIAS airports are privately owned). This is an important fact when considering that privately-owned public-use airports are routinely under pressure to convert to non-aviation land-use by encroaching residential and commercial development.

### System Plan Update

Maryland's last airport system update was issued in 2008. The plan is intended as a planning document designed to help the Maryland Aviation Administration (MAA) determine the type, extent, location, timing and cost of airport development needed in Maryland to preserve and expand a safe and efficient system of airports. In addition, the development plan ensures that Maryland's airport system is not only preserved, but will adequately serve the current and anticipated future needs of the State's aviation users.

Like other states, Maryland's airport system plan defined the airports' current and future roles, identified airport and system deficiencies, and provided recommendations to meet performance targets. Maryland's plan notes that airports may identify a variety of additional projects to support *local objectives*. As such, an airport's five-year capital improvement program and/or its master plan will identify the need for projects that may not meet the state's threshold for being included in the statewide system plan.

[56] *SCASP*, p. 57.
[57] Ibid., p. 58, Table 8.2-1, 20-Year Estimated Capital Improvement Needs Assessment.

Maryland concluded that its commercial airports met or exceeded all of the recommended facility objectives. Therefore, no projects were recommended at these airports. The plan did note, however, that to keep up with passenger demands and local development interests beyond the evaluation parameters of the system plan, numerous improvements were being pursued at these airports. For example, between 2008 and 2013, BWI planned to spend over $200 million on capital projects, including terminal improvements, airfield pavement program projects and runway safety area improvements, among others.

Table V-2_ presents a summary of the project costs and phasing broken down by airport categories or roles presented throughout the study. Total estimated costs for all recommended system projects amount to nearly $168 million.

**Table V-2: Maryland Airport Development Estimated Financial Needs**

| Airport Category | Short Term (1-5 years) | Medium Term (6-10 years) | Long Term (11-20 years) |
|---|---|---|---|
| Commercial Airports | $ - | $ - | $ - |
| Reliever Airports | $ 31,354,000 | $ 39,491,000 | $ 1,250,000 |
| General Airports | $ 11,091,000 | $ 25,950,000 | $ 53,004,000 |
| Local Airports | $ 3,082,000 | $ 2,545,000 | $ - |
| **GRAND TOTAL** | **$ 45,527,000** | **$ 67,986,000** | **$ 54,254,000** |

Source: Maryland Aviation System Plan 2008, Technical Report, p. 8.

## State-provided Financial Assistance

Additionally, Maryland offers some state-provided financial assistance to public use airports. In fiscal year 2017, the state allocated approximately $3 million, with 80% going to NPIAS airports. The state has two programs:

- The Statewide Aviation Grant Program offers financial assistance to public-owned/public-use airports. Special grants are available for airport projects that are either AIP eligible but not AIP funded or non-AIP eligible. Projects that are non-revenue generating and considered reasonable for the improvement, development and/or preservation of the airport are eligible for special grant funds. Special grants funding is set at 75% state participation of eligible costs. Because of limited funding in any given fiscal year, special grant requests should be scoped for completion within the same fiscal year.
- The Maryland Assistance to Private Airports (MAPA) program provides for financial grants through the State for runway and taxiway improvements, navigation aids, and other airport safety-related projects. Available funds go to those airports that are open to the public, but are privately owned and not eligible for federal aid. Under this program, the State provides $1 million or 90 percent of the funding while the airport operator provides the other 10% in projects annually.

Baltimore-Washington International Airport does not receive funds through the state grant programs, but may receive other state funding. However, the state's other two commercial service airports compete for state grant funds.

## Project Evaluation

Maryland uses a project priority rating system to evaluate proposals for grants. The highest priority rankings are assigned to projects supporting safety and security, followed by projects that would preserve the existing system, upgrade airport elements, planning, and land easement/acquisition, environmental, and airfield maintenance equipment. Projects that support the potential for economic development, that retain or attract air service, that are compatible with existing land use zoning, and that have already received tentative allocation of FAA funds received additional weighting points. In addition, air carrier airports receive more points than GA airports, as do those airports with largest numbers of based aircraft and operations.

Decisions on grant awards originate with the staff of the Maryland Aviation Administration, which ultimately recommends which projects to fund to the MAA Executive Director/CEO, who then sends it to the Secretary Maryland Department of Transportation. These senior officers are responsible for the final decision, as they have the authority to apply transportation trust fund moneys to any transportation-related project.

# Appendix VI: Estimated Gaps in Funding by Airport

## Table VI-1: Estimated Funding Gaps at Air Carrier Airports

(in $ millions)

| Airport | Funds and Identified Capital Needs | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|
| **Charlottesville Albemarle Airport** | Total Funds | $ 6.0 | $ 13.3 | $ 8.9 | $ 3.6 | $ 5.7 | $ 37.5 |
| | Capital Needs | $ 11.2 | $ 9.9 | $ 7.1 | $ 4.3 | $ 16.6 | $ 49.1 |
| | **Difference / (Shortage)** | **$ (5.2)** | **$ 3.4** | **$ 1.8** | **$ (0.7)** | **$ (10.9)** | **$ (11.6)** |
| **Lynchburg Regional Airport** | Total Funds | $ 0.8 | $ 3.7 | $ 5.1 | $ 0.9 | $ 1.9 | $ 12.3 |
| | Capital Needs | N/A | $ 0.1 | $ 1.0 | $ 2.2 | $ 3.5 | N/M |
| | **Difference / (Shortage)** | N/A | **$ 3.6** | **$ 4.1** | **$ (1.3)** | **$ (1.6)** | N/M |
| **Norfolk International Airport** | Total Funds | $ 9.6 | $ 16.7 | $ 10.6 | $ 20.5 | $ 8.0 | $ 65.4 |
| | Capital Needs | N/A | N/A | N/A | N/A | $ 8.0 | N/M |
| | **Difference / (Shortage)** | N/A | N/A | N/A | N/A | $ - | N/M |
| **Newport News / Williamsburg Int'l Airport** | Total Funds | $ 7.7 | $ 13.7 | $ 3.9 | $ 12.4 | $ 2.4 | $ 40.1 |
| | Capital Needs | $ 8.9 | $ 2.3 | $ 0.2 | $ 12.0 | $ 13.9 | $ 37.3 |
| | **Difference / (Shortage)** | **$ (1.2)** | **$ 11.4** | **$ 3.7** | **$ 0.5** | **$ (11.6)** | **$ 2.8** |
| **Richmond International Airport** | Total Funds | $ 20.6 | $ 25.7 | $ 9.5 | $ 29.6 | $ 15.5 | $ 101.0 |
| | Capital Needs | $ 18.7 | $ 22.7 | $ 31.9 | $ 43.9 | $ 5.2 | $ 122.4 |
| | **Difference / (Shortage)** | **$ 2.0** | **$ 3.0** | **$ (22.3)** | **$ (14.3)** | **$ 10.3** | **$ (21.4)** |
| **Roanoke / Blacksburg Regional Airport** | Total Funds | $ 8.1 | $ 4.4 | $ 3.3 | $ 4.3 | $ 8.6 | $ 28.7 |
| | Capital Needs | $ 16.1 | $ 14.0 | $ 8.7 | $ 4.3 | $ 8.6 | $ 51.7 |
| | **Difference / (Shortage)** | **$ (8.0)** | **$ (9.6)** | **$ (5.4)** | $ - | $ - | **$ (23.0)** |
| **Shenandoah Valley Regional Airport** | Total Funds | $ 2.2 | $ 2.2 | $ 0.6 | $ 0.8 | $ 0.2 | $ 6.0 |
| | Capital Needs | $ 2.3 | $ 1.0 | $ 1.5 | $ 2.2 | $ 2.7 | $ 9.7 |
| | **Difference / (Shortage)** | **$ (0.2)** | **$ 1.2** | **$ (0.9)** | **$ (1.4)** | **$ (2.5)** | **$ (3.8)** |

Source: InterVISTAS calculations based on DOAV and FAA data. Funding data from other tables in report.

Note: Total funds include PFCs, AIP grants, and Virginia entitlement and discretionary funding. DOAV did not have ACIP data from Lynchburg Regional Airport for 2011, from Norfolk International Airport for the years 2011-2014, and from Roanoke / Blacksburg Regional Airport for 2014 and 2015

N/A = Not Available

N/M = calculations not meaningful

## Table VI-2: Estimated Funding Gaps at Reliever Airports

(in $ thousands)

| Airport | Funds and Identified Capital Needs | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|
| Chesapeake Regional Airport | Total Funds | $ 328.7 | $ 629.8 | $ 356.6 | $ 7.2 | $ 2,082.8 | $ 3,405.1 |
| | Capital Needs | $ 1,156.3 | $ 70.9 | $ 1,625.0 | $ 100.0 | $ 2,080.0 | $ 5,032.1 |
| | **Difference / (Shortage)** | **$ (827.6)** | **$ 558.9** | **$ (1,268.4)** | **$ (92.8)** | **$ 2.8** | **$ (1,627.0)** |
| Richmond Executive-Chesterfield County Airport | Total Funds | $ 421.7 | $ 598.7 | $ 20.3 | $ - | $ - | $ 1,040.7 |
| | Capital Needs | $ 251.6 | $ 630.0 | $ 60.9 | N/A | $ 975.0 | N/M |
| | **Difference / (Shortage)** | **$ 170.1** | **$ (31.3)** | **$ (40.6)** | N/A | **$ (975.0)** | N/M |
| Hampton Roads Executive Airport | Total Funds | $ 166.64 | $ 4,450.32 | $ 5,121.76 | $ 4,163.43 | $ 326.23 | $ 14,228.38 |
| | Capital Needs | $ 12,732.9 | $ 9,699.7 | $ 6,795.8 | $ 6,950.0 | $ 365.0 | $ 36,543.4 |
| | **Difference / (Shortage)** | **$ (12,566.3)** | **$ (5,249.4)** | **$ (1,674.0)** | **$ (2,786.6)** | **$ (38.8)** | **$ (22,315.0)** |
| Hanover County Municipal Airport | Total Funds | $ 440.6 | $ 751.1 | $ 580.2 | $ 9.4 | $ 616.8 | $ 2,398.1 |
| | Capital Needs | $ 4,290.0 | $ 275.0 | $ 5,084.9 | $ 4,547.0 | $ 500.0 | $ 14,696.9 |
| | **Difference / (Shortage)** | **$ (3,849.4)** | **$ 476.1** | **$ (4,504.7)** | **$ (4,537.6)** | **$ 116.8** | **$ (12,298.8)** |
| Leesburg Executive Airport | Total Funds | $ 798.8 | $ 3,495.0 | $ 1,401.9 | $ 756.0 | $ 373.8 | $ 6,825.6 |
| | Capital Needs | $ 798.8 | $ 2,420.0 | $ 2,785.0 | $ 187.4 | $ 160.0 | $ 6,351.2 |
| | **Difference / (Shortage)** | **$ -** | **$ 1,075.0** | **$ (1,383.1)** | **$ 568.7** | **$ 213.8** | **$ 474.4** |
| Manassas Regional Airport | Total Funds | $ 142.45 | $ 4,611.67 | $ 6,651.70 | $ 1,720.68 | $ 64.27 | $ 13,190.78 |
| | Capital Needs | $ 1,263.0 | $ 8,012.2 | $ 4,211.0 | $ 28.0 | $ 763.0 | $ 14,277.21 |
| | **Difference / (Shortage)** | **$ (1,120.5)** | **$ (3,400.5)** | **$ 2,440.7** | **$ 1,692.7** | **$ (698.7)** | **$ (1,086.4)** |
| Stafford Regional Airport | Total Funds | $ 916.2 | $ 604.0 | $ 2,417.4 | $ 73.7 | $ - | $ 4,011.3 |
| | Capital Needs | $ 1,551.4 | $ 1,100.0 | $ 4,271.0 | $ 3,220.0 | $ 1,442.0 | $ 11,584.4 |
| | **Difference / (Shortage)** | **$ (635.2)** | **$ (496.0)** | **$ (1,853.6)** | **$ (3,146.3)** | **$ (1,442.0)** | **$ (7,573.1)** |
| Warrenton-Fauquier Airport | Total Funds | $ 93.3 | $ 398.4 | $ 90.0 | $ 178.6 | $ 1,032.2 | $ 1,792.4 |
| | Capital Needs | $ 200.0 | $ 519.1 | $ 1,534.3 | $ 3,180.0 | $ 3,092.5 | $ 8,525.8 |
| | **Difference / (Shortage)** | **$ (106.8)** | **$ (120.6)** | **$ (1,444.3)** | **$ (3,001.4)** | **$ (2,060.3)** | **$ (6,733.4)** |

Source: Inter*VISTAS* calculations based on DOAV and FAA data. Funding data from other tables in report.

Note: DOAV did not have ACIP data for all airports for all years. Total funds include AIP grants and Virginia discretionary funding.

N/A = Not Available

N/M = calculations not meaningful

## Table IV-3: Estimated Funding Gaps at GA Airports

(in $ thousands)

| Airport | Funds and Identified Capital Needs | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|
| Accomack County | Total Funds | $ 175.3 | $ - | $ 252.0 | $ 888.8 | $ 40.8 | $ 1,356.9 |
| | Capital Needs | $ 180.0 | $ 190.0 | $ 190.0 | $ 720.8 | $ 76.0 | $ 1,356.8 |
| | **Difference / (Shortage)** | **$ (4.8)** | **$ (190.0)** | **$ 62.0** | **$ 168.0** | **$ (35.2)** | **$ 0.1** |
| Allen C. Perkinson Municipal | Total Funds | $ - | $ - | $ 22.1 | $ - | $ - | $ 22.1 |
| | Capital Needs | N/A | N/A | $ 22.1 | N/A | $ 45.9 | N/M |
| | **Difference / (Shortage)** | N/A | N/A | **$ -** | N/A | **$ (45.9)** | N/M |
| Blue Ridge Regional | Total Funds | $ 790.2 | $ 119.8 | $ 894.1 | $ 60.7 | $ 230.8 | $ 2,095.7 |
| | Capital Needs | $ 87.1 | $ 1,300.0 | $ 3,690.0 | $ 8,655.3 | $ 1,010.8 | $ 14,743.1 |
| | **Difference / (Shortage)** | **$ 703.1** | **$ (1,180.2)** | **$ (2,795.9)** | **$ (8,594.6)** | **$ (780.0)** | **$ (12,647.5)** |
| Bridgewater Airpark | Total Funds | $ - | $ 18.3 | $ - | $ 16.0 | $ - | $ 34.3 |
| | Capital Needs | N/A | $ 18.3 | $ 86.0 | $ - | $ 86.0 | N/M |
| | **Difference / (Shortage)** | N/A | **$ -** | **$ (86.0)** | **$ 16.0** | **$ (86.0)** | N/M |
| Bridgewater Airpark | Total Funds | $ 380.0 | $ - | $ 41.9 | $ 79.0 | $ 448.9 | $ 949.9 |
| | Capital Needs | $ 349.1 | N/A | $ 60.0 | $ 100.0 | $ 610.0 | N/M |
| | **Difference / (Shortage)** | **$ 31.0** | N/A | **$ (18.1)** | **$ (21.0)** | **$ (161.1)** | N/M |
| Chase City Municipal | Total Funds | $ - | $ - | $ - | $ - | $ - | $ - |
| | Capital Needs | N/A | N/A | $ 200.0 | N/A | $ 4.5 | N/M |
| | **Difference / (Shortage)** | N/A | N/A | **$ (200.0)** | N/A | **$ (4.5)** | N/M |
| Crewe Municipal | Total Funds | $ - | $ - | $ - | $ - | $ - | $ - |
| | Capital Needs | N/A | N/A | N/A | N/A | N/A | N/M |
| | **Difference / (Shortage)** | N/A | N/A | N/A | N/A | N/A | N/M |
| Culpeper Regional | Total Funds | $ 12.1 | $ - | $ - | $ 2,050.2 | $ 221.2 | $ 2,283.5 |
| | Capital Needs | $ 400.0 | NA | $ 2,368.8 | $ 1,580.0 | $ 1,207.0 | $ 5,555.8 |
| | **Difference / (Shortage)** | **$ (387.9)** | **NA** | **$ (2,368.8)** | **$ 470.2** | **$ (985.8)** | **$ (3,272.4)** |
| Danville Regional | Total Funds | $ - | $ 10,917.3 | $ 432.8 | $ 80.2 | $ 216.9 | $ 11,647.2 |
| | Capital Needs | N/A | $ 8,138.8 | $ 4,465.7 | $ 272.5 | $ 1,001.0 | $ 13,878.0 |
| | **Difference / (Shortage)** | N/A | **$ 2,778.5** | **$ (4,032.9)** | **$ (192.3)** | **$ (784.1)** | **$ (2,230.8)** |
| Dinwiddie County | Total Funds | $ - | $ 50.5 | $ - | $ 85.5 | $ - | $ 136.0 |
| | Capital Needs | $ 1,572.2 | $ 631.6 | $ 575.0 | $ 666.7 | $ 791.7 | $ 4,237.2 |
| | **Difference / (Shortage)** | **$ (1,572.2)** | **$ (581.1)** | **$ (575.0)** | **$ (581.2)** | **$ (791.7)** | **$ (4,101.1)** |
| Eagle's Nest | Total Funds | N/A | N/A | N/A | N/A | N/A | N/M |
| | Capital Needs | N/A | N/A | N/A | N/A | N/A | N/M |
| | **Difference / (Shortage)** | N/A | N/A | N/A | N/A | N/A | N/M |

| Airport | Funds and Identified Capital Needs | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|
| Emporia-Greenville Regional | Total Funds | $ 2,989.9 | $ 165.9 | $ 157.9 | $ 249.6 | $ 247.1 | $ 3,810.3 |
| | Capital Needs | $ 3,738.0 | $ 225.0 | $ 300.0 | $ 105.6 | $ 268.0 | $ 4,636.6 |
| | **Difference / (Shortage)** | **$ (748.1)** | **$ (59.1)** | **$ (142.1)** | **$ 144.0** | **$ (20.9)** | **$ (826.3)** |
| Falwell | Total Funds | $ - | $ - | $ 14.8 | $ 1.0 | $ - | $ 15.8 |
| | Capital Needs | N/A | N/A | $ 14.8 | $ 1.0 | $ - | $ 15.8 |
| | **Difference / (Shortage)** | N/A | N/A | $ - | $ - | $ - | $ - |
| Farmville Regional | Total Funds | $ 283.8 | $ 26.2 | $ 0.9 | $ 214.5 | $ 233.1 | $ 758.4 |
| | Capital Needs | $ 237.9 | $ 645.0 | $ 0.9 | $ 214.5 | $ 233.1 | $ 1,331.4 |
| | **Difference / (Shortage)** | **$ 45.9** | **$ (618.8)** | $ - | $ - | $ - | **$ (572.9)** |
| Franklin Municipal | Total Funds | $ 99.8 | $ 271.3 | $ 16.4 | $ 1,017.0 | $ 106.6 | $ 1,511.0 |
| | Capital Needs | N/A | N/A | $ 315.0 | $ 900.0 | $ 133.5 | N/M |
| | **Difference / (Shortage)** | N/A | N/A | **$ (298.6)** | **$ 117.0** | **$ (26.9)** | N/M |
| Front Royal/Warren County | Total Funds | $ 3.6 | $ 80.5 | $ 13.2 | $ 270.0 | $ 123.3 | $ 490.6 |
| | Capital Needs | $ 151.7 | $ 615.0 | $ 187.0 | $ 999.4 | $ - | $ 1,953.2 |
| | **Difference / (Shortage)** | **$ (148.1)** | **$ (534.5)** | **$ (173.8)** | **$ (729.4)** | **$ 123.3** | **$ (1,462.5)** |
| Gordonsville Municipal | Total Funds | $ - | $ - | $ - | $ - | $ - | $ - |
| | Capital Needs | $ 500.0 | N/A | $ 120.9 | $ 110.0 | N/A | N/M |
| | **Difference / (Shortage)** | **$ (500.0)** | N/A | **$ (120.9)** | **$ (110.0)** | N/A | N/M |
| Grundy Municipal | Total Funds | $ 3.8 | $ 14.3 | $ - | $ - | $ - | $ 18.0 |
| | Capital Needs | $ 125.0 | $ 100.0 | $ 1,250.0 | NA | $ 1,250.0 | N/M |
| | **Difference / (Shortage)** | **$ (121.3)** | **$ (85.8)** | **$ (1,250.0)** | **NA** | **$ (1,250.0)** | N/M |
| Hummel Field | Total Funds | $ - | $ - | $ - | $ - | $ 17.2 | $ 17.2 |
| | Capital Needs | N/A | N/A | N/A | N/A | N/A | N/M |
| | **Difference / (Shortage)** | N/A | N/A | N/A | N/A | N/A | N/M |
| Ingalls Field | Total Funds | $ 86.4 | $ 603.0 | $ 5.3 | $ 326.7 | $ 1,158.5 | $ 2,179.9 |
| | Capital Needs | $ 40.0 | $ 648.0 | $ 206.7 | $ 30.0 | $ 1,310.0 | $ 2,234.7 |
| | **Difference / (Shortage)** | **$ 46.4** | **$ (45.0)** | **$ (201.4)** | **$ 296.7** | **$ (151.5)** | **$ (54.8)** |
| Lake Anna | Total Funds | $ 44.0 | $ 24.0 | $ 16.9 | $ 5.6 | $ - | $ 90.6 |
| | Capital Needs | $ 112.0 | $ 307.0 | $ 16.9 | $ 40.0 | $ 50.0 | $ 525.9 |
| | **Difference / (Shortage)** | **$ (68.0)** | **$ (283.0)** | **$ -** | **$ (34.4)** | **$ (50.0)** | **$ (435.4)** |
| Lake Country Regional | Total Funds | $ - | $ - | $ 55.2 | $ 184.2 | $ 32.4 | $ 271.8 |
| | Capital Needs | $ 60.0 | $ 85.0 | $ 750.0 | $ 10.0 | $ 470.0 | $ 1,375.0 |
| | **Difference / (Shortage)** | **$ (60.0)** | **$ (85.0)** | **$ (694.8)** | **$ 174.2** | **$ (437.6)** | **$ (1,103.2)** |
| Lawrenceville-Brunswick Municipal | Total Funds | $ - | $ - | $ - | $ - | $ - | $ - |
| | Capital Needs | $ 800.0 | $ 30.0 | N/A | $ 775.0 | N/A | N/M |
| | **Difference / (Shortage)** | **$ (800.0)** | **$ (30.0)** | N/A | **$ (775.0)** | N/A | N/M |

| Airport | Funds and Identified Capital Needs | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|
| Lee County | Total Funds | $ 421.8 | $ 433.7 | $ 36.9 | $ - | $ - | $ 892.3 |
| | Capital Needs | $ 615.8 | $ 631.6 | $ 364.0 | NA | $ 600.0 | N/M |
| | **Difference / (Shortage)** | **$ (194.0)** | **$ (197.9)** | **$ (327.1)** | **NA** | **$ (600.0)** | N/M |
| Lonesome Pine | Total Funds | $ - | $ 809.4 | $ 57.9 | $ 1.6 | $ 333.2 | $ 1,202.0 |
| | Capital Needs | $ 1,400.0 | $ 1,475.0 | $ 666.6 | $ 75.0 | $ 333.2 | $ 3,949.8 |
| | **Difference / (Shortage)** | **$ (1,400.0)** | **$ (665.6)** | **$ (608.7)** | **$ (73.4)** | $ - | **$ (2,747.8)** |
| Louisa County | Total Funds | $ 1,717.0 | $ 54.0 | $ 47.9 | $ 130.2 | $ 653.2 | $ 2,602.2 |
| | Capital Needs | $ 200.0 | $ 2,000.0 | $ 415.0 | $ 786.7 | $ 1,750.0 | $ 5,151.7 |
| | **Difference / (Shortage)** | **$ 1,517.0** | **$ (1,946.0)** | **$ (367.1)** | **$ (656.5)** | **$ (1,096.8)** | **$ (2,549.4)** |
| Lunenburg County | Total Funds | $ - | $ - | $ - | $ - | $ - | $ - |
| | Capital Needs | N/A | N/A | N/A | $ 25.0 | $ 25.0 | N/M |
| | **Difference / (Shortage)** | N/A | N/A | N/A | **$ (25.0)** | **$ (25.0)** | N/M |
| Luray Caverns | Total Funds | $ 532.9 | $ 96.8 | $ 196.4 | $ - | $ 52.1 | $ 878.2 |
| | Capital Needs | $ 405.0 | $ 250.0 | $ 2,251.7 | $ 540.0 | $ 350.0 | $ 3,796.7 |
| | **Difference / (Shortage)** | **$ 127.9** | **$ (153.2)** | **$ (2,055.3)** | **$ (540.0)** | **$ (297.9)** | **$ (2,918.5)** |
| Mecklenburg-Brunswick Regional | Total Funds | $ 865.9 | $ 206.6 | $ 3.2 | $ - | $ 429.6 | $ 1,505.3 |
| | Capital Needs | $ 730.0 | $ 200.0 | $ 3.2 | $ 100.0 | $ 429.6 | $ 1,462.8 |
| | **Difference / (Shortage)** | **$ 135.9** | **$ 6.6** | $ - | **$ (100.0)** | $ - | **$ (42.5)** |
| Middle Peninsula Regional | Total Funds | $ 839.4 | $ 237.8 | $ 1,393.9 | $ 832.4 | $ 4.6 | $ 3,308.0 |
| | Capital Needs | $ 1,275.1 | $ 50.0 | $ 2,243.7 | $ 651.7 | $ 166.7 | $ 4,387.1 |
| | **Difference / (Shortage)** | **$ (435.7)** | **$ 187.8** | **$ (849.8)** | **$ 180.7** | **$ (162.1)** | **$ (1,079.1)** |
| Mountain Empire | Total Funds | $ 988.4 | $ 4.6 | $ 40.5 | $ 262.3 | $ 475.3 | $ 1,771.2 |
| | Capital Needs | $ 2,470.0 | $ 1,941.0 | $ 575.0 | $ 750.0 | $ 150.0 | $ 5,886.0 |
| | **Difference / (Shortage)** | **$ (1,481.6)** | **$ (1,936.4)** | **$ (534.5)** | **$ (487.7)** | **$ 325.3** | **$ (4,114.8)** |
| New Kent County | Total Funds | $ 78.5 | $ 757.4 | $ 49.5 | $ 2.7 | $ 1,677.7 | $ 2,565.8 |
| | Capital Needs | $ 225.0 | $ 1,095.1 | $ 2,320.8 | $ 3,160.0 | $ 166.7 | $ 6,967.6 |
| | **Difference / (Shortage)** | **$ (146.5)** | **$ (337.7)** | **$ (2,271.3)** | **$ (3,157.3)** | **$ 1,511.0** | **$ (4,401.8)** |
| New Market | Total Funds | $ - | $ - | $ - | $ - | $ - | $ - |
| | Capital Needs | N/A | N/A | N/A | N/A | N/A | N/M |
| | **Difference / (Shortage)** | N/A | N/A | N/A | N/A | N/A | N/M |
| New River Valley | Total Funds | $ 4.1 | $ 51.2 | $ 2.9 | $ 266.6 | $ 4,287.8 | $ 4,612.5 |
| | Capital Needs | $ 306.6 | $ 459.7 | $ 80.0 | $ 625.0 | $ 400.0 | $ 1,871.3 |
| | **Difference / (Shortage)** | **$ (302.5)** | **$ (408.5)** | **$ (77.1)** | **$ (358.4)** | **$ 3,887.8** | **$ 2,741.2** |
| Orange County | Total Funds | $ 581.5 | $ 898.9 | $ 119.2 | $ 676.3 | $ 35.7 | $ 2,311.6 |
| | Capital Needs | $ 306.6 | $ 459.7 | $ 80.0 | $ 625.0 | $ 400.0 | $ 1,871.3 |
| | **Difference / (Shortage)** | **$ 274.9** | **$ 439.2** | **$ 39.2** | **$ 51.3** | **$ (364.3)** | **$ 440.3** |

| Airport | Funds and Identified Capital Needs | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|
| Shannon | Total Funds | $ - | $ - | $ - | $ - | $ 34.7 | $ 34.7 |
| | Capital Needs | N/A | N/A | N/A | N/A | N/A | N/M |
| | **Difference / (Shortage)** | N/A | N/A | N/A | N/A | N/A | N/M |
| Smith Mountain Lake | Total Funds | $ - | $ - | $ - | $ - | $ - | $ - |
| | Capital Needs | N/A | N/A | N/A | N/A | $ 40.1 | N/M |
| | **Difference / (Shortage)** | N/A | N/A | N/A | N/A | **$ 40.1** | N/M |
| Suffolk Executive | Total Funds | $ 3,178.7 | $ 78.6 | $ 368.7 | $ 269.9 | $ 3,748.6 | $ 7,644.5 |
| | Capital Needs | $ 3,206.6 | $ 2,210.0 | $ 290.0 | $ 1,590.0 | $ 3,405.0 | $ 10,701.6 |
| | **Difference / (Shortage)** | **$ (27.9)** | **$ (2,131.4)** | **$ 78.7** | **$ (1,320.1)** | **$ 343.6** | **$ (3,057.1)** |
| Tangier Island | Total Funds | $ - | $ - | $ - | $ - | $ 8.7 | $ 8.7 |
| | Capital Needs | N/A | $ 250.0 | N/A | N/A | N/A | N/M |
| | **Difference / (Shortage)** | N/A | **$ (250.0)** | N/A | N/A | N/A | N/M |
| Tappahannock-Essex County | Total Funds | $ - | $ 88.1 | $ 2.6 | $ 795.0 | $ 111.6 | $ 997.2 |
| | Capital Needs | $ 25.0 | $ 1,157.9 | $ 2,230.0 | $ 440.0 | $ 111.6 | $ 3,964.5 |
| | **Difference / (Shortage)** | **$ (25.0)** | **$ (1,069.8)** | **$ (2,227.4)** | **$ 355.0** | **$ -** | **$ (2,967.3)** |
| Tazewell County | Total Funds | $ 138.7 | $ 484.1 | $ 330.4 | $ 721.6 | $ 167.5 | $ 1,842.3 |
| | Capital Needs | $ 240.0 | $ 175.0 | $ 952.0 | $ 477.8 | $ 450.0 | $ 2,294.8 |
| | **Difference / (Shortage)** | **$ (101.3)** | **$ 309.1** | **$ (621.6)** | **$ 243.8** | **$ (282.5)** | **$ (452.5)** |
| Twin County | Total Funds | $ - | $ 860.9 | $ 713.4 | $ 94.9 | $ 165.2 | $ 1,834.4 |
| | Capital Needs | N/A | $ 600.0 | $ 1,725.2 | $ 30.0 | $ 281.2 | $ 2,636.4 |
| | **Difference / (Shortage)** | N/A | **$ 260.9** | **$ (1,011.8)** | **$ 64.9** | **$ (116.0)** | **$ (802.0)** |
| Virginia Highlands | Total Funds | $ 185.9 | $ 82.5 | $ 2,370.2 | $ 29.5 | $ 2,840.9 | $ 5,509.0 |
| | Capital Needs | $ 10,166.0 | $ 1,926.3 | $ 464.0 | $ 575.0 | $ 4,000.0 | $ 17,131.3 |
| | **Difference / (Shortage)** | **$ (9,980.1)** | **$ (1,843.8)** | **$ 1,906.2** | **$ (545.5)** | **$ (1,159.1)** | **$ (11,622.4)** |
| Virginia Tech-Montgomery Executive | Total Funds | $ 178.1 | $ 1.0 | $ 168.4 | $ 750.3 | $ 8,495.0 | $ 9,592.9 |
| | Capital Needs | $ 8,788.7 | $ 915.0 | $ 5,730.2 | $ 4,482.9 | $ 7,234.2 | $ 27,151.0 |
| | **Difference / (Shortage)** | **$ (8,610.6)** | **$ (914.0)** | **$ (5,561.8)** | **$ (3,732.6)** | **$ 1,260.9** | **$ (17,558.1)** |
| Wakefield Municipal | Total Funds | $ - | $ - | $ - | $ 7.1 | $ 448.0 | $ 455.1 |
| | Capital Needs | N/A | N/A | N/A | $ 7.1 | $ 170.0 | $ 177.1 |
| | **Difference / (Shortage)** | N/A | N/A | N/A | **$ -** | **$ 278.0** | **$ 278.0** |
| William M. Tuck | Total Funds | $ 959.4 | $ 59.7 | $ 31.3 | $ - | $ 327.1 | $ 1,377.6 |
| | Capital Needs | $ 3,490.0 | $ 2,018.4 | $ 683.3 | $ 1,390.0 | $ 268.3 | $ 7,850.1 |
| | **Difference / (Shortage)** | **$ (2,530.6)** | **$ (1,958.8)** | **$ (652.0)** | **$ (1,390.0)** | **$ 58.8** | **$ (6,472.5)** |
| Williamsburg / Jamestown | Total Funds | $ 28.7 | $ 386.4 | $ 175.0 | $ 24.6 | $ - | $ 614.7 |
| | Capital Needs | $ 178.5 | $ 300.0 | $ 718.8 | $ 530.0 | $ 100.0 | $ 1,827.3 |
| | **Difference / (Shortage)** | **$ (149.8)** | **$ 86.4** | **$ (543.8)** | **$ (505.4)** | **$ (100.0)** | **$ (1,212.6)** |
| Winchester Regional | Total Funds | $ 7,570.9 | $ 429.6 | $ 606.0 | $ 3,816.6 | $ 743.0 | $ 13,166.1 |
| | Capital Needs | $ 7,535.0 | $ 720.0 | $ 454.6 | $ 4,971.2 | $ 1,125.8 | $ 14,806.6 |
| | **Difference / (Shortage)** | **$ 35.9** | **$ (290.4)** | **$ 151.4** | **$ (1,154.6)** | **$ (382.9)** | **$ (1,640.5)** |

Source: Inter*VISTAS* calculations based on DOAV and FAA data. Funding data from other tables in report.
Note: DOAV did not have ACIP data for all airports for all years. Total funds = AIP and Virginia discretionary funds.
N/A = Not Available. N/M = Not meaningful.

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