

3. FACILITIES OBJECTIVES ANALYSIS

3.1 Chapter Overview

This chapter identifies the airport system needs to accommodate the forecasted demand results highlighted in the previous chapter. The facilities objectives analysis considers several measurements in order to establish a performance baseline for the individual system airports included in the VATSP. The ultimate results of this chapter identify specific actions that are desirable for each airport to implement and subsequently increase its individual level of performance within the system.

It is important to note that the findings from this analysis for all airports and any facility, service, or equipment need, would require local or bottom up justification from an airport master plan or ALP. The information contained in this chapter does not in any way constitute a commitment on behalf of either the Virginia Department of Aviation (DOAV) or the Federal Aviation Administration (FAA) to fund any of these projects. It is possible that some of the projects identified in this chapter may not be feasible due to financial, environmental, man-made or natural constraints, or lack of local justification or interest in the project.

Before the system performance was measured and needs were determined, the airport classification system utilized in the 1990 and 2003 VATSP Update was evaluated to ensure functionality in this system plan. This evaluation included:

- Definitions and discussions related to past and current roles
- A comparison of Virginia airport roles to the current FAA National Plan of Integrated Airport Systems (NPIAS) and FAA Asset roles

In addition, the following two factors were assessed to further review and document individual airport performance:

- Airports meeting 2013 Virginia licensing standards found in the Virginia Administrative Code under 24 VAC 5-20¹
- Airports meeting Virginia's criteria for the Basic Airport Unit²

Facility Service and Equipment (FS&E) minimum objectives, established specifically for this VATSP Update, were used to determine airport-specific project needs. The results of this analysis are illustrated in **Tables 3-10 to 3-36** at the end of this chapter. As stated above, any of the projects identified in this chapter must be justified during the airport planning process, which undergoes a more detailed analysis of the needs of an airport and its ability to accommodate specific improvements.

¹ <http://www.doav.virginia.gov/downloads/airport%20licensing/2013021%r15%20section&20resolved%20project%202811%20-%final.pdf>

² Virginia Department of Aviation Airport Program Manual

http://www.doav.virginia.gov/Downloads/Airport_Grant_Program/Airport%20Program%20Manual/2011%20Airport%20Program%20Manual/500%20DOAVAS%2020110831%202011%20Airport%20Program%20Manual%20bookmarked.pdf

3.2 VATSP Airport Classification System and Airport Roles

As part of the 1990 VATSP, an airport classification system was implemented to assign a role to each system airport based on the following characteristics:

- Airport function
- Primary economic role
- Optimal Airport Reference Code (ARC)
- Funding category eligibility

Since the 1990 and 2003 VATSP, individual airport roles have been adjusted on an as-needed basis. These adjustments were reviewed by the study team, verified by DOAV, and incorporated into this VATSP Update. The current airport roles as defined in this section will be used to evaluate the ability of each study airport to meet its applicable FS&E Objectives.

3.2.1 Past Roles for Airports in Virginia

The Virginia Air Transportation System Plan (VATSP) Update (1990) assignment of state roles for Virginia's airports considered elements which were reflective of the economic importance of each airport. Virginia's initial role assignments considered characteristics which helped to establish the functional role and/or the types of users each airport served.

Understanding the function of Virginia's airports in their local and regional economy was the first step to understanding each airport's economic contribution. When state airport roles were established initially, the following airport characteristics were considered:

- Business – Airports serving more than 500 annual jet operations (takeoffs and landings)
- Regional – Airports which play a significant role beyond the local community; serve as the primary airport for a multi-county area. Regional airports may also serve major population centers with insufficient highway access; they provide access to the national air transportation system
- Emergency – Airports supporting air ambulance service
- Flight Instruction – Airports where one or more tenants provide flight instruction
- Sport – Airports which serve a significant level of parachuting, glider, or ultralight activity.
- Tourism – Airports which serve major tourism destinations
- Agriculture – Airports that support the activities of aerial applicators

In addition to considering characteristics which helped to define each airport's economic contribution, other characteristics were also considered when roles for Virginia's airports were established in the 1990 VATSP Update; these included:

- Runway data – Elevation, dimensions, and orientation
- Airfield facilities – Facilities for basing aircraft, terminal buildings, vehicle parking, FBO, and fuel
- Aviation Activity – Approach type, based aircraft (total and fleet mix)
- Navigational Aids (NAVAIDS) – Average daily instrument approaches
- Location – Airport location in relationship to a 30 minute drive time from the closest airport

Each airport's functionality helps to establish its role or classification in a state system. While the process of assigning airport roles differs among states, most role assignments consider similar specific airport characteristics such as types and volumes of activity served, geographic location of the airport, airside facilities, and services available at the airport.

3.2.2 Current Roles for Airports in Virginia

As previously defined in the Inventory chapter and in accordance with the original VATSP classification system, Virginia's system airports today are assigned to one of the following roles:

- **Commercial Service (CS)**
- **Reliever Airport (RL)**
- **General Aviation Regional (GR)**
- **General Aviation Community (GC)**
- **Local Service (LO)**

In the absence of FAA role classifications for general aviation airports prior to 2012, many states, including Virginia, took their own steps to better define their general aviation airport systems. These "bottom up" role assignments generally focused on identifying which general aviation airports were most essential to each state's airport system. Many states used characteristics which were similar, but usually not identical to Virginia's, when they assigned roles to general aviation airports in their state airport system.

System stratification on the state level has several specific objectives. One of those is to identify general aviation airports that are the most essential to meeting the state's transportation needs and, in some cases, its economic needs. Assigning airport roles helps a state support its investment decisions and prioritize grants for those airports and projects deemed most critical to the overall success of the state aviation system.

Identifying airport roles not only supports decision-making on funding allocations, but also helps a state with their airport system planning process. Assigned roles are often reflective of the facilities an airport has in place along with the type of customers it most frequently accommodates. Role assignments help states to review the geographic distribution of facilities provided by their airport system. Within state airport systems, airport roles can help identify system adequacies, needs, and redundancies. Role assignments also help to ensure that airport facilities and services are matched to the socio-economic and demographic characteristics of the geographic area the airport serves.

Today, there are 66 airports in the Virginia airport system, with each airport assigned a role classification based on its individual characteristics. As part of the 2003 VATSP Update, the existing role for each airport was evaluated using criteria consisting of funding eligibility, market area, activity level, facility attributes, available services, and development/constraints. **Table 3-1** shows a comparison of the current service role classifications and those from the 2003 VATSP.

Table 3 - 1: Comparison of Past and Current VATSP Roles for Virginia Airports

Airport	2003 VATSP Role	Recommended 2003 Role Changes	Current VATSP Role
Charlottesville-Albemarle	Commercial Service		Commercial Service
Lynchburg Regional	Commercial Service		Commercial Service
Newport News-Williamsburg International	Commercial Service		Commercial Service
Norfolk International	Commercial Service		Commercial Service
Richmond International	Commercial Service		Commercial Service
Roanoke-Blacksburg Regional	Commercial Service		Commercial Service
Ronald Regan Washington National	Commercial Service		Commercial Service
Shenandoah Valley Regional	Commercial Service		Commercial Service
Washington Dulles International	Commercial Service		Commercial Service
Chesapeake Regional	Reliever		Reliever
Richmond Executive-Chesterfield County	Reliever		Reliever
Hampton Roads Executive	Reliever		Reliever
Hanover County Municipal	Reliever		Reliever
Leesburg Executive	Reliever		Reliever
Manassas Regional	Reliever		Reliever
Stafford Regional	Reliever		Reliever
Warrenton-Fauquier	Reliever		Reliever
Accomack County	GA Regional		GA Regional
Blue Ridge Regional	GA Regional		GA Regional
Culpeper County	GA Regional		GA Regional
Danville Regional	GA Regional		GA Regional
Dinwiddie County	GA Regional		GA Regional
Farmville Regional	GA Regional		GA Regional
Ingalls Field	GA Regional		GA Regional
Lonesome Pine	GA Regional		GA Regional
Mecklenburg-Brunswick Regional	GA Regional		GA Regional
Middle Peninsula Regional	GA Regional		GA Regional
New River Valley	GA Regional		GA Regional
Shannon	GA Regional	GA Community	GA Community
Suffolk Municipal	GA Regional		GA Regional
Tazewell County	GA Regional		GA Regional
Virginia Highlands	GA Regional		GA Regional
William M. Tuck	GA Regional		GA Regional
Winchester Regional	GA Regional		GA Regional

**Table 3 - 1: Comparison of Past and Current VATSP Roles
for Virginia Airports (Continued)**

Airport	2003 VATSP Role	Recommended 2003 Role Changes	Current VATSP Role
Blackstone AAF	GA Community		GA Community
Brookneal-Campbell County	GA Community		GA Community
Emporia-Greenville Regional	GA Community	GA Regional	GA Regional
Franklin Municipal	GA Community		GA Community
Front Royal-Warren County	GA Community		GA Community
Lake Country Regional	GA Community		GA Community
Lee County	GA Community		GA Community
Louisa County	GA Community		GA Community
Luray Caverns	GA Community		GA Community
Mountain Empire	GA Community	GA Regional	GA Regional
New Kent County	GA Community		GA Community
Orange County	GA Community		GA Community
Tangier Island	GA Community		GA Community
Tappahannock-Essex County	GA Community	GA Regional	GA Regional
Twin County	GA Community		GA Community
Virginia Tech-Montgomery Executive	GA Community		GA Community
Wakefield Municipal	GA Community		GA Community
Williamsburg-Jamestown	GA Community		GA Community
Bridgewater Air Park	Local Service		Local Service
Chase City Municipal	Local Service		Local Service
Crewe Municipal	Local Service		Local Service
Falwell	Local Service		Local Service
Gordonsville Municipal	Local Service		Local Service
Grundy Municipal	Local Service		Local Service
Hartwood Field	Local Service	Local Service	Private
Hummel Field	Local Service		Local Service
Lake Anna	Local Service		Local Service
Lawrenceville-Brunswick Municipal	Local Service		Local Service
Lunenburg County	Local Service		Local Service
New London	Local Service		Local Service
New Market	Local Service		Local Service
Smith Mountain Lake	Local Service		Local Service
Tappahannock Municipal	Local Service	Replace	Replaced
Waynesboro-Eagle's Nest	Local Service		Local Service

3.2.3 Comparison of VATSP Roles to NPIAS and FAA Asset Roles

A variety of defining characteristics were considered when roles for Virginia’s airports were originally established. As part of this VATSP Update, 2012 Virginia specific airport roles were compared to roles defined for Virginia airports included in the NPIAS.

While all airports in this study are open to the public, not all of the airports within the Commonwealth’s State Airport System are included in the FAA’s NPIAS. Virginia airports not included in the NPIAS are not eligible for FAA funding, but are eligible for DOAV funding. **Table 3-2** compares NPIAS roles to Virginia’s state airport roles.

Table 3 - 2: FAA NPIAS Airport Roles - Virginia Airport Roles

Airport	NPIAS Role	Virginia Service Role
Charlottesville-Albemarle	Non-Hub	Commercial Service
Lynchburg Regional	Non-Hub	Commercial Service
Newport News-Williamsburg International	Non-Hub	Commercial Service
Norfolk International	Small-Hub	Commercial Service
Richmond International	Small Hub	Commercial Service
Roanoke-Blacksburg Regional	Non-Hub	Commercial Service
Ronald Reagan Washington National	Large Hub	Commercial Service
Shenandoah Valley Regional	Non-Hub	Commercial Service
Washington Dulles International	Large-Hub	Commercial Service
Chesapeake Regional	General Aviation	Reliever
Richmond Executive-Chesterfield County	Reliever	Reliever
Hampton Roads Executive	Reliever	Reliever
Hanover County Municipal	General Aviation	Reliever
Leesburg Executive	Reliever	Reliever
Manassas Regional	Reliever	Reliever
Stafford Regional	Reliever	Reliever
Warrenton-Fauquier	Reliever	Reliever
Accomack County	General Aviation	GA Regional
Blue Ridge Regional	General Aviation	GA Regional
Culpeper Regional	General Aviation	GA Regional
Danville Regional	General Aviation	GA Regional
Dinwiddie County	General Aviation	GA Regional
Emporia-Greenville Regional	General Aviation	GA Regional
Farmville Municipal	General Aviation	GA Regional
Ingalls Field	General Aviation	GA Regional
Lonesome Pine	General Aviation	GA Regional
Mecklenburg-Brunswick Regional	General Aviation	GA Regional
Middle Peninsula Regional	General Aviation	GA Regional
Mountain Empire	General Aviation	GA Regional

Table 3 - 2 (Continued)
FAA NPIAS Airport Roles – Virginia Airport Roles

Airport	NPIAS Role	Virginia Service Role
New River Valley	General Aviation	GA Regional
Suffolk Executive	General Aviation	GA Regional
Tappahannock-Essex County	General Aviation	GA Regional
Tazewell County	General Aviation	GA Regional
Virginia Highlands	General Aviation	GA Regional
William M. Tuck	General Aviation	GA Regional
Winchester Regional	General Aviation	GA Regional
Blackstone AAF	Non-NPIAS	GA Community
Brookneal-Campbell County	General Aviation	GA Community
Franklin Municipal	General Aviation	GA Community
Front Royal-Warren County	General Aviation	GA Community
Lake Country Regional	Non-NPIAS	GA Community
Lee County	General Aviation	GA Community
Louisa County	General Aviation	GA Community
Luray Caverns	General Aviation	GA Community
New Kent County	General Aviation	GA Community
Orange County	General Aviation	GA Community
Shannon	Non-NPIAS	GA Community
Tangier Island	General Aviation	GA Community
Twin County	General Aviation	GA Community
Virginia Tech-Montgomery Executive	General Aviation	GA Community
Wakefield Municipal	Non-NPIAS	GA Community
Williamsburg-Jamestown	Non-NPIAS	GA Community
Bridgewater Air Park	Non-NPIAS	Local Service
Chase City Municipal	Non-NPIAS	Local Service
Crewe Municipal	Non-NPIAS	Local Service
Falwell	Non-NPIAS	Local Service
Gordonsville Municipal	Non-NPIAS	Local Service
Grundy Municipal	General Aviation	Local Service
Hummel Field	Non-NPIAS	Local Service
Lake Anna	Non-NPIAS	Local Service
Lawrenceville-Brunswick Municipal	Non-NPIAS	Local Service
Lunenburg County	Non-NPIAS	Local Service
New London	Non-NPIAS	Local Service
New Market	Non-NPIAS	Local Service
Smith Mountain Lake	Non-NPIAS	Local Service
Waynesboro-Eagle's Nest	Non-NPIAS	Local Service

In May 2012, the FAA released its “General Aviation Airports: A National Asset” report (FAA Asset Study or Asset Study). The FAA has long distinguished the various roles played by commercial service airports, classifying these airports as Primary or Non-Primary and as Large, Medium, Small, and Non-Hub commercial service airports. These classifications are based on the number of enplaned passengers served annually by each airport.

In the case of general aviation airports, the FAA assigned only two federal classifications or roles, either reliever or general aviation to each non-commercial service airport included in the NPIAS. Recognizing that features of general aviation airports contribute to them playing different roles within the national air transportation system, the FAA embarked on the Asset Study to help define and then assign general aviation airports to more specific roles.

At the time the Asset Study was released, it was determined that a number of airports included could not be classified. In Virginia’s case, Brookneal Campbell County and Emporia-Greensville Regional fell in that category.

As previously discussed, when state roles for the Virginia airports were originally determined, a wide variety of airport features were considered. Factors that were assessed to assign state airport roles in Virginia included:

- Applicable FAA design standards
- Airport functional and economic roles
- Types of activity supported (business, tourism, agriculture, sport aviation, emergency operations, and flight instruction)
- Facilities and services in place
- Activity levels and types
- Airport location

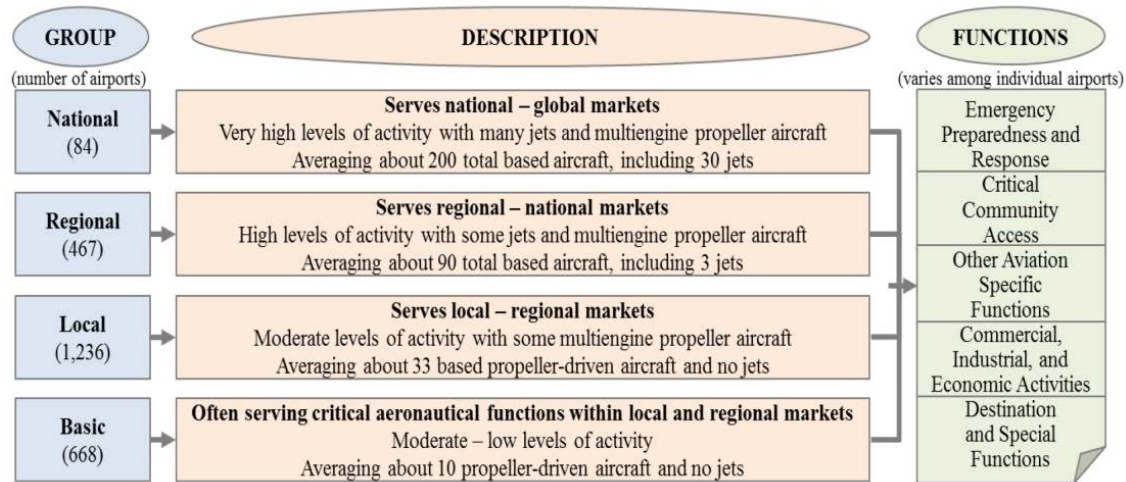
When the FAA assigned roles to the Asset Study airports, a more limited number of characteristics were used. Asset roles were assigned considering the following:

- Airport setting/location
- Activity type and volume
- Special user groups for Basic airports

As might be expected, the FAA Asset Study reviewed roles for thousands of general aviation airports in the NPIAS system. The level of detail used in the federal study could not match the more robust set of airport specific characteristics that were used by the Commonwealth in establishing Virginia’s state airport roles. The FAA’s role assignment process for NPIAS airports did not analyze local characteristics that are important to defining an airport’s function in the airport system, especially at a state level.

Figure 3-1, taken directly from the Asset Study, groups airports into four roles, provides an overview describing the criteria considered by the FAA in the asset role assignment process, and outlines the types of functions that are typically accommodated by the airports.

Figure 3 - 1: FAA Asset Study - GA Airport Categories



Source: General Aviation Airports: A National Asset, FAA, May 2012

Asset roles were ultimately designated by the FAA using activity data and criteria. The FAA’s role assignments needed to be accomplished using characteristics which were comparable and available for all NPIAS airports. State and/or local considerations and specific characteristics were not factored into the FAA’s asset role assignment process for Virginia’s general aviation airports. As mentioned, the FAA Asset Study assigned roles only to general aviation airports included in the NPIAS; 33 percent of the general aviation airports in Virginia’s state airport system are non-NPIAS airports. As a result, no FAA asset roles are assigned to these Virginia airports. **Table 3-3** below provides more information on the roles for general aviation airports included in the Asset Study.

Table 3 - 3: FAA GA Categories and Criteria

Category	Definition	Criteria
National	Support the national and state system by providing communities with access to national and international markets. They accommodate a full range of aviation activity, including large corporate jet and multi-engine aircraft operations, significant charter passenger services, or all-cargo operations. They often work in conjunction with, and in support of, hub airports serving the aviation needs of larger metropolitan areas. Some 84 general aviation airports meet the following criteria and have been designated national airports:	<ol style="list-style-type: none"> 1. The airport has at least 5,000 annual IFR operations, at least 11 based jets, at least 20 annual international departures, or at least 1,000 annual interstate operations; or 2. The airport has at least 10,000 annual enplanements and at least one enplanement in the large air carrier category; or 3. The airport has at least 500 million pounds of annual landed cargo weight.

Table 3 - 3 (Continued)
FAA GA Categories and Criteria

Category	Definition	Criteria
Regional	Support regional economies by connecting communities to statewide and interstate markets. These airports accommodate a full range of regional and local business activities, limited scheduled passenger service, or cargo operations. They serve corporate jet and multi-engine aircraft, as well as single-engine propeller aircraft. Some 467 general aviation airports meet the following criteria and have been designated regional airports:	<ol style="list-style-type: none"> 1. The airport is located in a metropolitan or micropolitan statistical area, has at least 10 annual domestic IFR flights over 500 miles in radius, at least 1,000 annual IFR operations, at least one based jet, or at least 100 based aircraft; or 2. The airport is located in a metropolitan or micropolitan statistical area, and the airport meets the definition of commercial service.
Local	Supplement communities by providing access to primarily intrastate and some interstate markets. These airports accommodate small businesses, flight training, emergency service, charter passenger service, cargo operations, and personal flying activities. They typically accommodate smaller general aviation aircraft, mostly single-engine propeller and some multi-engine aircraft. Some 1,236 general aviation airports meet the following criteria and have been designated local airports:	<ol style="list-style-type: none"> 1. The airport has at least 10 annual IFR operations and at least 15 based aircraft; or 2. The airport has at least 2,500 annual passenger enplanements.
Basic	Support general aviation activities such as emergency service, charter or critical passenger service, cargo operations, flight training, and personal flying. These airports typically accommodate mostly single-engine propeller aircraft. They may be located in, and provide service to, remote areas of the United States with limited or no surface transportation options, and therefore may be critical to the transportation of goods required for local day-to-day life. Some 668 general aviation airports meet the following criteria and have been designated basic airports:	<ol style="list-style-type: none"> 1. The airport has at least 10 based aircraft; or 2. Is a heliport with at least four based helicopters; or 3. The airport is a facility identified and used by either the U.S. Forest Service, U.S. Marshals Service, U.S. Customs and Border Protection (designated, international, or landing rights), U.S. Postal Service (air stops), or has Essential Air Service; or 4. The airport is a new or replacement airport activated after January 1, 2001; or 5. The airport is considered remote access (nearest NPIAS airport is at least 30 miles away) or is identified in a state aviation system plan as remote access or equivalent; and Must be publically owned or privately owned and designated as a reliever with a minimum of 90 based aircraft.

Source: FAA, General Aviation Airports: A National Asset, 2012

Table 3-4 provides a comparison of Virginia’s state airport roles to the FAA’s asset roles for applicable NPIAS airports. There are a few noteworthy points:

- The Asset Study assigned 84 general aviation airports nationwide to the National category. Manassas Regional is the only Virginia airport assigned a National role. Most Virginia airports with a Local role assignment in the VATSP are non-NPIAS airports.
- There are two NPIAS airports in Virginia, Brookneal-Campbell County and Emporia-Greenville Regional, which currently have no asset role assignment. Brookneal-Campbell County’s role in the Virginia airport system is Community and Emporia-Greenville Regional Airport’s is Regional.

Table 3 - 4: FAA General Aviation Asset and VATSP Service Roles

Airport	FAA General Aviation Asset Role	VATSP Service Role
Charlottesville-Albemarle	N/A	Commercial Service
Lynchburg Regional	N/A	Commercial Service
Newport News-Williamsburg International	N/A	Commercial Service
Norfolk International	N/A	Commercial Service
Richmond International	N/A	Commercial Service
Roanoke-Blacksburg Regional	N/A	Commercial Service
Ronald Reagan Washington National	N/A	Commercial Service
Shenandoah Valley Regional	N/A	Commercial Service
Washington Dulles International	N/A	Commercial Service
Chesapeake Regional	Regional	Reliever
Richmond Executive-Chesterfield County	Regional	Reliever
Hampton Roads Executive	Regional	Reliever
Hanover County Municipal	Regional	Reliever
Leesburg Executive	Regional	Reliever
Manassas Regional	National	Reliever
Stafford Regional	Local	Reliever
Warrenton-Fauquier	Regional	Reliever
Accomack County	Local	GA-Regional
Blue Ridge Regional	Regional	GA-Regional
Culpeper Regional	Regional	GA-Regional
Danville Regional	Local	GA-Regional
Dinwiddie County	Local	GA-Regional
Emporia-Greenville Regional	Other	GA-Regional
Farmville Municipal	Local	GA-Regional
Ingalls Field	Basic	GA-Regional
Lonesome Pine	Local	GA-Regional
Mecklenburg-Brunswick Regional	Local	GA-Regional
Middle Peninsula Regional	Local	GA-Regional

Table 3 - 4 (Continued)
FAA General Aviation Asset and VATSP Service Roles

Airport	FAA General Aviation Asset Role	VATSP Service Role
Mountain Empire	Local	GA-Regional
New River Valley	Local	GA-Regional
Suffolk Executive	Regional	GA-Regional
Tappahannock-Essex County	Local	GA-Regional
Tazewell County	Basic	GA-Regional
Virginia Highlands	Regional	GA-Regional
William M. Tuck	Local	GA-Regional
Winchester Regional	Regional	GA-Regional
Blackstone AAF	N/A	GA-Community
Brookneal-Campbell County	Other	GA-Community
Franklin Municipal	Local	GA-Community
Front Royal-Warren County	Local	GA-Community
Lake Country Regional	N/A	GA-Community
Lee County	Basic	GA-Community
Louisa County	Local	GA-Community
Luray Caverns	Basic	GA-Community
New Kent County	Local	GA-Community
Orange County	Local	GA-Community
Shannon	N/A	GA-Community
Tangier Island	Basic	GA-Community
Twin County	Basic	GA-Community
Virginia Tech-Montgomery Executive	Regional	GA-Community
Wakefield Municipal	N/A	GA-Community
Williamsburg-Jamestown	N/A	GA-Community
Bridgewater Air Park	N/A	Local Service
Chase City Municipal	N/A	Local Service
Crewe Municipal	N/A	Local Service
Falwell	N/A	Local Service
Gordonsville Municipal	N/A	Local Service
Grundy Municipal	Basic	Local Service
Hummel Field	N/A	Local Service
Lake Anna	N/A	Local Service
Lawrenceville-Brunswick Municipal	N/A	Local Service
Lunenburg County	N/A	Local Service
New London	N/A	Local Service
New Market	N/A	Local Service
Smith Mountain Lake	N/A	Local Service
Waynesboro-Eagle's Nest	N/A	Local Service

Based on the comparison provided in Table 3-4, there are some instances where VATSP service roles and FAA Asset roles do not directly correspond.

Changes to the VATSP service roles may be considered as part of the alternatives and sensitivity analysis in the following chapters in order to:

- Resolve deficiencies or gaps in the system
- Address changes in socio-economic or demographic characteristics of the market area the airport serves
- Respond to emerging business or population centers in Virginia

If the subsequent VATSP analysis shows that role adjustments should be considered, the relative classification of each Virginia airport in comparison to its classification within the FAA Asset Study may be considered to help establish the viability of each role change.

3.3 The Ability of Virginia Airports to Meet Licensing Standards

The Airport Licensing Regulations for Virginia airports outline the licensing criteria and the minimum requirements for airports to be licensed by the state. The recently updated regulation language, as adopted in November 2013, states the following:

- A. Airports and landing areas, except private landing areas as set forth in § 5.1-7.2 of the Code of Virginia, shall be licensed by the department pursuant to § 5.1-7 of the Code of Virginia and 24 VAC 5-20-140. Private landing areas as defined in § 5.1-7.2 of the Code of Virginia shall only be registered as provided for in 24 VAC 5-20-170.
- B. Airports and landing areas that are issued licenses pursuant to § 5.1-7 of the Code of Virginia shall be open to the general public on a nondiscriminatory basis. An application for a license shall be signed by the airport sponsor, under oath, on a form prescribed by the department and submitted to the department accompanied by the required supporting documents as specified on the form. An initial license, or renewal thereof, will be issued following department review and determination of compliance with § 5.1-7 of the Code of Virginia and 24 VAC 5-20-140. A license shall remain in effect for the period specified until modified, suspended, or revoked by the department.
- C. Airport sponsors proposing to add or extend runways of an airport or landing area shall apply for a modified license pursuant to § 5.1-7 of the Code of Virginia.
- D. If an airport or landing area should continually cease to be open to the public for one year and the airport sponsor wants to reopen the facility to the public, the airport sponsor must reapply for a license in accordance with § 5.1-7 of the Code of Virginia and 24 VAC 5-2-120 and must be in compliance with 24 VAC 5-20-140.
- E. Licenses must be renewed every seven years or at the discretion of the department based on demonstrated need. License expirations shall be staggered in accordance with criteria set by the

department, which include, but are not limited to, changes in legislation, standards, policy, processes, and procedures.

The minimum requirements for initial and continued licensing under § 5.1-7 of the Code of Virginia shall provide for:

- A. An effective runway length of at least 2,000 feet for each direction of operation;
- B. A minimum runway width of 50 feet;
- C. A minimum runway safety area length equal to the length of the runway plus 100 feet at each end of the runway;
- D. A minimum runway safety area width of 120 feet centered on the runway centerline;
- E. A minimum unobstructed approach surface of 15:1 horizontal to vertical slope at each end of the runway;
- F. An approach surface that is centered along the runway centerline and that begins at the threshold at a width of 250 feet, expands uniformly for a distance of 2,250 feet to a width of 700 feet, and continues at the width of 700 feet for a distance of 2,750 feet;
- G. A minimum unobstructed runway object free area length equal to the length of the runway;
- H. A minimum unobstructed runway object free area width of 250 feet centered on the runway centerline; and
- I. A displaced threshold, if an approach surface to either physical end of the runway is obstructed and the obstacle cannot be removed, that shall be located down the runway at the point where the obstruction clearance plane intersects the runway centerline.

The current licensing language also covers licensing under the conditional Day/VFR Use Only License as follows:

- A. The minimum requirements for the initial and continued licensing of an airport under the conditional Day/VFR Use Only License in accordance with 24 VAC 5-20-275 shall provide for the above criteria delineated by numbers one through six. Regulations associated with runway object free areas and displaced thresholds do not apply to airports under the Day/VFR Use Only License.
- B. The minimum requirements for the initial and continued licensing of a heliport open for public use under § 5.1-7 of the Code of Virginia shall provide for minimum standard dimensions as provided in the Federal Aviation Administration Advisory Circular 150/5390-2B Heliport Design, effective September 30, 2004.

- C. The minimum requirements for the initial and continued licensing of a seaplane base open for public use under § 5.1-7 of the Code of Virginia shall provide for minimum standard dimensions as provided in the Federal Aviation Administration Advisory Circular 150/5395 Seaplane Bases, effective June 29, 1994.
- D. In addition to the investigation required for safety provisions as outlined in § 5.1-7 of the Code of Virginia, a detailed consideration of the economic, social, and environmental effects of the airport location shall be conducted for applications for new and modified licenses. These considerations shall include one or more public hearings as required to assure consistency with the goals and objectives of planning as has been carried out by the community.
- E. Proof of financial responsibility prescribed in Chapter 8.2 (§ 5.1-88.7 et seq.) of Title 5.1 of the Code of Virginia must be furnished at the time of application of license, and this financial responsibility thereafter must be maintained.

The inventory data collection effort allowed the VATSP Update to compare characteristics of airports in Virginia with several conditions of the updated licensing standards. **Table 3-5** outlines the airports that do not meet one or more of the listed licensing conditions. It was not possible to verify compliance with all Licensing Standards if information was not available from the inventory database. Data was based on approved Airport Layout Plans (ALPs) and Master Plans as of March 2013. This includes the requirement related to approach surface dimensions. It is assumed that all airports have a displaced threshold, if necessary, to avoid obstacles. It is important to note that all airports meet the first requirement for runway length of 2,000 feet. The data in Table 3-5 was verified by the DOAV.

Gordonsville Municipal, Hummel Field, and New London do not meet the minimum runway width of 50 feet. The existing runway widths for these airports are 40 feet, 45 feet, and 40 feet, respectively.

Runway safety area length was reviewed to determine if study airports have safety areas equal to the length of their runway plus 100 feet at each end of the runway. This review was completed by determining if runway safety areas meet Airplane Design Group (ADG) and Aircraft Approach Category (AAC) standards; this information was provided by airport sponsors as part of the inventory effort. If sponsors indicated that their runway safety area does not meet standards, then it is assumed that the length and/or width were not sufficient in accordance with FAA Advisory Circular (AC) 150/5300-13A – Airport Design. Detailed runway safety area dimensions were not included in the inventory data collection process.

A minimum runway safety area width of 120 feet was assessed based on the associated airport's ADG. In accordance with FAA AC 150/5300-13A, runway design standards for ADG I and AAC A or B airports, with not-lower than $\frac{3}{4}$ -statute miles approach visibility minimums; the recommended safety area width is 120 feet. Similarly, ADG II airports have a recommended runway safety area width of 150 feet. Using the data collected from the inventory, ADG I or II and AAC A or B airports that responded their respective runway safety area width did not meet the required standard dimensions are shown in Table 3-5. Detailed runway safety area width dimensions were not included in the inventory data collection process.

Chase City Municipal, Crewe Municipal, Falwell, Lake Anna, New London, and Waynesboro-Eagle's Nest do not have unobstructed approach surfaces of 15:1 horizontal to vertical slope at each end of their runway.

Table 3 - 5: Virginia Airports Not Meeting Licensing Standards

Airport	Minimum Runway Width of 50 Feet	Runway Safety Area Length Equal to Runway Length plus 100 Feet at Each End ³	Runway Safety Area Width of 120 Feet ⁴	Unobstructed 15:1 Approach Surface	Runway Object Free Area Length Equal to Runway Length ⁵	Runway Object Free Area Width of 250 Feet ⁶
Bridgewater Air Park				◆		◆
Chase City Municipal				◆		◆
Crewe Municipal				◆		◆
Falwell		◆		◆		◆
Gordonsville Municipal	◆(G.F.)					
Grundy Municipal				◆		◆
Hummel Field	◆(G.F.)					
Lake Anna				◆		
Lake County Regional				◆		◆
Lawrenceville-Brunswick Municipal				◆		
New London	◆(G.F.)	◆		◆	◆	◆
New Market					◆	◆
Newport News-Williamsburg International		◆			◆	
Shannon						◆
Smith Mountain Lake				◆		◆
Wakefield Municipal		◆(G.F.)				

Notes:

- ◆ denotes that the airport does not meet the criteria.
- G.F. denotes "grandfathered".
- Runway Safety Area criteria is determined based on runway safety area meeting ADG and AAC standards as indicated by responses from the Sponsor Inventory Questionnaire. All airports that responded "No" were included. Revisions made as necessary based on DOAV input.
- Runway Safety Area criteria is determined based on runway safety area meeting ADG and AAC standards as indicated by responses from the Sponsor Inventory Questionnaire. Only ADG I or II and AAC A or B airports were included if they did not meet their respective runway safety area standard as it is assumed that ADG III and AAC C and greater have runway safety area widths exceeding 120 feet. Revisions made as necessary based on DOAV input.
- Runway Object Free Area criteria is determined based on runway (object free area meeting ADG and AAC standards as indicated by responses from the Sponsor Inventory Questionnaire. All airports that responded "No" were included. Revisions made as necessary based on DOAV input.
- Runway Object Free Area criteria is determined based on runway object free area meeting ADG and AAC standards as indicated by responses from the Sponsor Inventory Questionnaire. Only ADG I and AAC A or B airports were considered if they did not meet their respective runway object free area standard as it is assumed that ADG II and AAC C and greater have runway object free area widths exceeding 250 feet. Revisions made as necessary based on DOAV input.

The assessment to meet runway object free area length, equal to the length of the runway, was determined by review of the runway object free area meeting ADG and AAC standards. This information was provided by airport sponsors. If sponsors answered that their runway object free area does not meet standards, then it is assumed that the length and/or width were not sufficient in accordance with FAA AC 150/5300-13A. Detailed runway object free area dimensions were not included in the inventory collection process.

The assessment to meet minimum runway object free area width of 250 feet was determined based on the associated airport's airplane design group. In accordance with FAA AC 150/5300-13A – Airport Design, runway design standards for ADG I, exclusively for small aircraft, and AAC A or B, with not-lower than $\frac{3}{4}$ -statute miles approach visibility minimums were used. Utilizing the inventory data collected, ADG I and AAC A or B airports responding that their respective runway object free area width does not meet the required standard dimensions, are shown in Table 3-5. Detailed runway object free area dimensions were not included in the inventory collection process.

The current Licensing Standards language provides the following criteria related to waiving the minimum licensing requirements:

- A. Upon application by an airport sponsor, setting forth the reason or reasons that one or more requirements sought to be waived cannot be met, the Board may waive compliance of requirements of 24 VAC 5-20-140. In the waiver, the Board shall specify the minimum requirement or requirements covered by the waiver and set terms for the waiver, including the time period for the waiver.
- B. Considerations for granting the waiver shall be limited to (i) a determination of no hazard based on a Federal Aviation Administration airspace evaluation and implementation of mitigation recommendations if applicable, (ii) a determination of impracticality due to topography, or (iii) a benefit cost analysis proving improvements as financially unfeasible.
- C. An airport having a license issued prior to October 1, 1995, and not meeting one or more minimum requirements for licensure in effect on October 1, 1995, shall be exempt from having to comply with those non-complying requirements for as long as the airport remains an active public-use facility unless those non-complying requirements are caused by natural growth.

Airport specific deficiencies noted here as they relate to an airport's ability to fully comply with current licensing standards will be incorporated as appropriate into specific facilities objectives for the applicable airport.

3.4 The Ability of Virginia Airports to Meet the Virginia Airport Board’s Basic Airport Unit Criteria

The DOAV’s Airport Program Manual, effective August 2011 and revised November 2013, outlines the definition of a Basic Airport Unit. The Virginia Aviation Board passed a resolution on December 15, 2004 that defines the facilities that comprise the Basic Airport Unit in Virginia. Within Virginia’s description of the Basic Airport Unit, there are no specific size objectives related to the various elements. The elements of the Basic Airport Unit are as follows:

- Runway
- Airport lighting system
- Visual navigational aids
- Stub taxiway
- Aircraft Parking Apron
- Terminal Facility
- Automobile Parking
- Airport Access Road
- Fuel Facility

Based on data collected during this VATSP inventory effort, analysis was completed for each of the 66 public-use airports in Virginia to determine which airports meet and do not meet the pre-defined Basic Airport Unit criteria. The airports that do not meet one or more of the attributes are outlined in **Table 3-6**.

Table 3 - 6: Virginia Airports Not Meeting Basic Airport Unit Criteria

Airport	Airport Lighting System	Visual NAVAIDS	Terminal Facility	Auto Parking	Fuel Facility
Bridgewater Air Park			◆		
Chase City Municipal			◆		◆
Gordonsville Municipal			◆		
Grundy Municipal					◆
Lake Anna			◆		◆
New London	◆				
Tangier Island	◆			◆	◆

◆ Denotes that the airport does not meet the criteria.

The categories for which all 66 airports meet the criteria include runway, stub taxiway, airport access road, and aircraft parking apron. Each airport in the VATSP has these characteristics identified for the Basic Airport Unit. New London and Tangier Island do not have airport lighting systems. The remaining 65 airports have high-intensity, medium-intensity, or low-intensity runway lighting.

Airports without terminal facilities include Bridgewater Air Park, Chase City Municipal, Gordonsville Municipal, and Lake Anna.

Tangier Island has very little automobile use since most residents travel by golf carts. Therefore little demand for airport parking can be expected.

Chase City Municipal, Grundy Municipal, Lake Anna, and Tangier Island do not have fuel facilities available. The other airports in the VATSP have either 100LL and/or Jet A fuel.

The Basic Airport Unit resolution indicates that a suitable terminal facility has provisions for the following:

- Adequate shelter from inclement weather
- Electric lighting
- Accessible public telephone and restroom facilities

Much of the demand for terminal services has changed with respect to public telephone service as pay phone services have declined and have been replaced with wireless, Wi-Fi internet, and cellular phone technology. Therefore, accessible public telephones may not be a necessary requirement at several airports.

Several airports, although they have terminal buildings, do not meet the terminal building criteria noted above. These airports are outlined in **Table 3-7**.

It is suggested that all 66 public-use airports in the state meet the Virginia Aviation Board's definition of a Basic Airport Unit. Recommended improvements to meet this objective will be further discussed in subsequent portions of the VATSP Update.

Basic Airport Unit deficiencies, noted here, will be incorporated into each airport's recommendations for the VATSP.

Table 3 - 7: Virginia Airports Not Meeting Basic Airport Unit Criteria for a Terminal

Airport	Shelter	Electric Lighting	Public Telephone	Restroom Facilities ²
Accomack County			◆	
Blue Ridge Regional				◆
Bridgewater Air Park	◆	◆		
Chase City Municipal	◆	◆	◆	◆
Crewe Municipal			◆	
Danville Regional			◆	
Crewe Municipal			◆	
Danville Regional			◆	
Front Royal-Warren County			◆	
Gordonsville Municipal	◆	◆	◆	◆
Lake Anna	◆	◆	◆	◆
Lake County Regional			◆	
Lawrenceville-Brunswick Municipal			◆	
Lee County			◆	
Lunenburg County			◆	
New Kent County			◆	
New Market			◆	
Orange County			◆	
Shannon			◆	
Smith Mountain Lake			◆	
Tazewell County			◆	
Twin County			◆	

Notes:

- ◆ Denotes that the airport does not meet the criteria.
- Restroom facilities determined based on “Existing Terminal Building” response in the Sponsor Inventory Questionnaire and DOAV input.

3.5 Facility, Service, and Equipment (FS&E) Objectives

At the onset of this update to the VATSP, FS&E objectives were established for airports in each of the Virginia role categories. The FS&E objectives were established using input from a variety of sources including the following:

- 2003 VATSP Facility requirements
- 2003 VATSP Roles
- Historic DOAV funding
- DOAV’s Facilities and Equipment Study for NAVAIDS and approaches
- Virginia Airport Licensing Regulations
- Virginia Aviation Board (VAB) definition for the Basic Airport Unit
- DOAV’s programs and initiatives for system airports
- Other State System Plans
- Data was collected where possible for items not referenced in above documents

Once the FS&E Minimum Objectives were established, both DOAV staff and the FAA reviewed them. **Figure 3-2** presents the final FS&E Minimum Objectives.

Using information from this study’s inventory, each airport was assessed based on its specific role to determine if the above minimum system objectives were met. Airport improvements needed to meet specific objectives were evaluated, quantified, and listed in separate tables. The following sections describe and tabulate airport projects as determined for each VATSP airport utilizing the objectives established in Figure 3-2. It is important to note that these objectives represent a big picture top-down analysis based on statewide goals. The projects identified as part of the VATSP to meet the FS&E objectives do not guarantee future state or federal funding. Airport development is driven by the airport sponsor from the “bottom up.” Each project must be justified at each stage of development. Funding programs are geared so that a project must stand and be carried forward on its own merit.

Figure 3 - 2: Facility, Service, and Equipment Minimum Objectives Chart

Facility Items	AIRPORT SERVICE ROLE				
	Commercial Service	Reliever	GA Regional	GA Community	Local Service
Airside					
ARC	C		B		A or B
Airfield Capacity ¹	Below 80% of calculated ASV (Planning at 60%)	Below 80% of 230,000 ASV (Planning at 60%)			
Runway Length	5,500'		If more than 500 annual jet operations 5,500'; if less than 500 annual jet operations 5,000'	If more than 500 annual jet operations 5,500'; if less than 500 annual jet operations length determined by FAA methodology	Preserve Existing Length per 24 VAC 5-20-140 State Licensing Criteria, if feasible
Runway Width	100'		If more than 500 annual jet operations 100'; if less than 500 annual jet operations 75'	If more than 500 annual jet operations 100'; if less than 500 annual jet ops, width determined by FAA ARC	Preserve Existing Width per 24 VAC 5-20-140 State Licensing Criteria, if feasible
Runway Strength	Dual-Wheel landing gear - 60,000 lbs.	Single-Wheel landing gear - 30,000 lbs.	Single-Wheel landing gear - 30,000 lbs.	Single-Wheel landing gear - 12,500 lbs.	
Taxiway Type	Full parallel if more than 20,000 annual operations OR landing approach minimums less than 400 1 OR existing LPV approach; minimum of turnarounds				Stub Taxiway
Approach Type ²	ILS Cat I (200 1/2 minimum), LPV and LAAS (200 1/2)		Based on visibility minima; LPV and LAAS (250 1 mile)	Ground based (500 1 minimum)LPV and LAAS (400 1)	1,000 / 3 Miles Visibility Day Only Approaches (1K3 Day)
Instrumentation	MALSR, HIRLS, PAPI	REILs (or approach lights), MIRLS, PAPI			Case by Case
Weather	ASOS or AWOS III on field, 24/7, data linked			AWOS A on field, 24/7, data linked	ASOS or AWOS on-field, 24/7, data-linked

Figure 3 – 2: Facility, Service, and Equipment Minimum Objectives Chart (Cont.)

	AIRPORT SERVICE ROLE				
Facility Items	Commercial Service	Reliever	GA Regional	GA Community	Local Service
Communications	Direct or RTR access to ATC clearance	RTR access to ATC clearance	RTR access to ATC clearance or GCO at 1 mile visibility approach	RTR or GCO	Preserve Existing
Visual Aids	Rotating Beacon, Lighted Wind-cone/Segmented Circle	Rotating Beacon, Lighted Wind Cone		Rotating Beacon, Wind Cone	
Landside					
Hangar Spaces - T-Hangars	Based on existing inventory, forecast based aircraft, and applying the appropriate distribution from Table 3 8				Preserve Existing
Hangar Spaces – Conventional Hangars ³	Based on existing inventory, forecast based aircraft, the appropriate parking distribution from Table 3 8 and the appropriate aircraft space objectives				Preserve Existing
Apron Spaces - Transient Aircraft ⁴	Forecast busy day itinerant operations multiplied by the appropriate aircraft space objectives				Preserve Existing
Apron Spaces - Based Aircraft ⁴	Based on forecast based aircraft, the appropriate parking distribution from Table 3 8, and the appropriate aircraft space objectives				Preserve Existing
Terminal Building SF	As per needs identified in Master Plan	Based on DOAV terminal building objectives to represent the total terminal space needed			1,236 sq. ft. of public use space
Auto Parking Spaces	Minimum 100 parking spaces per 100,000 enplanements as per 150/5360-13	1 space airport/tenant employee plus 1.5 spaces per based aircraft departure on average day in peak month			
Services					
Fixed Base Operator	Full Service FBO			Limited-Service FBO	
Fuel	24-7 Jet A and Avgas (100LL) with card reader			24-7 Avgas (100LL)	Avgas (100LL)
Maintenance	On-Site Major Aircraft Maintenance	On-Site Minor Aircraft Maintenance	Preserve Existing	Preserve Existing	
Aircraft Rental	Available				
Charter Service	Available				
Pilot Training	Full-time			Part-time	

Figure 3 – 2: Facility, Service, and Equipment Minimum Objectives Chart (Cont.)

	AIRPORT SERVICE ROLE				
Facility Items	Commercial Service	Reliever	GA Regional	GA Community	Local Service
Terminal/Pilot Services	Phone, Restrooms, Pilot Lounge			Shelter, Phone Restrooms	
Ground Transportation Services	On-site rental car	Rental car access	Rental car access or on-site courtesy car	On-site courtesy car	Preserve Existing
Utilities	Electricity, water, sewer, communications	Same objectives as Commercial (Different Source ⁵)			Electricity, Communications
Equipment					
Maintenance Equipment	Snow removal equipment, mower, tractor, vehicle attachments, front end loader, truck, debris sweeper, other maintenance equipment as needed.	Mower, tractor, vehicle attachments, front end loader, truck, debris sweeper		Same objectives as Reliever	Mower
Maintenance					
Runway Pavements	Pavements to be maintained at a PCI of 70 or higher.				
Taxiway Pavements					
Apron Pavements					
Taxilane Pavements					
Safety/Compliance					
RSA	Maintain appropriate dimensions to meet FAA standards as determined by current ARCs and per 24 VAC 5 20 140 State Licensing Criteria for each airport AND ensure that airport surfaces are clear of obstructions, if feasible.				
RPZ Protection	Clear RPZ per FAA standards in accordance with approach categories and minimums AND ownership or easements for entire RPZ.				
Approach Surfaces	Maintain 24 VAC 5-20-140 State Licensing Criteria minimums of unobstructed approach surface of 15:1 at each RW end. Minimum dimensions centered along RW centerline and begins at threshold at width of 250', expands uniformly for a distance of 2,250' to a width of 700' and continues at a width of 700' for a distance of 2,750' AND maintain clear approaches per FAR Part 77 (obstruction removal, survey, land acquisition, etc.)				
ROFA	Maintain appropriate dimensions to meet FAA standards as determined by current ARCs for each airport and ensure that airport surfaces are clear of obstructions.				

Figure 3 – 2: Facility, Service, and Equipment Minimum Objectives Chart (Cont.)

Facility Items	AIRPORT SERVICE ROLE				
	Commercial Service	Reliever	GA Regional	GA Community	Local Service
Displaced Threshold	If approach surface obstructed and obstacle cannot be removed, displaced threshold located down RW at point where obstruction clearance plane intersects RW centerline				
Future Development	Acquire land, clear obstructions, mitigate wetlands for future development				
Plans					
Airport Planning-MP and ALP	Master Plan or ALP updated every 5 years including Airport Property Map (Exhibit "A")		ALP or Master Plan updated every 10 years including Airport Property Map (Exhibit "A")	Master Plan, ALP report, or Revised ALP Sheets updated every 10 years including Airport Property Map (Exhibit "A")	Airport Layout Plan Drawing including Airport Property Map (Exhibit "A")
Notes:					
<ol style="list-style-type: none"> 1. FAA Advisory Circular 150/5060-5, Airport Capacity & Delay, was used to estimate ASV. A mix index of 0-20 was assumed for GA airports. ASV of 230,000 is based on single runway. In the case of capacity constraints, a second runway will be considered for ASV calculations on a case-by-case basis. 2. If airport does not have the recommended best approach, assessment defaulted to secondary approach. 3. Conventional hangar space objectives for aircraft per 2003 VATSP are as follows: 850 square feet for single-engine piston; 1,200 square feet for multi-engine piston; 700 square feet for multi-engine turboprop; 2,900 square feet for multi-engine jet 4. Apron area objectives for transient and based aircraft per 2003 VATSP are as follows: 876 square yards for single-engine piston; 960 square yards for multi-engine piston; 1,730 square yards for multi-engine turboprop; 2,540 square yards for multi-engine jet 5. Different source is related to projects funded under the Commonwealth Airport Fund capital improvement projects only as Reliever airports are eligible under the Air Carrier/Reliever Discretionary funding source and the other GA Airports (Regional, Community, and Local Service) are eligible under the GA Discretionary funding program. All GA airports are eligible for the appropriate funding of security projects under the GA Airport Security Program which proceeds from the Aviation Special Fund are used. 					
Source Key:					
	2003 VATSP Facility Requirements				
	2003 VATSP Roles				
	New Based on DOAV Programs/ F&E Study				
	New Based on Historic Funded Projects				
	24 VAC 5-20-140 Airport Licensing Regulations				
	New Based on Other State System Plans				
	VAB "Basic Airport Unit" definition				
	Item not referenced in above documents, data collected if possible				

3.6 Facility, Service, and Equipment (FS&E) Objectives Analysis

This section is focused on identifying facilities, services, and equipment that could, given optimum conditions, be considered in order for each airport to better fulfill its designated role in the Virginia airport system. This evaluation ultimately helps determine the following: 1) where the current airport system is adequate to meet Virginia's near-term aviation needs; 2) where specific airport or system deficiencies exist within the Commonwealth; and 3) where surpluses or duplications exist within the system. The adequacies, deficiencies, surpluses, and duplications will be explored in Chapter 4 where alternatives to improve future system performance are discussed. This evaluation provides the foundation for subsequent recommendations for the Virginia airport system, as well as for individual study airports.

The data used in this analysis was collected in early 2013 during the inventory process. Subsequent system improvements may have been made, but are not captured in this analysis. It is important to note that all airport improvements noted in this analysis must be justified on a local planning level. At this point no consideration has been given to the constructability of the specific projects. It is recognized that not all the projects identified here can be implemented due to physical, financial, community support, and/or other constraints. All tables that contain detailed airport-specific data related to meeting the minimum FS&E objectives, established for the airport's respective role, can be found at the end of the chapter.

3.6.1 Airside Facility Objectives

Airside facilities play the most significant role in their ability to support system needs. Airside facility objectives include the following items:

- Airport Reference Code (ARC)
- Airfield Capacity
- Primary Runway Length
- Primary Runway Width
- Runway Strength
- Approach Type and Minimums
- Instrumentation
- Weather
- Communications
- Visual Aids

3.6.2 Airport Reference Code (ARC)

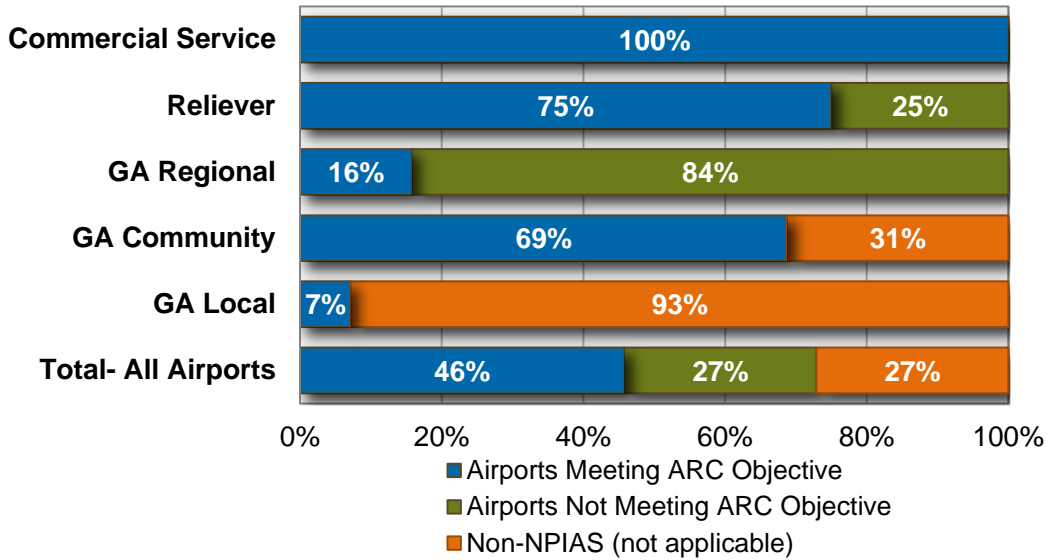
Each airport in the FAA's NPIAS is encouraged to meet all applicable FAA design and development standards. The most demanding aircraft that operates at an airport on a regular basis with at least 500 takeoffs and landings a year determines each airport's individual design standards and is known as the design or critical aircraft.

An airport's design standards are typically established during the development of an airport-specific master plan or airport layout plan (ALP). Each airport's design standards are related to the approach speed and the wingspan of its design aircraft. These two parameters are used to determine each airport's ARC. A letter (A, B, C, D, or E) is determined by the approach speed of the design aircraft, while a Roman numeral (I, II, III, IV, or V) is identified based on the wingspan of the design aircraft. Only a letter objective has been included, as follows, for the ARC objective in the VATSP Update:

- **Commercial Service, Reliever, and GA Regional:** ARC C
- **GA Community:** ARC B
- **Local Service:** ARC A or B

It is important to note that airports not included in the NPIAS are not required to meet FAA design standards. There are 18 airports in the Virginia airport system that are not part of the NPIAS. **Figure 3-3** presents compliance to the ARC objective by airport role and for the overall system. The non-NPIAS airports are shown as being non-applicable for this particular objective. The current ARCs for each system airport are presented in **Table 3-10** at the end of this chapter.

Figure 3 - 3: Percent of Airports by Role that Meet ARC Objective



The following airports do not meet their current ARC objective:

Reliever

- Hampton Roads Executive
- Hanover County Municipal

GA Regional

- Accomack County
- Culpeper Regional
- Dinwiddie County
- Emporia-Greensville Regional
- Farmville Municipal
- Ingalls Field
- Lonesome Pine
- Mecklenburg-Brunswick Regional
- Middle Peninsula Regional
- Mountain Empire
- New River Valley
- Suffolk Executive
- Tappahannock-Essex County
- Tazewell County
- Virginia Highlands
- William M. Tuck

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

3.6.3 Airfield Capacity

Air travel is chosen as a transportation mode because of the timesaving that it offers. When aircraft encounter operational delays because of insufficient operational capacity, efficiencies gained through air transportation are diminished. In addition, when aircraft are forced to idle on the ground or circle in the air as a result of inadequate operational capacity, the likelihood of negative environmental impacts increases.

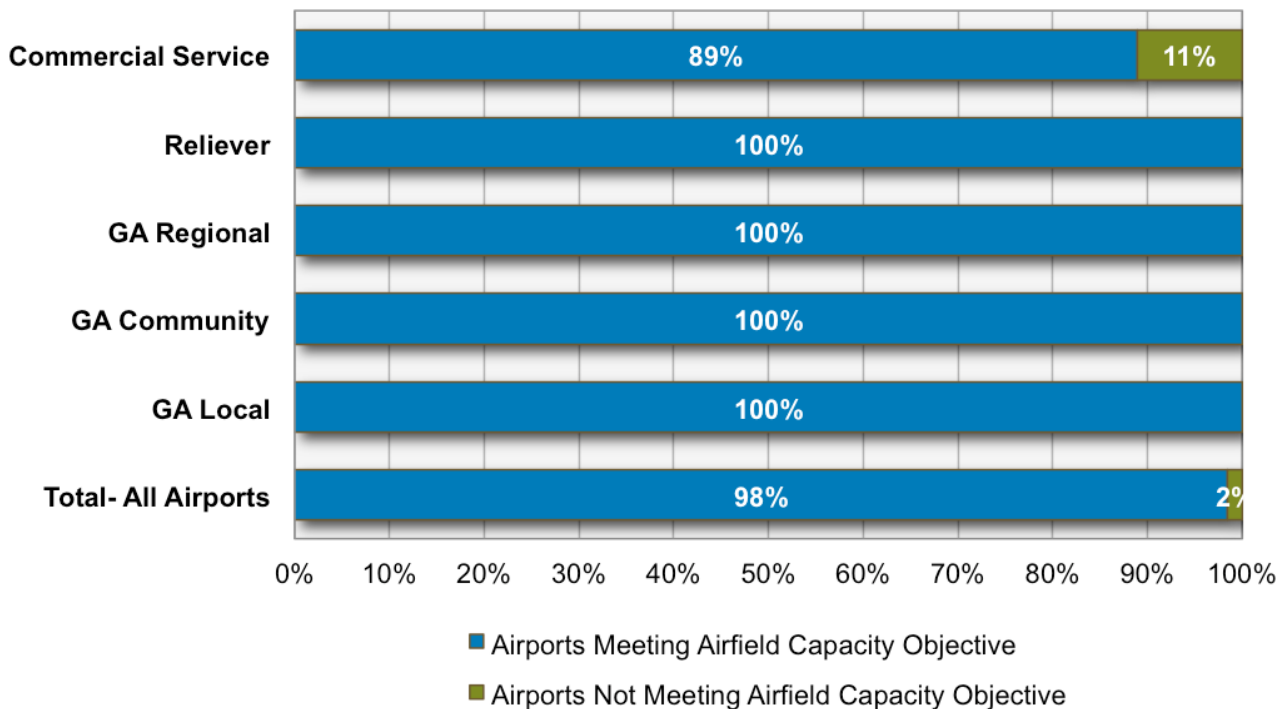
The following objectives by airport role were identified as part of the VATSP Update for airfield capacity

- **Commercial Service and Reliever:** Below 80% of calculated ASV (Planning at 60%)
- **GA Regional:** Below 80% of 230,000 ASV (Planning at 60%)
- **GA Community:** Below 80% of 230,000 ASV (Planning at 60%)
- **Local Service:** Below 80% of 230,000 ASV (Planning at 60%)

An analysis of the current airfield capacity for each airport is presented in **Table 3-11**. FAA Advisory Circular 150/5060-5, Airport Capacity & Delay, was used to estimate the annual service volume (ASV) for each airport. For Ronald Reagan Washington National (DCA) and Washington Dulles (IAD), airport data was utilized as available. A mix index of 0-20 was assumed for all general aviation airports. An ASV of 230,000 is based on a single runway configuration. In the case of capacity constraints, a second runway was considered for ASV calculations. An ASV of greater than 230,000 was used for Newport News-Williamsburg International, Richmond International, and Manassas Regional (in addition to IAD and DCA).

As shown in **Figure 3-4**, 98 percent of the system airports meet the airfield capacity objective for their respective role. By 2037, Washington Dulles International Airport is projected to be operating above 60% of its calculated ASV; and therefore, this airport should be planning for capacity improvements or identifying demand management strategies. It is important to note that capacity levels at Ronald Reagan Washington National Airport reflect hourly capacity and were taken directly from the FAA's *Airport Capacity Benchmark Report 2004*.

Figure 3 - 4: Percent of Airports by Role that Meet Airfield Capacity Objectives



3.6.4 Primary Runway Length and Width

Adequate runway facilities are important to aviation systems. Objectives for runway length and width were developed as part of the VATSP Update for airport roles based on the types of aircraft anticipated to operate at airports in each role. One growing segment of the general aviation fleet is business jet aircraft. These aircraft typically require a minimum runway length of 5,000 feet. The 2003 VATSP Update adopted a minimum runway length of 5,500 feet for airports with greater than 500 annual jet operations. This objective was adopted for this VATSP Update as well. The following objectives by airport role were identified as part of the VATSP Update for primary runway length and width:

- **Commercial Service and Reliever:** 5,500 feet x 100 feet
- **GA Regional:** If more than 500 annual jet operations= 5,500 feet x 100 feet; if less than 500 annual jet operations= 5,000 feet x 75 feet
- **GA Community:** If more than 500 annual jet operations= 5,500 feet x 100 feet; if less than 500 annual jet operations, length determined by FAA runway length requirements based on factors such as airport elevation and change in runway end/centerline elevation³ and mean maximum daily temperature during hottest month⁴; runway width determined by existing ARC.
- **Local Service:** Preserve existing length and width, if feasible, as required by 24 VAC 5-20-140 State Licensing Standards.

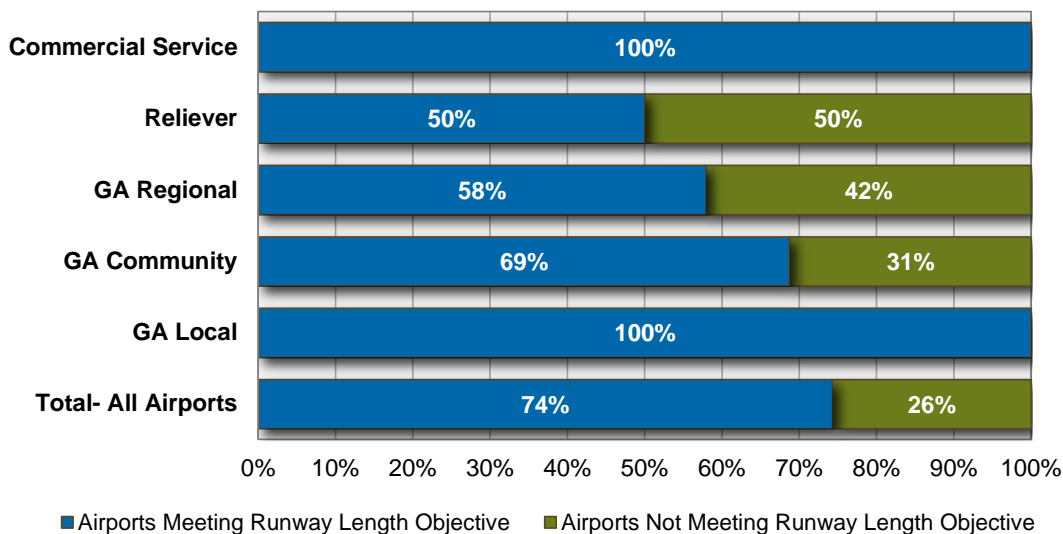
³ Airmav.com

⁴ Southeast Regional Climate Center

An analysis of the current primary runway length and width for each airport is presented in **Table 3-12**. Airports that exceed the minimum primary runway length and width are recommended to maintain existing facility capacity and infrastructure, as determined to be necessary. It is important to note that any runway extension, including those identified in this analysis, must be justified by the runway length required by an airport’s “critical aircraft” as identified during a detailed airport planning process. The critical aircraft is defined as the most demanding aircraft with more than 500 annual operations performed at an airport.

As shown in **Figure 3-5**, 74 percent of the system airports meet the minimum primary runway length objective for their respective role.

Figure 3 - 5: Percent of Airports by Role that Meet Runway Length Objectives



The following airports do not meet their runway length objective:

Reliever

- Hampton Roads Executive
- Hanover County Municipal
- Stafford Regional
- Warrenton-Fauquier

GA Regional

- Blue Ridge Regional
- Culpeper Regional
- Farmville Municipal
- Lonesome Pine
- Tappahannock-Essex County
- Tazewell County
- Virginia Highlands
- William M. Tuck

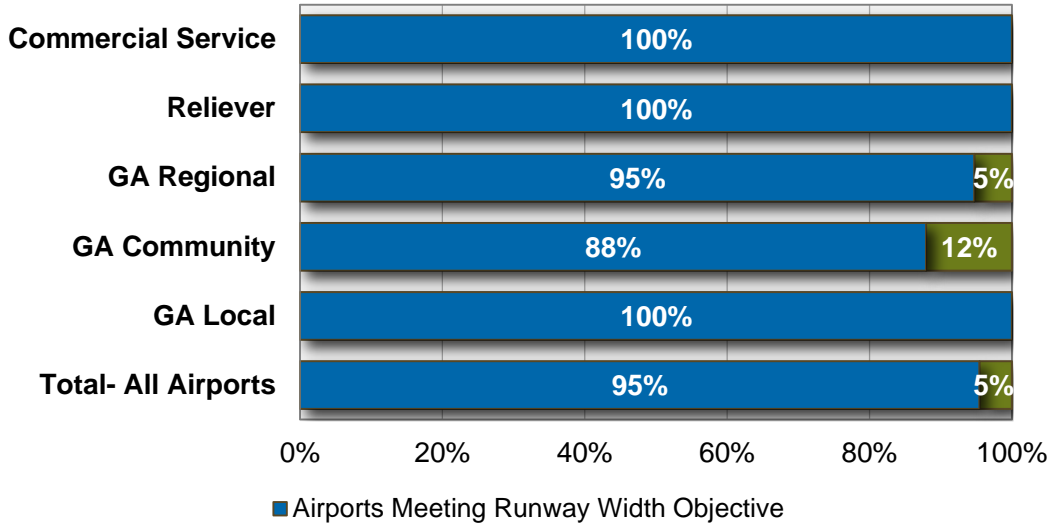
GA Community

- Front Royal-Warren County
- Luray Caverns
- Shannon
- Tangier Island
- Virginia Tech-Montgomery Executive

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. It is recognized that several of the airport runways may not be able to be extended due to physical constraints. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

Figure 3-6 presents system compliance with the VATSP runway width objectives. As shown, 94 percent of system airports meet runway width objectives.

Figure 3 - 6: Percent of Airports by Role that Meet Runway Width Objectives



The following airports do not meet their runway width objective:

GA Regional

- Farmville Municipal

GA Community

- Brookneal-Campbell County
- Lake Country Regional

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

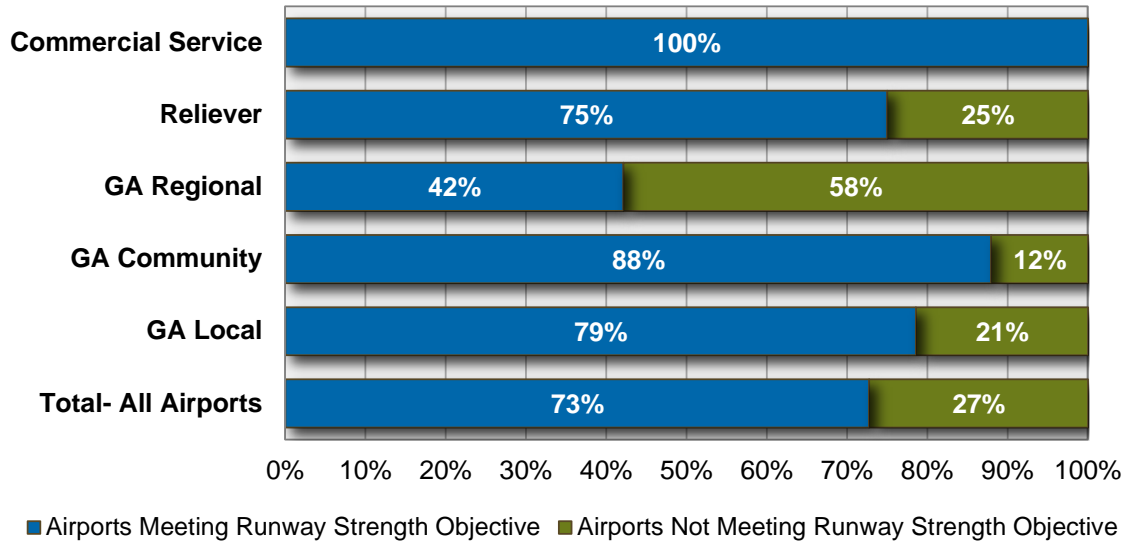
3.6.5 Runway Strength

The strength of runway pavement determines the weight of aircraft that can operate on a regular basis on a specific runway. Runway pavement is designed to sustain continuous aircraft operations up to the published weight bearing capacity; however, runways are capable of supporting infrequent aircraft operations in excess of their published pavement strength. Runway strengthening, in most cases, depending upon the condition and structure of the existing runway, can be accomplished by a runway overlay. Runway pavement strength is classified according to aircraft landing gear configuration and can either be single wheel landing gear (SW) or dual wheel landing gear (DW). The following objectives were incorporated into the VATSP Update for runway strength by airport role:

- **Commercial Service:** DW landing gear – 60,000 lbs.
- **Reliever and GA Regional:** SW landing gear – 30,000 lbs.
- **GA Community and Local Service:** SW landing gear – 12,500 lbs.

An analysis of the primary runway strength for each airport is presented in **Table 3-13**. As shown in **Figure 3-7**, 73 percent of the system airports meet the primary runway strength objective for their respective role.

Figure 3 - 7: Percent of Airports by Role that Meet Runway Strength Objectives



To fully comply with VATSP objectives, the following airports should be considered for projects that would increase the load bearing strength of their primary runway:

Reliever

- Hampton Roads Exec.
- Warrenton-Fauquier

GA Regional

- Accomack County
- Blue Ridge Regional
- Dinwiddie County
- Farmville Municipal
- Mecklenburg-Brunswick Regional
- Mountain Empire
- New River Valley
- Tappahannock-Essex County
- Tazewell County
- Virginia Highlands
- William M. Tuck

GA Community

- Luray Caverns
- Orange County

Local Service

- Crewe Municipal
- Grundy Municipal
- Lake Anna

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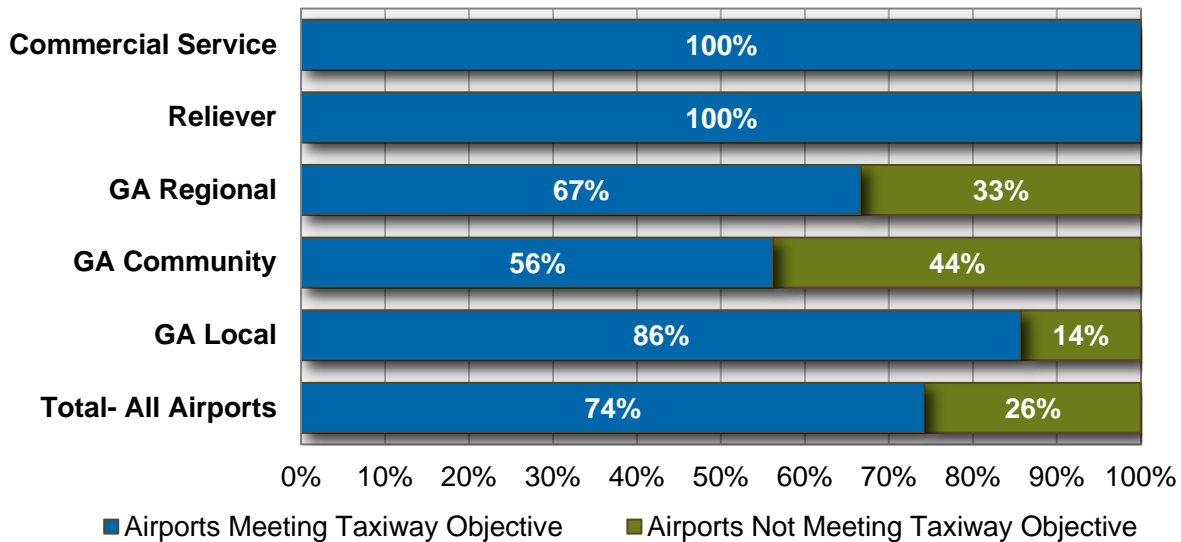
3.6.6 Taxiway Type

Taxiways are constructed to facilitate aircraft movements to and from the runway system and to improve operating safety. Strategically placed taxiway exits permit aircraft to clear the runway after landing and significantly increase runway capacity. Some taxiways are necessary simply to provide access between the apron and runway, whereas other taxiways become needed as activity increases and more efficient use of the airfield is required. The following taxiway objectives were developed for the VATSP Update:

- **Commercial Service, Reliever, GA Regional, and GA Community:** Full parallel taxiway if more than 20,000 annual operations OR landing approach minima less than 400-1 OR an existing LPV approach. The minimum objective for taxiways for these airports is turnarounds.
- **Local Service:** Stub taxiway

Airports meeting their respective facility objective for taxiways are shown in **Table 3-14**. **Figure 3-8** shows that 74 percent of all airports currently meet their taxiway objective.

Figure 3 - 8: Percent of Airports by Role that Meet Taxiway Objectives



The following airports need to implement taxiway improvements to fully comply with this VATSP objective:

GA Regional

- Accomack County
- Dinwiddie County
- Emporia- Greenville Regional
- Lonesome Pine
- New River Valley
- Suffolk Executive
- Tappahannock- Essex County
- Tazewell County

GA Community

- Brookneal- Campbell County
- Franklin Municipal
- Lake Country Regional
- Luray Caverns
- Shannon
- Tangier Island
- Twin County

Local Service

- Chase City Municipal
- Lawrenceville- Brunswick Municipal

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

3.6.7 Approach Type

Approach technology has significantly evolved since the completion of the 2003 VATSP Update and continues to evolve with the development and rollout of the FAA’s Next Generation Air Transportation System (NextGen). The majority of new approach procedures developed by the FAA are now satellite-based systems that rely on Global Positioning System (GPS) (Localizer Performance with Vertical guidance (LPV) or Lateral Navigation (LNAV)); as compared to ground-based approaches (Instrument Landing System (ILS), Very high frequency Omni-Directional Range (VOR), Non-Directional Beacon (NDB)) typically used 10 years ago. Recognizing, and in anticipation of changes in technology, the DOAV published its *Facilities and Equipment (NAVAID) Study* in 2010. This study was developed to ensure that Virginia airports have appropriate approaches and the lowest practical ceiling and visibility minima. It provided recommendations or “system benchmarks” for approaches, instrumentation, communications, and weather reporting facilities by airport service level. The recommendations included represent the ideal scenario. Many of the airports do not currently meet the system benchmarks identified in this study, but they were considered to be attainable over a 20-year planning period.

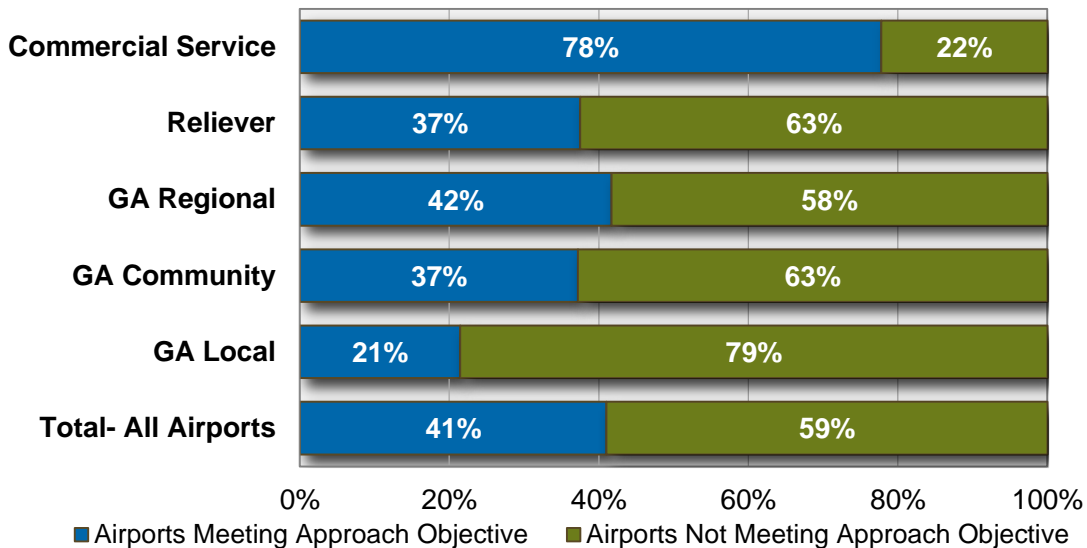
The VATSP Update adopted the “system benchmarks” from the NAVAID Study for several objectives including approach type. While the NAVAID Study provides approach benchmarks for best approach, secondary approach, and all other runway ends with an instrument approach, the VATSP approach objective is related to the best approach to the primary runway end. In addition, the NAVAID Study provided different recommendations for airports in the “Commercial Service” role based on enplanement levels. The prior study also contained different recommendations for GA Regional airports based on existing approaches and activity levels. The VATSP Update adopted the benchmarks for the least demanding approach category as the objective for the Commercial Service and GA Regional airports.

The approach objectives for the VATSP Update, as well as approach visibility minimums for each approach type by role, are as follows:

- **Commercial Service and Reliever:** ILS Cat I (200-1/2 mile minimum), LPV and Local Area Augmentation System (LAAS) (200-1/2 mile)
- **GA Regional:** LPV and LAAS (250-1 mile)
- **GA Community:** Ground-Based (500-1 mile minimum), LPV and LAAS (400-1 mile)
- **Local Service:** Ground-Based Day Only Visibility (1,000- 3 mile minimum)

Table 3-15 lists the best existing approach type and minimums at each Virginia airport. As shown in Figure 3-9, only 39 percent of airports currently meet their approach objective.

Figure 3 - 9: Percent of Airports by Role that Meet Approach Objectives



Enhanced approach capabilities are needed to meet study objectives at the airports shown below. While the listed approach objectives are desirable for these airports, they may not be feasible in all cases.

<u>Commercial Service</u>	<u>Reliever</u>	<u>GA Regional</u>	<u>GA Community</u>	<u>Local Service</u>
<ul style="list-style-type: none"> • Charlottesville-Albemarle • Roanoke-Blacksburg Regional 	<ul style="list-style-type: none"> • Hanover County Municipal • Leesburg Executive • Manassas Regional • Stafford Regional • Warrenton-Fauquier 	<ul style="list-style-type: none"> • Accomack County • Culpeper Regional • Dinwiddie County • Farmville Municipal • Ingalls Field • Lonesome Pine • Mountain Empire • Tappahannock-Essex County • Tazewell County • Virginia Highlands • William M. Tuck 	<ul style="list-style-type: none"> • Blackstone AAF • Front Royal-Warren County • Luray Caverns • Orange County • Shannon • Tangier Island • Virginia Tech-Montgomery Exec • Wakefield Municipal • Williamsburg-Jamestown 	<ul style="list-style-type: none"> • Bridgewater Air Park • Chase City Municipal • Gordonsville Municipal • Grundy Municipal • Hummel Field • Lake Anna • Lawrenceville-Brunswick Municipal • New London • New Market • Smith Mountain Lake • Waynesboro-Eagle's Nest

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. It is recognized that several of the approach minimums may not be able to be realized due to physical or airspace constraints. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

3.6.8 Airport Runway Instrumentation

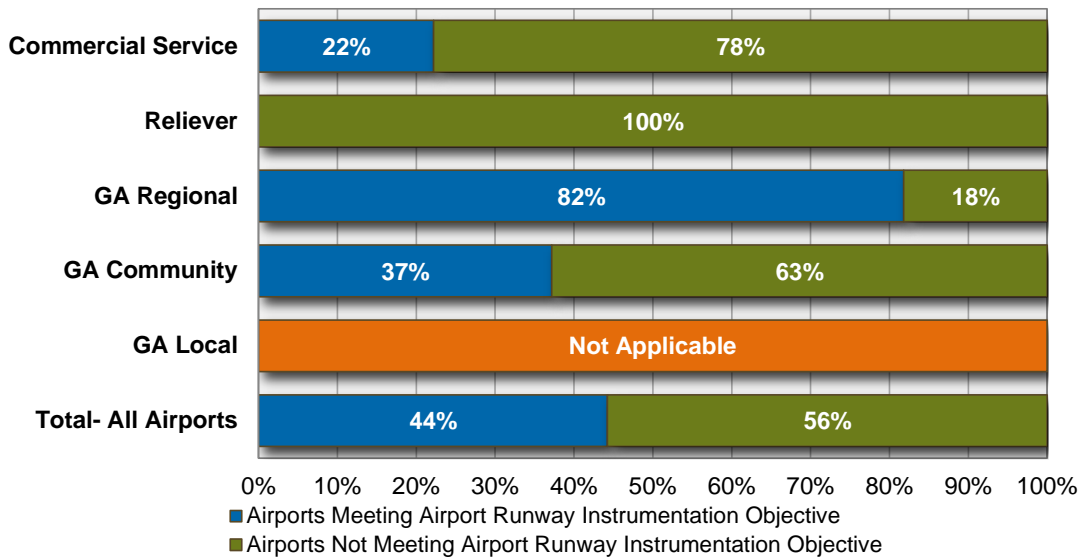
Approach lighting, runway lighting, and visual glideslope indicators provide navigational assistance to aircraft arriving and departing Virginia’s airports. Further, these items provide support to the approaches objectives discussed in the previous section. The 2010 *Facilities and Equipment (NAVAID) Study* provided “System Benchmarks” for runway instrumentation and those have been adopted as objectives for system plan as well. The following objectives for runway instrumentation have been identified for the VATSP Update:

- **Commercial Service and Reliever:** The Medium Intensity Approach Lighting Systems with Runway Alignment Indicators (MALSR) on primary runway end, MALS on secondary runway end, Precision Approach Path Indicators (PAPIs) on both runway ends, and High-Intensity Runway Lights (HIRLs)
- **GA Regional and GA Community:** Runway End Identifier Lights (REIL) or approach lighting system on both runway ends, PAPIs on both runway ends, Medium-Intensity Runway Lights (MIRLs)
- **Local Service:** As needed, case-by-case.

There were varying degrees of airport runway instrumentation for the benchmarks included in the NAVAID Study for Commercial Service and GA Regional airports; these benchmarks were based on the airport’s activity level. For the VATSP Update, the benchmark from the NAVAIDS Study that corresponds with the lowest activity level was adopted.

For the VATSP Update, only instrumentation for each runway end on the primary runway is considered as part of the objectives review. **Table 3-16** presents which airports currently meet their objectives for airport runway instrumentation. It is important to note that if an airport only partially meets its airport runway instrumentation objectives it is shown in the table as not meeting its objective. As shown in **Figure 3-10**, 44 percent of system airports meet their airport runway instrumentation objectives. Since there is no runway instrumentation objective for Local Service airports, they have not been included in the results shown in Figure 3-10.

Figure 3 - 10: Percent of Airports by Role that Meet Airport Runway Instrumentation Objectives



Following are the airports recommended for additional facilities to meet all airport runway instrumentation objectives for each airport’s role:

Commercial Service

- Charlottesville-Albemarle
- Lynchburg Regional
- Newport News-Williamsburg International
- Richmond International
- Roanoke-Blacksburg Regional
- Ronald Reagan Washington National
- Shenandoah Valley Regional

Reliever

- Chesapeake Regional
- Richmond Executive-Chesterfield County
- Hampton Roads Executive
- Hanover County Municipal
- Leesburg Executive
- Manassas Regional
- Stafford Regional
- Warrenton-Fauquier

GA Regional

- Farmville Municipal
- Ingalls Field
- Virginia Highlands
- William M. Tuck

GA Community

- Blackstone AAF
- Brookneal-Campbell County
- Franklin Municipal
- Front Royal- Warren County
- Lake Country Regional
- Luray Caverns
- Shannon
- Tangier Island
- Wakefield Municipal
- Williamsburg-Jamestown

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

3.6.9 Weather

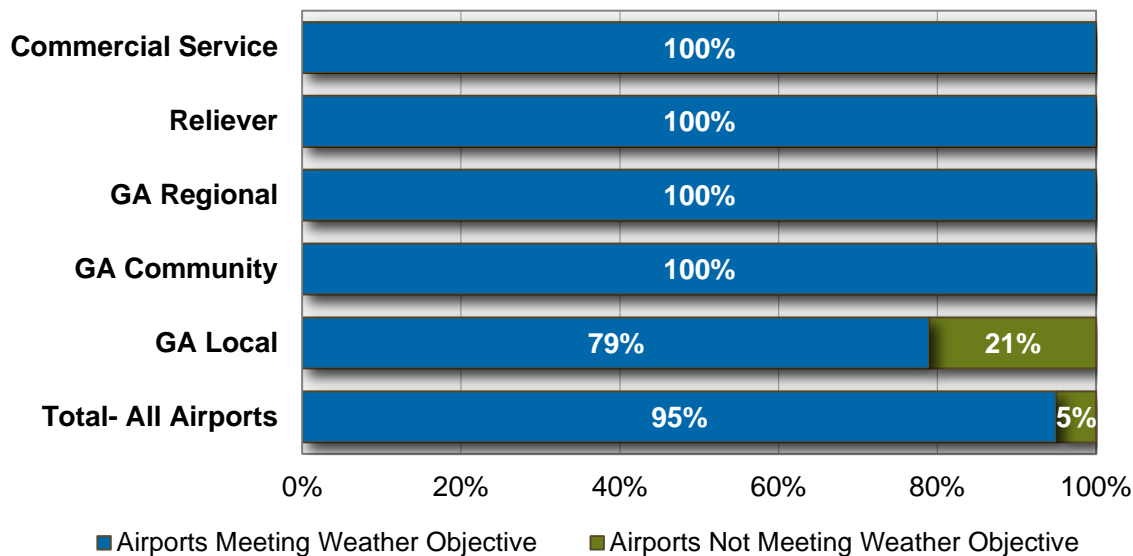
On-site weather reporting equipment at an airport compliments its approach capabilities and promotes an increased safety margin during periods of inclement or changing weather. By providing on-site weather reporting equipment, pilots are ensured sufficient information related to weather conditions at their destination airport, as well as at other potential backup airports.

For this objective, the “System Benchmark” for weather from the 2010 NAVAID Study was adopted. Although the NAVAID Study did not develop benchmarks for weather reporting equipment at Local Service Airports, objectives for weather reporting equipment at airports in this role have been developed as part of the VATSP Update. The following objectives related to on-site weather reporting have been established as part of the VATSP Update:

- **Commercial Service, Reliever, and GA Regional:** ASOS or AWOS III on-field, 24/7, networked
- **GA Community and Local Service:** AWOS-A on-field, 24/7, data-linked

Table 3-17 indicates which airports, by role, are currently meeting their objective and which airports should install weather reporting equipment to meet their associated objective. **Figure 3-11** shows that 95 percent of all system airports currently have an on-site weather reporting and meet their objective.

Figure 3 - 11: Percent of Airports by Role that Meet Weather Objectives



The following airports should install on-site weather reporting to meet VATSP objectives:

Local Service

- Falwell
- New London
- Smith Mountain Lake

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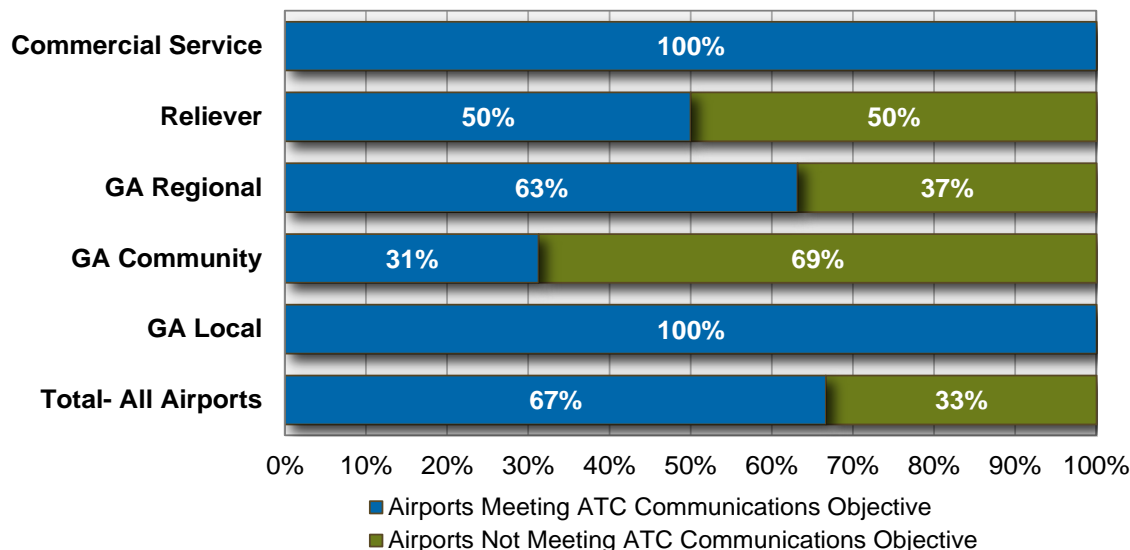
3.6.10 Air Traffic Control Communications

Pilot communication with Air Traffic Control (ATC) for clearance supports safe aircraft operations. The previous NAVAIDS Study recommended clearance delivery communication benchmarks for each airport role (excluding Local Service). These benchmarks have been adopted as part of the VATSP Update. There are three different types of clearance delivery communication objectives that are included in the VATSP Update. They are: 1) direct frequency to ATC, 2) remote transmitter receiver (RTR), or 3) ground communications outlet (GCO). The VATSP ATC communications objectives by role are as follows:

- **Commercial Service:** Direct access to ATC clearance or RTR access to ATC clearance
- **Reliever:** RTR access to ATC clearance
- **GA Regional:** RTR access to ATC clearance OR GCO if approach >1 mile visibility
- **GA Community:** RTR or GCO
- **Local Service:** Preserve Existing

Table 3-18 presents the existing ATC communications found at each airport and reflects whether or not the airports are meeting their corresponding communications objective based on their system role. As shown in **Figure 3-12**, 67 percent of system airports meet their applicable ATC communications objectives.

Figure 3 - 12: Percent of Airports by Role that Meet Air Traffic Control Communications Objectives



The following airports currently do not meet their ATC communications objective. Although there is no specific ATC communication objective for Local Service airports, it is recommended that Chase City Municipal install a phone or other clearance delivery communication.

Reliever

- Chesapeake Regional
- Hampton Roads Exec.
- Stafford Regional
- Warrenton-Fauquier

GA Regional

- Ingalls Field
- Lonesome Pine
- Middle Peninsula Regional
- Mountain Empire
- Tappahannock- Essex County
- Virginia Highlands
- William M. Tuck

GA Community

- Blackstone AAF
- Brookneal-Campbell County
- Front Royal-Warren County
- Lake Country Regional
- Lee County
- Louisa County
- Luray Caverns
- Tangier Island
- Twin County
- Wakefield Municipal

Local Service

- Chase City Municipal

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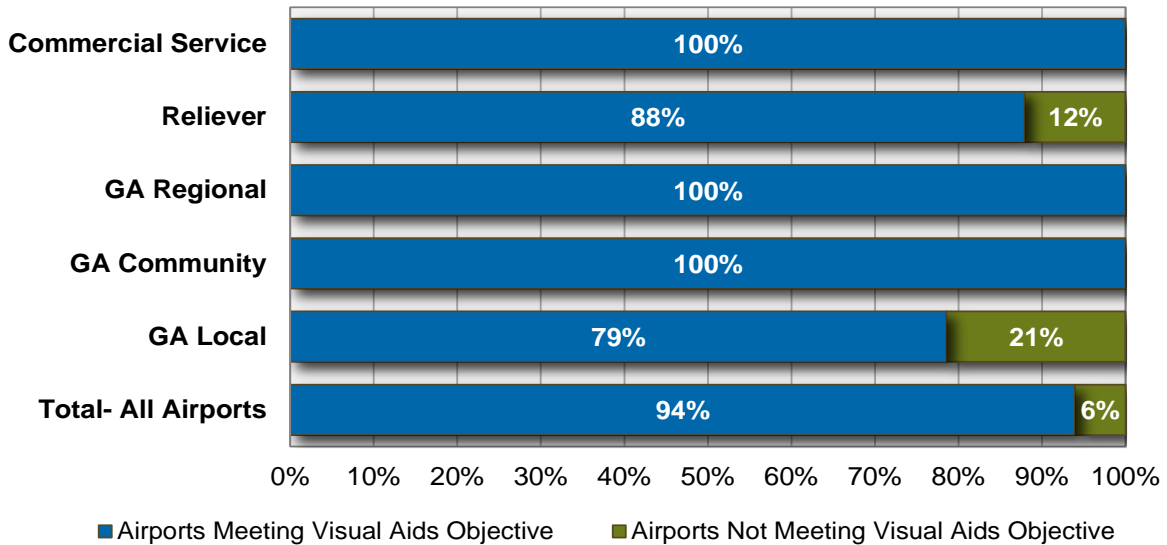
3.6.11 Additional Visual Aids

In addition to the objectives noted as part of the instrumentation discussion above, other visual aids are also used by pilots to locate airports from the air during the day when daylight is limited. The VATSP visual aids objectives by role include:

- **Commercial Service and Reliever:** Rotating Beacon, Lighted Wind Cone, Segmented Circle
- **GA Regional:** Rotating Beacon, Lighted Wind Cone
- **GA Community and Local Service:** Rotating Beacon, Wind Cone

Nearly all airports meet these objectives as reflected in **Table 3-19** and as shown in **Figure 3-13**.

Figure 3 - 13: Percent of Airports by Role that Meet Visual Aids Objectives



The following airports do not meet the visual aid objectives for their role:

Reliever

- Leesburg Executive

Local Service

- Crewe Municipal
- Lake Anna
- New London

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3.6.12 Landside Facilities

Landside facilities are important for servicing both aircraft and airport customers. Landside facility objectives included in the VATSP Update include:

Aircraft Hangar Storage
Apron Area

Terminal Building
Auto Parking

3.6.13 Aircraft Hangar Storage

Demand for hangar space is directly related to the local climate and the type of based aircraft at each airport. Areas with severe weather conditions have a higher demand for hangar storage facilities. In addition, larger investments in jet and turboprop aircraft also increase the demand for hangar storage. In Virginia, aircraft storage distribution varies significantly by airport role. **Table 3-8** shows aircraft storage distribution for each aircraft type by airport role as previously established as part of the 2003 VATSP Update; these same objectives are used in this study.

There are two primary types of aircraft hangar storage: T-hangars and conventional hangars. T-hangars are rectangular shaped buildings that are split into numerous sections, often in the shape of a “T” that store smaller aircraft. Conventional hangars, commonly known as box hangars, have been given their name based upon their square/rectangular shape. These hangars can vary in size from large corporate-style with sufficient square footage to store multiple larger jet aircraft, down to smaller box hangars that are intended to store a single aircraft.

The following objectives by airport role have been developed and adopted for aircraft hangar storage:

T-Hangar Spaces

- **Commercial Service:** Apply appropriate distribution from Table 3-8 to forecast based aircraft
- **Reliever:** Apply appropriate distribution from Table 3-8 to forecast based aircraft
- **GA Regional:** Apply appropriate distribution from Table 3-8 to forecast based aircraft
- **GA Community:** Apply appropriate distribution from Table 3-8 to forecast based aircraft
- **Local Service:** Preserve existing

Conventional Hangar Spaces

- **Commercial Service:** Apply appropriate distribution from Table 3-8 to forecast based aircraft utilizing aircraft space objectives
- **Reliever:** Apply appropriate distribution from Table 3-8 to forecast based aircraft utilizing aircraft space objectives
- **GA Regional:** Apply appropriate distribution from Table 3-8 to forecast based aircraft utilizing aircraft space objectives
- **GA Community:** Apply appropriate distribution from Table 3-8 to forecast based aircraft utilizing aircraft space objectives
- **Local Service:** Preserve existing

Table 3 - 8: Aircraft Storage Distribution

Commercial Service			
	T-Hangar	Conventional Hangar	Tie-Down
Single-engine piston	56%	14%	30%
Multi-engine piston	32%	66%	2%
Multi-engine turboprop	6%	85%	9%
Multi-engine jet	0%	100%	0%
Reliever			
	T-Hangar	Conventional Hangar	Tie-Down
Single-engine piston	78%	2%	20%
Multi-engine piston	67%	27%	6%
Multi-engine turboprop	0%	89%	11%
Multi-engine jet	0%	100%	0%
GA Regional			
	T-Hangar	Conventional Hangar	Tie-Down
Single-engine piston	77%	11%	12%
Multi-engine piston	45%	39%	16%
Multi-engine turboprop	0%	100%	0%
Multi-engine jet	0%	100%	0%
GA Community			
	T-Hangar	Conventional Hangar	Tie-Down
Single-engine piston	50%	19%	31%
Multi-engine piston	42%	50%	8%
Multi-engine turboprop	0%	83%	17%
Multi-engine jet	0%	100%	0%
Local Service			
	T-Hangar	Conventional Hangar	Tie-Down
Single-engine piston	26%	44%	30%
Multi-engine piston	25%	25%	50%
Multi-engine turboprop	0%	47%	53%
Multi-engine jet	0%	0%	0%

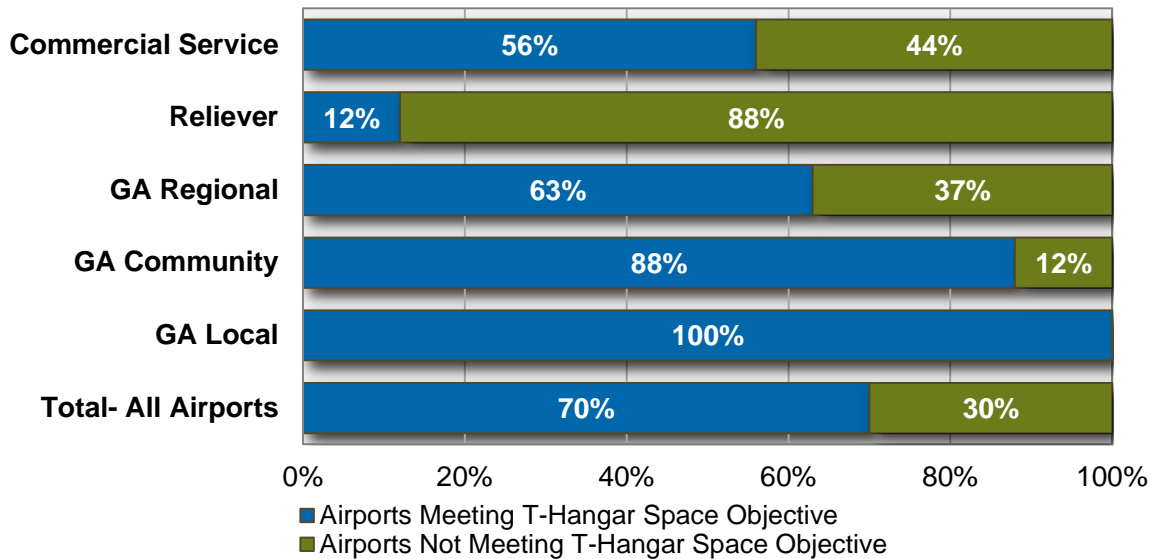
The 2003 VATSP Update established the following aircraft space objectives and these objectives were used in this update to set conventional hangar objectives:

- Single-engine piston: 850 square feet
- Multi-engine piston: 1,200 square feet
- Multi-engine turboprop: 1,700 square feet
- Multi-engine jet: 2,900 square feet

An analysis of hangar storage, by type (T-hangar vs. conventional hangar), for each airport is presented in **Table 3-20** and **Table 3-21**. Assuming that nominal deficiencies will not be addressed, only T-hangar needs greater than or equal to six units and conventional hangar needs of greater than or equal to 3,000 square feet are recommended. Airports that exceed their hangar storage objectives should maintain existing storage footage, as determined to be necessary.

As shown in **Figure 3-14**, 70 percent of the system airports meet their objective for T-hangar storage space for their respective role.

Figure 3 - 14: Percent of Airports by Role that Meet T-Hangar Space Objectives



The following airports do not meet their T-hangar space objectives:

Commercial Service

- Lynchburg Regional
- Newport News-Williamsburg International
- Richmond International
- Roanoke-Blacksburg Regional

Reliever

- Chesapeake Regional
- Hampton Roads Executive
- Hanover County Municipal
- Leesburg Executive
- Manassas Regional
- Stafford Regional
- Warrenton-Fauquier

GA Regional

- Accomack County
- Culpeper Regional
- Middle Peninsula Regional
- Mountain Empire
- New River Valley
- Tappahannock-Essex County
- Winchester Regional

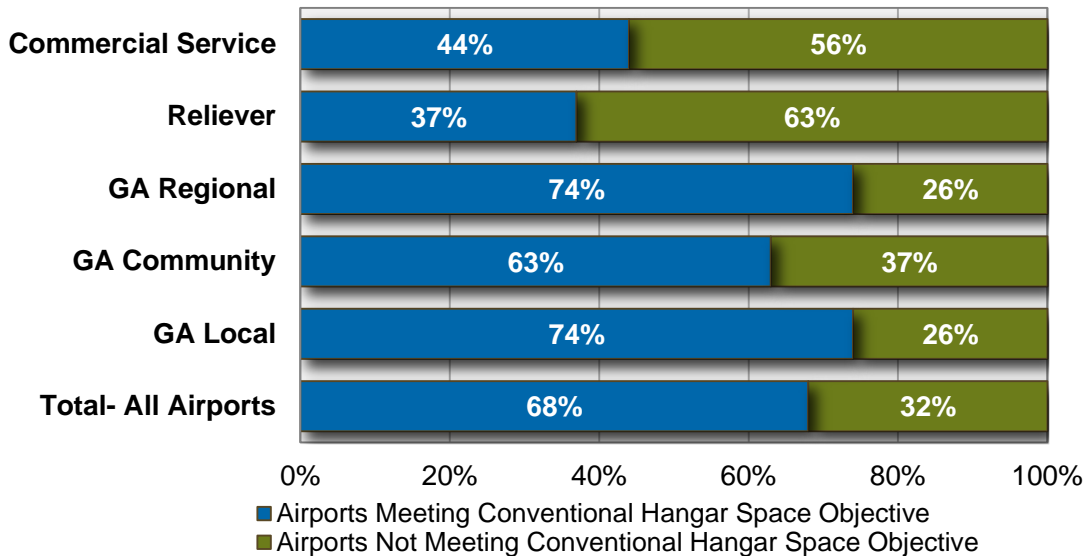
GA Community

- Lake Country Regional
- Virginia Tech-Montgomery Executive

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Figure 3-15 presents system compliance with conventional hangar storage space objectives. As shown, 68 percent of system airports meet their objectives for conventional hangar storage.

Figure 3 - 15: Percent of Airports by Role that Meet Conventional Hangar Space Objectives



The following airports do not meet VATSP conventional hangar space objectives:

Commercial Service

- Charlottesville-Albemarle
- Lynchburg Regional
- Newport News-Williamsburg International
- Shenandoah Valley Regional
- Washington Dulles International

Reliever

- Chesapeake Regional
- Richmond Executive-Chesterfield County
- Leesburg Executive
- Stafford Regional
- Warrenton-Fauquier

GA Regional

- Accomack County
- Middle Peninsula Regional
- Suffolk Executive
- Tappahannock-Essex County
- Virginia Highlands

GA Community

- Brookneal-Campbell County
- Front Royal-Warren County
- Luray Caverns
- New Kent County
- Shannon
- Virginia Tech-Montgomery Executive

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3.6.14 Apron Area

Aprons or aircraft ramps are designated surfaces typically adjacent to terminal buildings, maintenance hangars, air cargo facilities, and aircraft hangars. They provide areas for parking aircraft, loading and unloading, fueling, and servicing aircraft. Apron areas typically vary in size and location based on a variety of factors including: level and nature of demand, type and size of aircraft intended to use the parking surface, FAA design standards, and aircraft maneuvering needs.

Apron areas were calculated for paved aircraft tie-down areas using the following objectives by airport role:

Based Aircraft Apron Spaces

- **Commercial Service:** Apply appropriate distribution from Table 3-8 to forecast based aircraft utilizing aircraft space objectives
- **Reliever:** Apply appropriate distribution from Table 3-8 to forecast based aircraft utilizing aircraft space objectives
- **GA Regional:** Apply appropriate distribution from Table 3-8 to forecast based aircraft utilizing aircraft space objectives
- **GA Community:** Apply appropriate distribution from Table 3-8 to forecast based aircraft utilizing aircraft space objectives
- **Local Service:** Preserve existing

Transient Aircraft Apron Spaces

- **Commercial Service:** Forecast busy day itinerant operations multiplied by the appropriate aircraft space objectives
- **Reliever:** Forecast busy day itinerant operations multiplied by the appropriate aircraft space objectives
- **GA Regional:** Forecast busy day itinerant operations multiplied by the appropriate aircraft space objectives
- **GA Community:** Forecast busy day itinerant operations multiplied by the appropriate aircraft space objectives
- **Local Service:** Preserve existing

The 2003 VATSP Update previously established the following aircraft objectives for apron areas and these were adopted for use in the VATSP Update to determine apron area needs:

- Single-engine piston: 876 square yards
- Multi-engine piston: 960 square yards
- Multi-engine turboprop: 1,730 square yards
- Multi-engine jet: 2,540 square yards

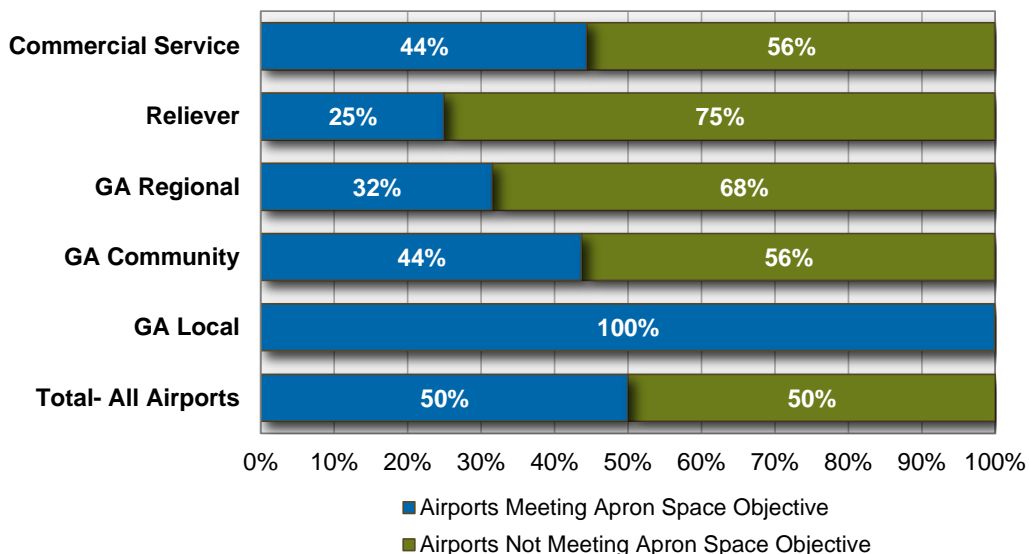
The following assumptions were used to determine transient aircraft apron space objectives:

- Total operations were taken from the general aviation forecasts prepared as part of the VATSP update. Annual operations for each study airport were divided by 365 to derive daily operations. To estimate busy day operations, it was assumed that the busy day is 10% more active than an average day.
- Transient operations were calculated by applying FAA Form 5010 local/itinerant ratios to the total operation forecasts developed in the VATSP Update.
- The majority of transient aircraft arrives and departs on the same day. It was assumed that the number of aircraft utilizing the parking apron equals 50% of the transient or visiting operations on a busy day.

An analysis of apron area objectives for each airport is presented in **Table 3-22**. Assuming that nominal deficiencies will not be addressed, only apron needs greater than or equal to 6,000 square yards will be carried forward.

As shown in **Figure 3-16**, 50 percent of system airports meet apron space objectives for their respective airport role.

Figure 3 - 16: Percent of Airports by Role that Meet Apron Space Objectives



The following airports do not meet their apron space objectives as established in the VATSP Update:

<u>Commercial Service</u>	<u>Reliever</u>	<u>GA Regional</u>	<u>GA Community</u>
<ul style="list-style-type: none"> • Charlottesville-Albemarle • Lynchburg Regional • Roanoke-Blacksburg Regional • Shenandoah Valley Regional • Washington Dulles International 	<ul style="list-style-type: none"> • Chesapeake Regional • Hampton Roads Executive • Hanover County Municipal • Leesburg Executive • Stafford Regional • Warrenton-Fauquier 	<ul style="list-style-type: none"> • Accomack County • Blue Ridge Regional • Culpeper Regional • Dinwiddie County • Farmville Municipal • Ingalls Field • Lonesome Pine • Mecklenburg-Brunswick Regional • Middle Peninsula Regional • Mountain Empire • New River Valley • William M. Tuck • Winchester Regional 	<ul style="list-style-type: none"> • Front Royal- Warren County • Lake Country Regional • Louisa County • New Kent County • Shannon • Twin County • Virginia Tech-Montgomery Executive • Wakefield Municipal • Williamsburg-Jamestown

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3.6.15 Terminal Building

Terminal buildings provide essential services for passengers and pilots, as well as a facility for the transfer of passengers and flight crews to and from the aircraft. Terminal facilities can range in size based upon several factors, the most important being the type of users. Buildings can range from a small pilot room for flight planning and resting to a large multi-room building that provides services for multiple uses. A terminal building provides the first impression of a community to visitors so it is important for a terminal building to be welcoming and provide a positive experience for the visitor. Specific areas or uses in a terminal building can include: waiting areas, restrooms, pilots lounge, vending, conference rooms, and airport manager offices.

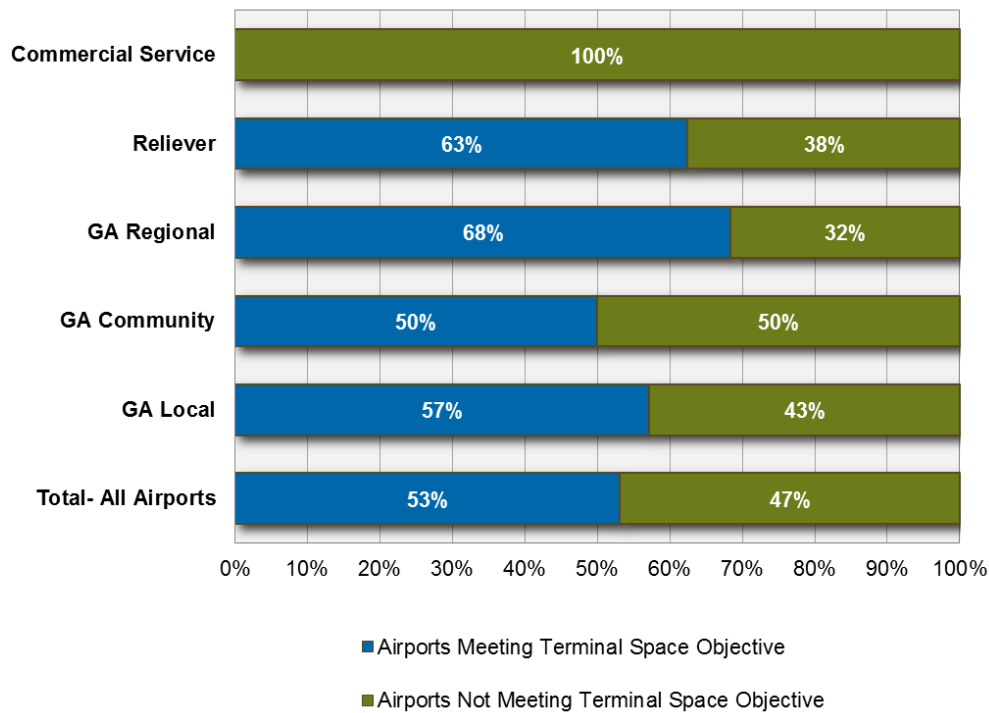
Objectives for terminal buildings located at Commercial Service airports in Virginia were estimated based on each airport’s most recent master plan. Terminal building objectives for general aviation airports were derived from the DOAV’s terminal program and Terminal Building Area Calculator. The Terminal Building Area Calculator refers to the DOAV’s 20-year funding eligibility model, which is provided upon request to the airport sponsor. This program and calculator only calculate the portion of the terminal that is eligible for State funding. This portion is approximately 70 percent of the average terminal building’s size. The following assumptions were used to determine general aviation terminal objectives in the VATSP Update:

- Total forecasted general aviation operations were obtained from the General Aviation Forecasts conducted as part of this study. These operations were entered into the DOAV’s Terminal Building Area Calculator to determine the portion of public-use square footage of each terminal building that is eligible for state funding. The public-use square footage of the terminal building was then multiplied by 1.3 to determine the total terminal space objective for each airport.

An analysis of terminal building objectives for each airport is presented in **Table 3-23**. Assuming that nominal deficiencies would not be remedied; only terminal needs greater than or equal to 1,200 square feet are included in the facility objectives. Terminal space needs for Ronald Reagan Washington National and Washington Dulles International airports were not identified as part of this study.

As shown in **Figure 3-17**, 50 percent of the system airports meet the minimum terminal building objectives for their respective role for terminal space.

Figure 3 - 17: Percent of Airports by Role that Meet Terminal Building Space Objective



Note: Analysis does not include Ronald Reagan National Airport and Washington Dulles International Airport.

The following airports do not meet recommended terminal building objectives:

<u>Commercial Service</u>	<u>Reliever</u>	<u>GA Regional</u>	<u>GA Community</u>	<u>Local Service</u>
<ul style="list-style-type: none"> • Charlottesville-Albemarle • Lynchburg Regional • Newport News-Williamsburg International • Norfolk International • Richmond International • Roanoke-Blacksburg Regional • Shenandoah Valley Regional 	<ul style="list-style-type: none"> • Chesapeake Regional • Hanover County Municipal • Stafford Regional • Warrenton-Fauquier 	<ul style="list-style-type: none"> • Farmville Municipal • Mecklenburg-Brunswick Regional • Mountain Empire • Suffolk Executive Essex County • William M. Tuck 	<ul style="list-style-type: none"> • Brookneal-Campbell County • Front Royal-Warren County • Lake Country Regional • Louisa County • Luray Caverns • Tangier Island • Twin County • Wakefield Municipal • Williamsburg-Jamestown 	<ul style="list-style-type: none"> • Bridgewater Air Park • Chase City Municipal • Gordonsville Municipal • Lake Anna • Lunenburg County • Smith Mountain Lake

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

3.6.16 Auto Parking Space

The number of automobile parking spaces at an airport varies based on parking demand and airport services. The following assumptions by airport role were used in the VATSP Update to develop objectives for auto parking:

- **Commercial Service:** Minimum 100 parking spaces per 100,000 enplanements per FAA AC 150/5360-13
- **Reliever:** 1 space per airport/tenant employee plus 1.5 spaces per based aircraft departures on an average day in the peak month
- **GA Regional:** 1 space per airport/tenant employee plus 1.5 spaces per based aircraft departures on an average day in the peak month
- **GA Community:** 1 space per airport/tenant employee plus 1.5 spaces per based aircraft departures on an average day in the peak month
- **Local Service:** 1 space per airport/tenant employee plus 1.5 spaces per based aircraft departures on an average day in the peak month

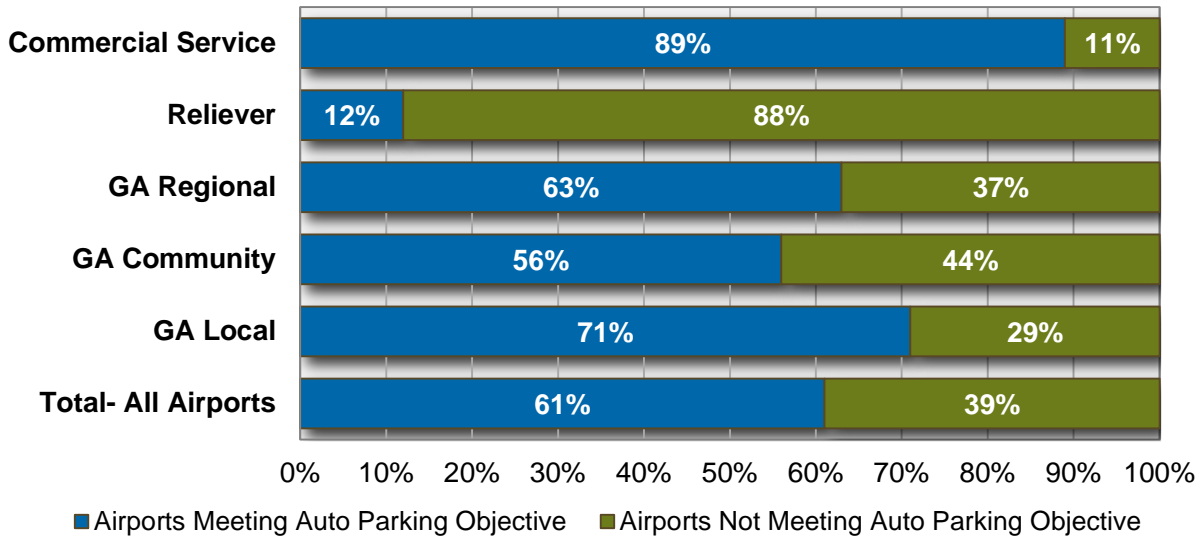
The following inputs were used to determine auto parking needs:

- Total direct airport and on-airport tenant/business employment was gathered from the 2010 Virginia Airport System Economic Impact Study’s technical report for each airport.
- Forecasted total annual general aviation operations were gathered from the General Aviation Forecast conducted as part of this study. Annual operations were then divided in half to determine the number of landings and takeoffs.
- The annual aircraft takeoffs were then divided by 12 to determine the average month, and it was assumed that the peak month is 10% busier than the average month. To determine the average day within the peak month, peak month operations were divided by 30.

An analysis of auto parking needs for each airport is presented in **Table 3-24**. Assuming that nominal deficiencies will not be remedied, only auto parking needs of greater than or equal to 20 spaces are included in the objectives.

As shown in **Figure 3-18**, 61 percent of the system airports meet the minimum auto parking objective for their respective role.

Figure 3 - 18: Percent of Airports by Role that Meet Auto Parking Objectives



The following airports do not meet recommended auto parking objectives:

<u>Commercial Service</u>	<u>Reliever</u>	<u>GA Regional</u>	<u>GA Community</u>	<u>Local Service</u>
<ul style="list-style-type: none"> • Ronald Reagan Washington National 	<ul style="list-style-type: none"> • Chesapeake Regional • Hampton Roads Executive • Hanover County Municipal • Leesburg Executive • Manassas Regional • Stafford Regional • Warrenton-Fauquier 	<ul style="list-style-type: none"> • Blue Ridge Regional • Danville Regional • Dinwiddie County • Middle Peninsula Regional • New River Valley • Suffolk Executive • Tappahannock-Essex County • Winchester Regional 	<ul style="list-style-type: none"> • Louisa County • New Kent County • Orange County • Shannon • Virginia Tech-Montgomery Executive • Wakefield Municipal • Williamsburg-Jamestown 	<ul style="list-style-type: none"> • Bridgewater Air Park • Hummel Field • New London • Smith Mountain Lake

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

3.6.17 Services

The availability of services contributes to the attractiveness of an airport and can be considered a necessity by airport users, tenants, and local and transient pilots. Service objectives developed as part of the VATSP Update include the following items:

- | | | |
|---------------|-------------------|----------------------------------|
| • FBO | • Aircraft Rental | • Pilot Training |
| • Fuel | • Charter Service | • Terminal/Pilot Services |
| • Maintenance | • Utilities | • Ground Transportation Services |

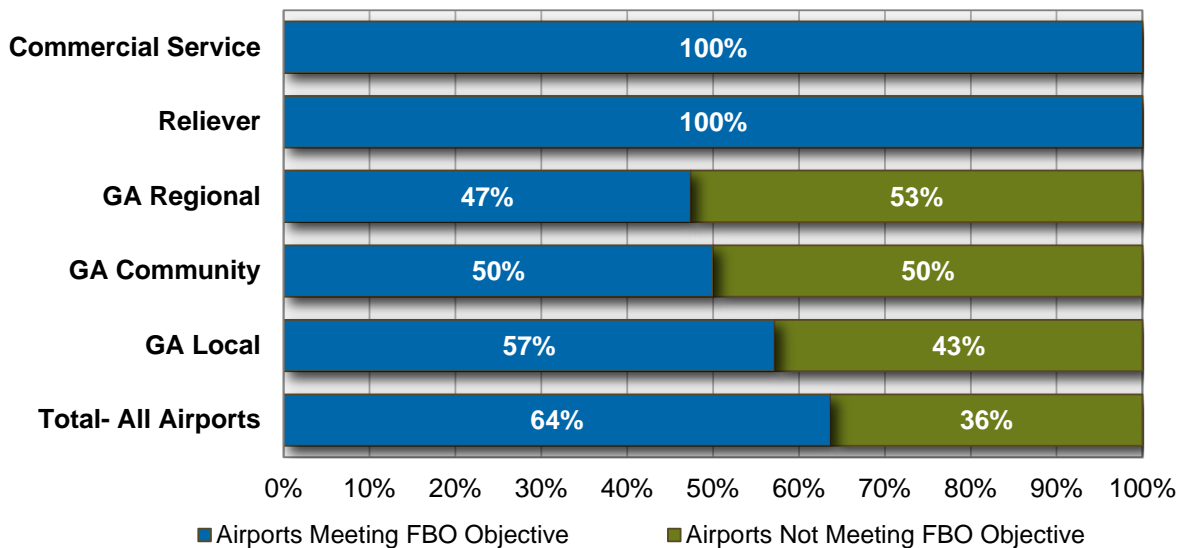
3.6.18 Fixed Base Operators (FBO)

The presence of an FBO which provides aviation services at an airport is important to both local and transient users. Typical FBO services include but are not limited to aeronautical services such as fuel sales, flying instruction, charter flights, and aircraft maintenance. For this study, a full-service FBO is defined as one that provides full-service fuel sales, terminal amenities, as well as some maintenance. A limited-service FBO typically provides only fuel sales and some terminal amenities. The following FBO objectives were developed by airport role:

- **Commercial Service, Reliever, and GA Regional:** Full-Service
- **GA Community and Local Service:** Limited-Service

A summary of the type of FBO at each system airport can be found in **Table 3-25**. As shown in **Figure 3-19**, 64 percent of the all system airports meet their respective objective for FBO-related services.

Figure 3 - 19: Percent of Airports by Role that Meet FBO Objectives



The following airports do not meet their FBO objective. It is important to note that the ability of an FBO to be located at an airport and offer various services is driven by market forces and demand. Therefore, this objective is informational. State investment to improve system performance related to this objective is not anticipated.

GA Regional

- Accomack County
- Emporia-Greenville Regional
- Ingalls Field
- Lonesome Pine
- Mecklenburg-Brunswick Regional
- Middle Peninsula Regional
- New River Valley
- Tazewell County
- Virginia Highlands
- William M. Tuck

GA Community

- Blackstone AAF
- Brookneal- Campbell County
- Lake Country Regional
- Lee County
- Luray Caverns
- Orange County
- Tangier Island
- Wakefield Municipal

Local Service

- Chase City Municipal
- Crewe Municipal
- Grundy Municipal
- Hummel Field
- Lake Anna
- Lawrenceville-Brunswick Municipal
- Lunenburg County

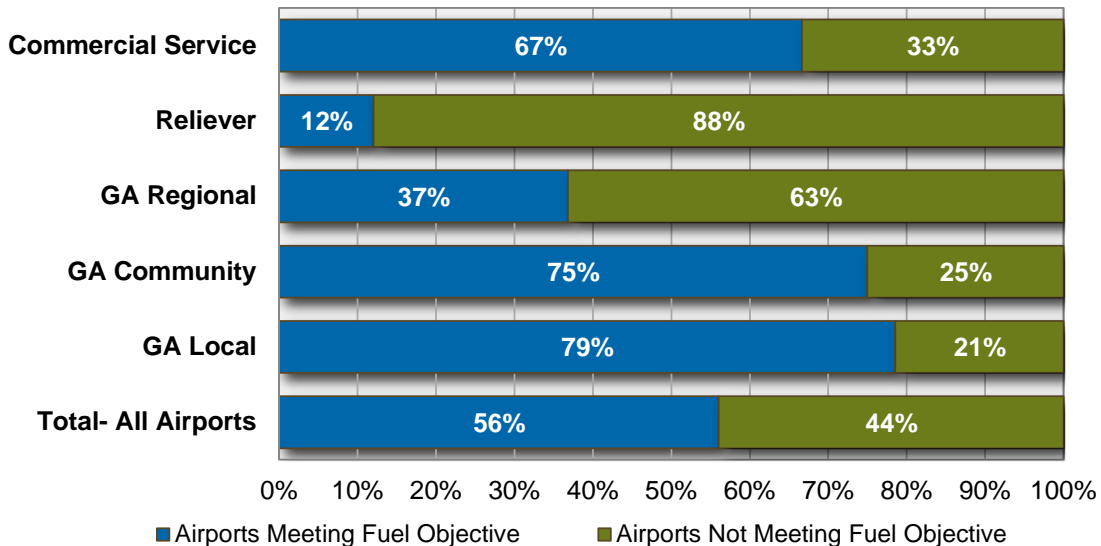
3.6.19 Fuel

As part of the VATSP Update, fuel objectives were established by airport role as follows:

- **Commercial Service, Reliever, and GA Regional:** Jet A and Avgas (100LL) with card reader, available 24 hours a day, 7 days a week (24-7)
- **GA Community:** Avgas (100LL) available 24-7
- **Local Service:** Avgas (100LL)

Table 3-26 provides information for all system airports and indicates if the airport has Jet A and 100LL fuel. **Figure 3-20** summarizes the information presented in this table. As shown, 56 percent of system airports meet their respective fuel objectives.

Figure 3 - 20: Percent of Airports by Role that Meet Fuel Objectives



While only four airports (Tangier Island, Chase City Municipal, Grundy Municipal, and Lake Anna) do not offer fuel, many of the airports do not have offer 24-7 fuel and credit card readers. While the DOAV participates in the development of public fueling facilities, there are economic and other factors that are considered as they relate to the provision of fuel. The following airports should improve their fuel services or offer fuel to meet the system plan objectives:

<u>Commercial Service</u>	<u>Reliever</u>	<u>GA Regional</u>	<u>GA Community</u>	<u>Local Service</u>
<ul style="list-style-type: none"> • Lynchburg Regional • Newport News-Williamsburg International • Roanoke-Blacksburg Regional 	<ul style="list-style-type: none"> • Chesapeake Regional • Richmond Executive-Chesterfield County • Hanover County Municipal • Leesburg Executive • Manassas Regional • Stafford Regional • Warrenton-Fauquier 	<ul style="list-style-type: none"> • Blue Ridge Regional • Culpeper Regional • Danville Regional • Emporia-Greenville Regional • Ingalls Field • Lonesome Pine • Mountain Empire • New River Valley • Tazewell County • Virginia Highlands • William M. Tuck 	<ul style="list-style-type: none"> • Lake Country Regional • Tangier Island • Virginia Tech-Montgomery Exec • Williamsburg-Jamestown 	<ul style="list-style-type: none"> • Chase City Municipal • Grundy Municipal • Lake Anna

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

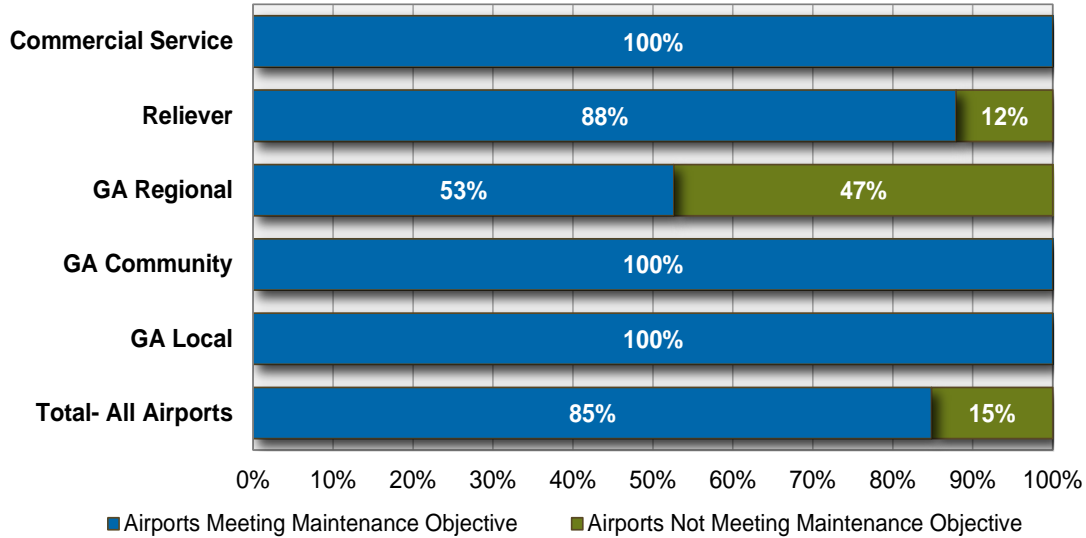
3.6.20 Aircraft Maintenance

The following VATSP objectives have been established for aircraft maintenance at system airports:

- **Commercial Service and Reliever:** On-site major aircraft maintenance
- **GA Regional:** On-site minor aircraft maintenance
- **GA Community and Local Service:** Preserve existing

85 percent of system airports meet their aircraft maintenance objective. Aircraft maintenance offered at each airport is presented in **Figure 3-21**.

Figure 3 - 21: Percent of Airports by Role that Meet Maintenance Objectives



The decision to provide aircraft maintenance or not at an airport is market driven. As a result, there are no specific actions or cost identified for this objective. Based on **Table 3-27** the following airports do not meet their respective aircraft maintenance objective and should seek to provide appropriate aircraft maintenance services as feasible:

Reliever

- Stafford Regional

GA Regional

- Accomack County
- Emporia-Greenville Regional
- Ingalls Field
- Lonesome Pine
- Mecklenburg-Brunswick Regional
- Middle Peninsula Regional
- Tazewell County
- Virginia Highlands
- William M. Tuck

3.6.21 Aircraft Rental & Charter Service

It is recommended that all system airports provide their customers with access to aircraft rental and aircraft charter services. This objective is considered to be informational as no costs for improving system performance related to this objective are included in the final cost analysis. **Table 3-28** indicates which airports noted the availability of aircraft rental and charter services as part of the inventory effort. As shown in **Figure 3-22** and **Figure 3-23**, 50 percent of all system airports have access to aircraft rental and 32 percent of system airports have access to charter service. It is recognized that most airports have access to air charter or air taxi service, even if the service is not based at an airport as reported in Figure 3-23.

Figure 3 - 22: Percent of Airports by Role with Availability to Aircraft Rental

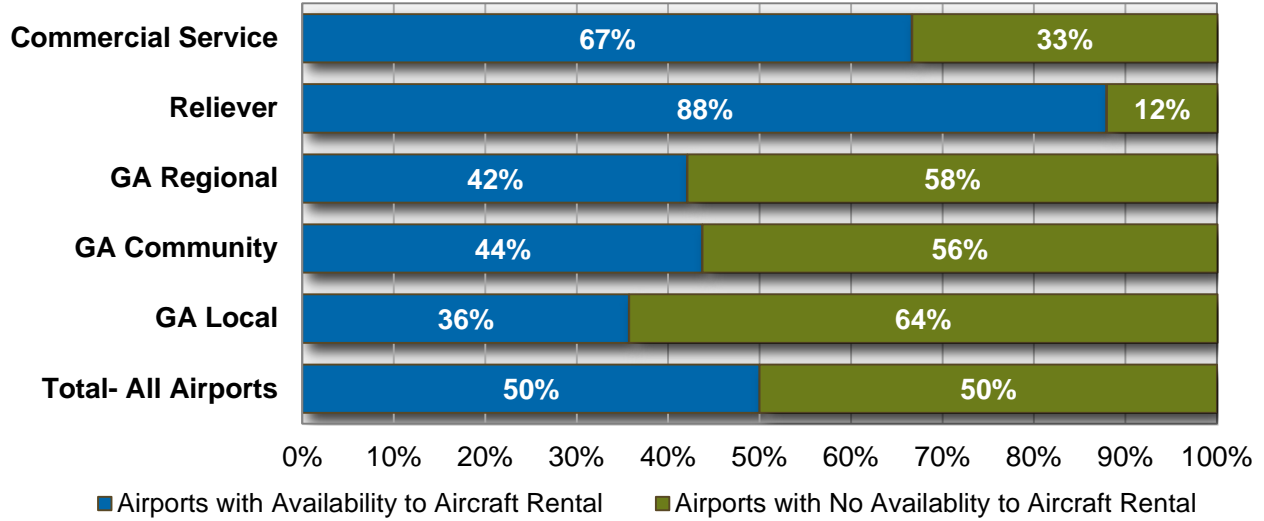
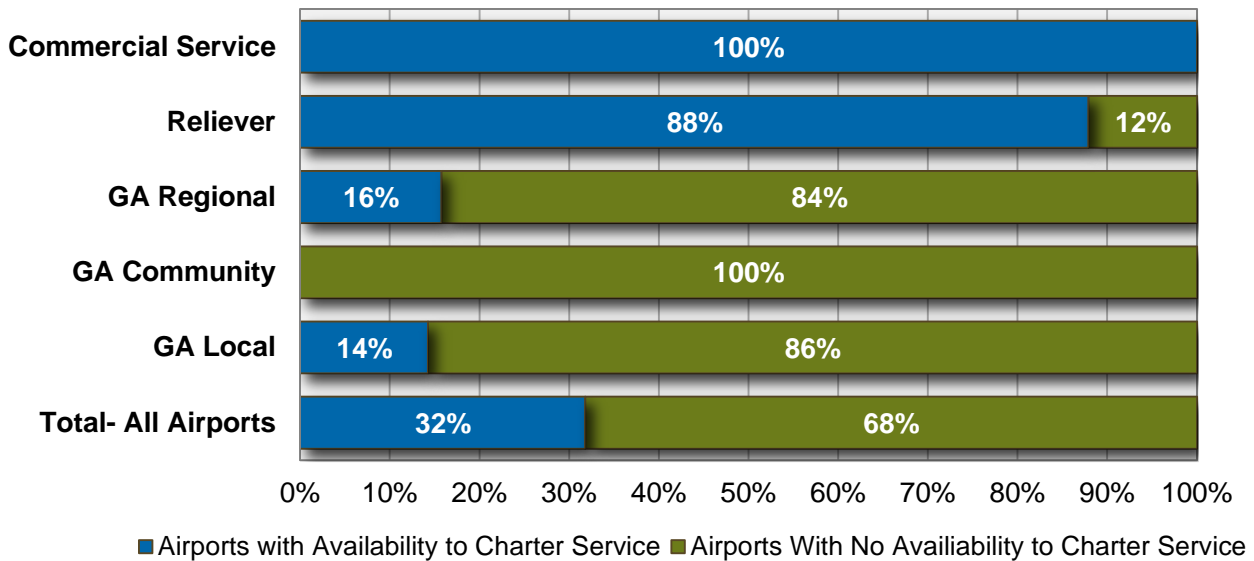


Figure 3 - 23: Percent of Airports by Role with Availability to Aircraft Charter Service



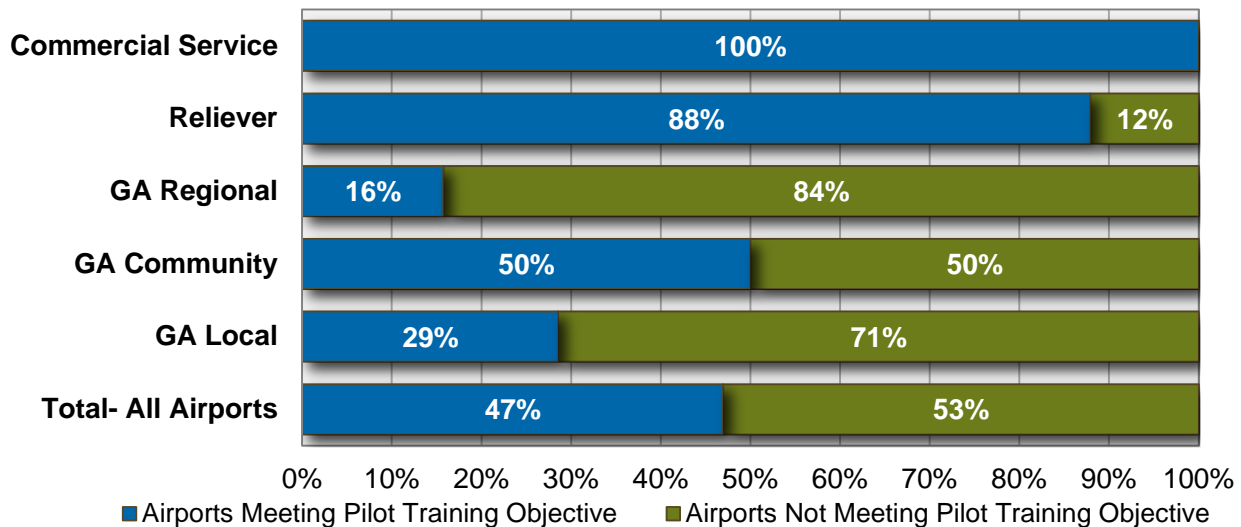
3.6.22 Pilot Training

Like the FBO and aircraft maintenance objectives, this objective is informational. The objectives for pilot training airport role are as follows:

- **Commercial Service, Reliever, and GA Regional:** Full-time flight instruction
- **GA Community and Local Service:** Part-time flight instruction

Table 3-29 lists notes which system airports currently offer full-time or part-time flight training. Currently, 47 percent of airports included in the VATSP Update meet the objective for an on-site flight school or a flight instructor (see **Figure 3-24**). Thirty-minute drive times from these airports indicate that a high percentage of the state’s population has the ability to undertake flight training if they are interested in these services.

Figure 3 - 24: Percent of Airports by Role that Meet Pilot Training Objectives



3.6.23 Terminal/Pilot Services

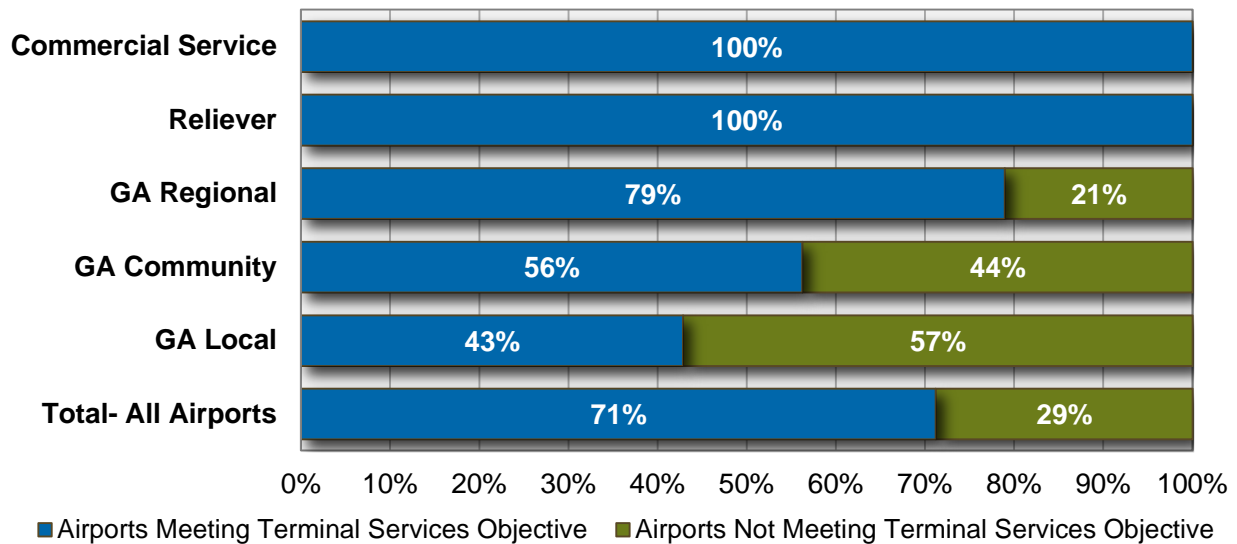
In order to accommodate transient pilots, system airport **should offer various** terminal amenities. The following objectives were developed for terminal pilot services:

- **Commercial Service, Reliever, and GA Regional:** Restroom, phone, pilot lounge
- **GA Community and Local Service:** Restroom, phone, shelter

The objectives for GA Community and Local Service were derived from the DOAV’s Airport Program Manual definition of the Basic Airport Unit. It is recommended that these airports provide adequate shelter from inclement weather. It is also recommended that public telephone service be available at all system airports. Even though wireless (WiFi) internet and smartphone technology has greatly diminished the need for public phone service, a phone should still be available at airports in case of emergencies.

Table 3-30 lists each system airport by role and the terminal/pilot services offered. As shown in Figure 3-25, 71 percent of system airports meet their respective objectives for terminal/pilot services.

Figure 3 - 25: Percent of Airports by Role that Meet Terminal/Pilot Services Objectives



The airports that should have improvements in order to meet this objective are:

GA Regional

- Accomack County (phone)
- Danville Regional (phone)
- Tazewell County (phone)
- William M. Tuck (lounge)

GA Community

- Lake Country Regional (phone)
- Lee County (phone)
- Louisa County (phone)
- New Kent County (phone)
- Orange County (phone)
- Shannon (phone)
- Twin County (phone)

Local Service

- Bridgewater Air Park (shelter, restroom)
- Chase City Municipal (shelter, restroom, phone)
- Gordonsville Municipal (shelter, restroom, phone)
- Lake Anna (phone)
- Lawrenceville- Brunswick Municipal (phone)
- New Market (phone)
- Smith Mountain Lake (phone)

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

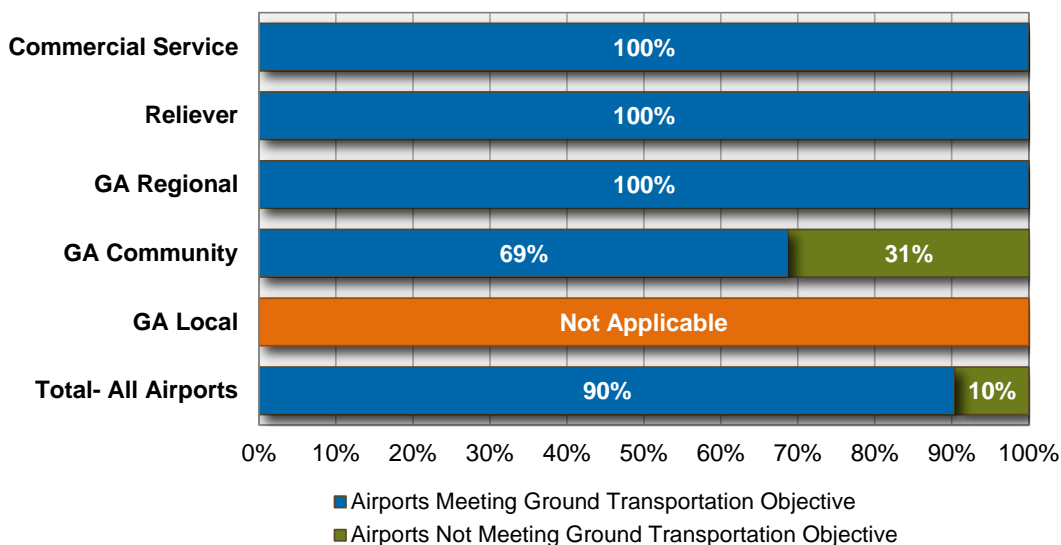
3.6.24 Ground Transportation Services

Providing ground transportation services to visitors who arrive in Virginia by air is important to airports being able to fulfill their system role. The system plan’s objectives for ground transportation are as follows:

- **Commercial Service:** On-site rental car
- **Reliever:** Rental car access
- **Regional:** Rental car access or on-site courtesy car
- **GA Community:** On-site courtesy car
- **Local Service:** Preserve Existing

This objective is considered to be informational as no costs for improving system performance related to this objective are included in the final cost analysis. **Table 3-31** presents the ground transportation offered at each system airport. As shown in **Figure 3-26**, 90 percent of system airports meet the objective for their role.

Figure 3 - 26: Percent of Airports by Role that Meet Ground Transportation Objectives



Since there is no specific objective for Local Service airports, they were not included in this analysis. All Commercial Service, Reliever, and GA Regional airports have on-site rental car or access to rental cars. It is recommended that the following five GA Community airports provide courtesy cars in order to meet this objective:

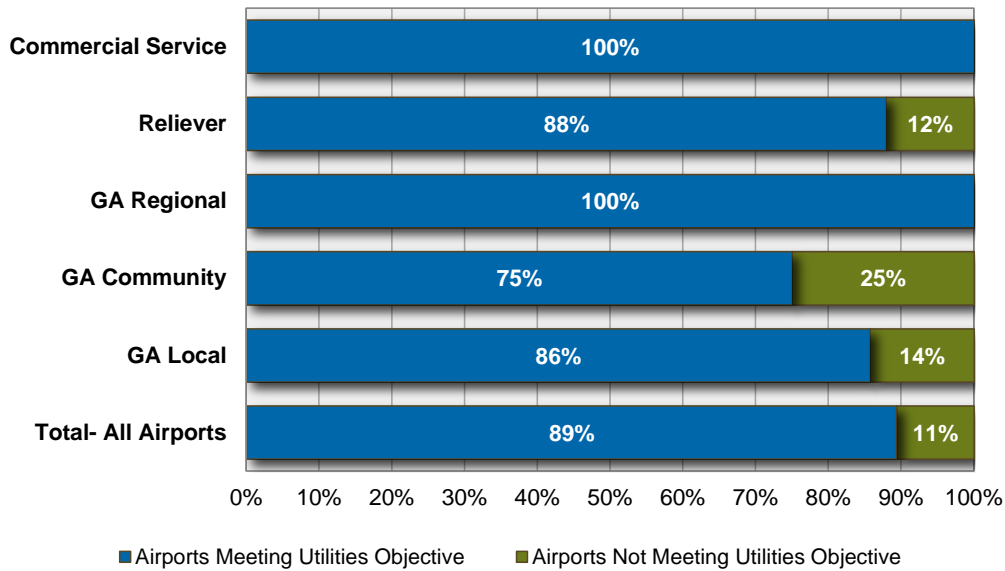
GA Community

- Blackstone AAF
- Brookneal-Campbell County
- Front Royal- Warren County
- Lee County
- Wakefield Municipal

3.6.25 Utilities

All system airports should have electricity, water, sewer, and some internet access (excluding Local Service). **Table 3-32** lists the utilities provided by each system airport. **Figure 3-27** shows that 86 percent of system airports have utilities in place to meet their particular objective.

Figure 3 - 27: Percent of Airports by Role that Meet Utilities Objectives



The following airports need additional utilities to meet the objectives:

Reliever

- Hanover County Municipal- WiFi

GA Community

- Blackstone AAF- WiFi
- Brookneal-Campbell County- WiFi
- Lake Country Regional- WiFi
- Tangier Island- WiFi

Local Service

- Chase City Municipal- Electricity
- Lake Anna- Electricity

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

3.6.26 Equipment Objectives

In addition to the airside and landside facilities and services that have been discussed previously, objectives have been established as part of the VATSP Update related to the maintenance equipment needed for study airports. This equipment is used by airport staff to maintain airport property and is used for activities such as snow removal, grass mowing, building maintenance, and overall maintenance of both paved and unpaved areas at each airport.

As part of the inventory collection process for this study, an effort was made to collect necessary equipment data to evaluate each airport, as well as the system as a whole, for their ability to provide equipment that is sufficient to support the airport’s role in the Virginia system. Each airport was asked to provide information related to the equipment that they currently have, however, not enough detail was received to sufficiently evaluate how the system is performing related to the equipment objectives adopted for the VATSP Update.

A summary of the equipment objective is shown in **Table 3-9**. Additionally, these are the minimum equipment objectives identified in the VATSP Update for the five airport roles. Maintenance equipment objectives were established based a combination of objectives from the 2003 VATSP Update, DOAV Programs, DOAV’s NAVAID Study, VAB Basic Airport Unit definition, and historically funded projects.

Table 3 - 9: Maintenance Equipment Minimum Objectives

Commercial Service	Reliever	GA Regional	GA Community	Local Service
Snow removal equipment, mower, tractor, vehicle attachments, front end loader, truck, debris sweeper, other maintenance equipment as needed	Mower, tractor, vehicle attachments, front end loader, truck, debris sweeper	Mower, tractor, vehicle attachments, front end loader, truck, debris sweeper	Mower, tractor, vehicle attachments, front end loader, truck, debris sweeper	Mower

3.6.27 Maintenance Objectives

The development and maintenance of paved surfaces at all system airports requires significant and continual investment. The DOAV has determined that maintaining runway pavement to a certain standard helps to prevent major costly runway reconstruction projects. In the early 1990s, the DOAV undertook an effort to improve and maintain airport pavement infrastructure throughout the state. This resulted in the Commonwealth’s Aviation Pavement Management Program.

The most recent update of the Program was completed by Pavement Consultants, Inc. in 2008. The Aviation Pavement Management Program is designed to provide the DOAV with cost-effective procedures for setting priorities and schedules, allocating resources, and identifying specific actions to maintain acceptable pavement conditions at system airports. The DOAV continually utilizes the Pavement Management Program to identify necessary pavement upgrades and repairs within the airport system.

The objective set for the VATSP is that all primary pavements at study airports should have a pavement condition index (PCI) of 70 or greater. As part of the 2008 study, a Work Plan Report was generated by Micro PAVER software for a six-year period beginning in 2009. The report projected the PCI for runway, taxiway, apron, and taxilane pavements for 2013. The data provided in this report was utilized in the VATSP Update.

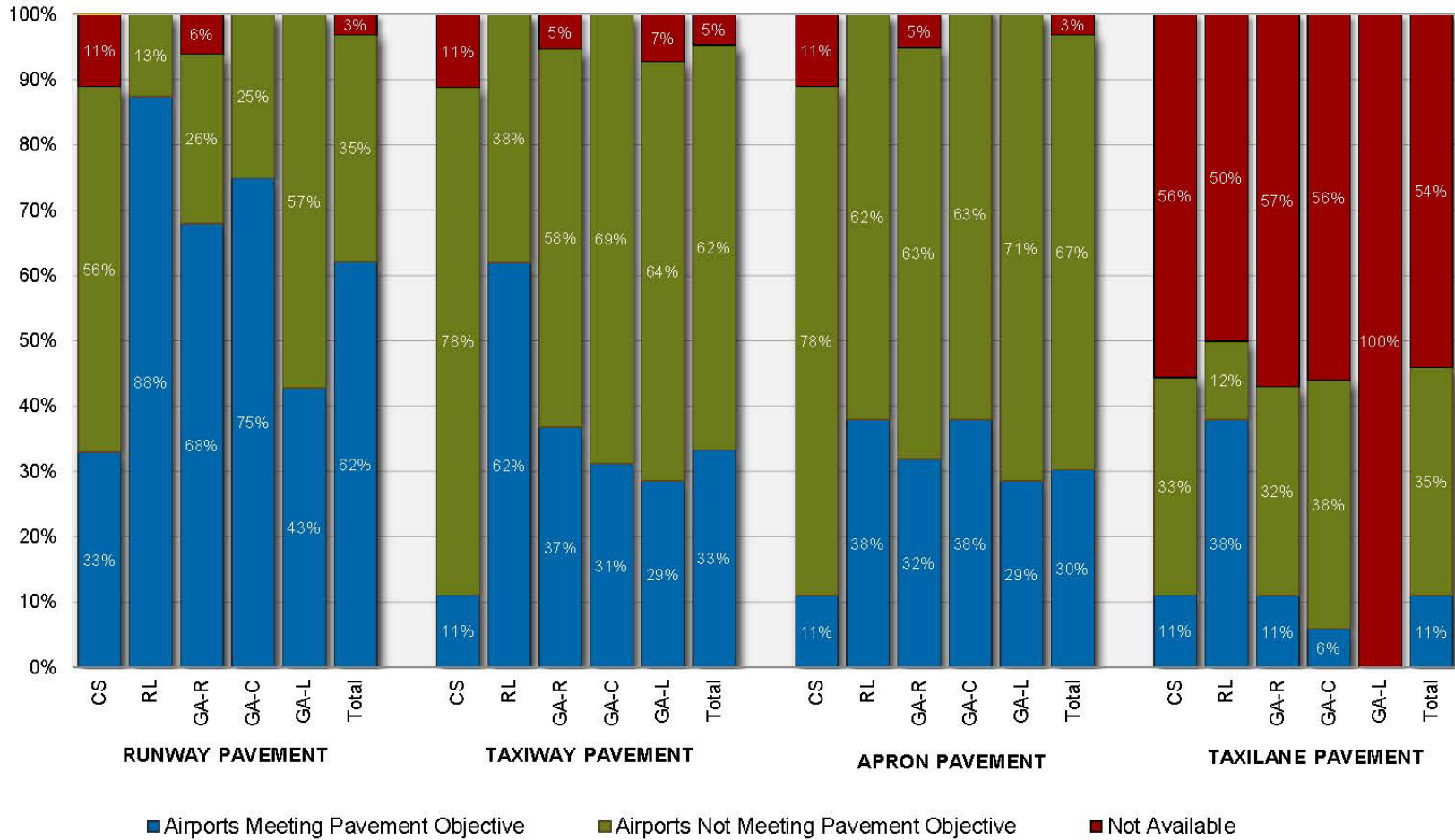
PCIs were collected for 56 of the 66 system airports as part of the 2008 pavement study. It is important to note that for some airports, not all pavements were evaluated in 2008. For several of the airports excluded

from the 2008 study, PCIs were estimated on recent pavement maintenance projects funded by the DOAV and the FAA. Pavement condition data was not collected in 2008 for Tappahannock-Essex County (new airport opened in 2006; no data collected), Blackstone AAF (runways and taxiways owned and maintained by U.S. Department of Defense), Brookneal-Campbell County (most pavements were rehabbed in 2006/2007, just before 2008 pavement study). However, Blackstone AAF and Brookneal-Campbell County data was collected through the inventory effort and is reflected in **Table 3-33**. Another update to the Aviation Pavement Program is expected to begin in late 2014. When new data is available, this analysis should be updated to reflect that data.

While this objective measures the percent of pavements with a PCI of 70 or above, it is important to note that when a pavement falls below a PCI of 70, it does not automatically warrant a new pavement improvement project. Pavements having a PCI of between 55 and 70 should typically be monitored and projects should start being planned. When a pavement has a PCI of 55 or less, a rehabilitation project is typically needed.

Table 3-33 details the percent of pavement that have a PCI of 70 or above. If a PCI index was not available at an airport, an N/A is shown. **Figure 3-28** shows that 61 percent of the system airports have all runway pavements with a PCI of 70 or above, 33 percent have all taxiway pavements a PCI of 70 or above, 30 percent have a PCI of 70 above on their apron pavements, and 11 percent of system airports have taxilane pavements with a PCI of 70 or above. It is important to note that taxilane PCI data was not available for 55 percent of system airports.

Figure 3 - 28: Percent of Airports by Role that Meet Pavement Maintenance Objectives



The following airports do not meet the PCI objectives for **runways**:

<u>Commercial Service</u>	<u>Reliever</u>	<u>GA Regional</u>	<u>GA Community</u>	<u>Local Service</u>
<ul style="list-style-type: none"> • Lynchburg Regional • Norfolk International • Richmond International • Roanoke-Blacksburg Regional • Washington Dulles International 	<ul style="list-style-type: none"> • Hanover County Municipal 	<ul style="list-style-type: none"> • Danville Regional • Lonesome Pine • Mountain Empire • New River Valley • Suffolk Executive 	<ul style="list-style-type: none"> • Brookneal-Campbell County • Lake Country Regional • Luray Caverns • Shannon 	<ul style="list-style-type: none"> • Chase City Municipal • Gordonsville Municipal • Lawrenceville- Brunswick Municipal • Lunenburg County • New London • New Market • Smith Mountain Lake • Waynesboro- Eagle’s Nest

**All VATSP airports with PCI levels under 70 are identified and listed here. Airports with PCI levels between 70-55 should be monitored and future maintenance actions need to be planned for as necessary. Immediate rehabilitation is not recommended during these stages, but preventative actions such as crack sealing may be needed. If PCI levels fall to 55 or below rehabilitation of affected pavements is recommended and shall be identified and justified in the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

The following airports do not meet the PCI objectives for **taxiways**:

<u>Commercial Service</u>	<u>Reliever</u>	<u>GA Regional</u>	<u>GA Community</u>	<u>Local Service</u>
<ul style="list-style-type: none"> • Charlottesville-Albemarle • Lynchburg Regional • Newport News-Williamsburg International • Norfolk International • Richmond International • Roanoke-Blacksburg Regional • Washington Dulles International 	<ul style="list-style-type: none"> • Richmond Executive-Chesterfield County • Hampton Roads Executive • Manassas Regional 	<ul style="list-style-type: none"> • Accomack County • Blue Ridge Regional • Danville Regional • Dinwiddie County • Emporia-Greenville Regional • Farmville Municipal • Lonesome Pine • Middle Peninsula Regional • New River Valley • Suffolk Executive • Virginia Highlands 	<ul style="list-style-type: none"> • Blackstone AAF • Brookneal-Campbell County • Franklin Municipal • Front Royal- Warren County • Lake Country Regional • Luray Caverns • New Kent County • Shannon • Virginia Tech-Montgomery Executive • Wakefield Municipal • Williamsburg-Jamestown 	<ul style="list-style-type: none"> • Bridgewater Air Park • Chase City Municipal • Gordonsville Municipal • Hummel Field • Lawrenceville - Brunswick Municipal • Lunenburg County • New London • New Market • Waynesboro- Eagle’s Nest

**All VATSP airports with PCI levels under 70 are identified and listed here. Airports with PCI levels between 70-55 should be monitored and future maintenance actions need to be planned for as necessary. Immediate rehabilitation is not recommended during these stages, but preventative actions such as crack sealing may be needed. If PCI levels fall to 55 or below rehabilitation of affected pavements is recommended and shall be identified and justified in the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

The following airports do not meet the PCI objectives for **aprons**:

<u>Commercial Service</u>	<u>Reliever</u>	<u>GA Regional</u>	<u>GA Community</u>	<u>Local Service</u>
<ul style="list-style-type: none"> • Charlottesville-Albemarle • Lynchburg Regional • Newport News-Williamsburg International • Norfolk International • Richmond International • Roanoke-Blacksburg Regional • Washington Dulles International 	<ul style="list-style-type: none"> • Richmond Executive-Chesterfield County • Hampton Roads Executive • Hanover County Municipal • Leesburg Executive • Manassas Regional 	<ul style="list-style-type: none"> • Accomack County • Blue Ridge Regional • Dinwiddie County • Emporia-Greenville Regional • Farmville Municipal • Lonesome Pine Brunswick Regional • Mecklenburg-Brunswick Regional • Mountain Empire • Suffolk Executive • Tazewell County • Virginia Highlands • Winchester Regional 	<ul style="list-style-type: none"> • Franklin Municipal • Front Royal-Warren County • Lake Country Regional • Luray Caverns • New Kent County • Orange County • Wakefield Municipal • Williamsburg-Jamestown 	<ul style="list-style-type: none"> • Bridgewater Air Park • Chase City Municipal • Crewe Municipal • Gordonsville Municipal • Grundy Municipal • Lawrenceville-Brunswick Municipal • Lunenburg County • New London • New Market • Smith Mountain Lake

**All VATSP airports with PCI levels under 70 are identified and listed here. Airports with PCI levels between 70-55 should be monitored and future maintenance actions need to be planned for as necessary. Immediate rehabilitation is not recommended during these stages, but preventative actions such as crack sealing may be needed. If PCI levels fall to 55 or below rehabilitation of affected pavements is recommended and shall be identified and justified in the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

The following airports do not meet the PCI objectives for **taxilanes**. It is important to note that taxilane PCI information was only available for 21 system airports.

<u>Commercial Service</u>	<u>Reliever</u>	<u>GA Regional</u>	<u>GA Community</u>
<ul style="list-style-type: none"> • Newport News-Williamsburg International • Roanoke-Blacksburg Regional • Washington Dulles International 	<ul style="list-style-type: none"> • Leesburg Executive 	<ul style="list-style-type: none"> • Blue Ridge Regional • Danville Regional • Emporia-Greenville Regional • Mecklenburg-Brunswick Regional • Suffolk Executive • William M. Tuck 	<ul style="list-style-type: none"> • Front Royal- Warren County • Lake Country Regional • New Kent County • Wakefield Municipal

**All VATSP airports with PCI levels under 70 are identified and listed here. Airports with PCI levels between 70-55 should be monitored and future maintenance actions need to be planned for as necessary. Immediate rehabilitation is not recommended during these stages, but preventative actions such as crack sealing may be needed. If PCI levels fall to 55 or below rehabilitation of affected pavements is recommended and shall be identified and justified in the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

3.7 Safety/Compliance Objectives

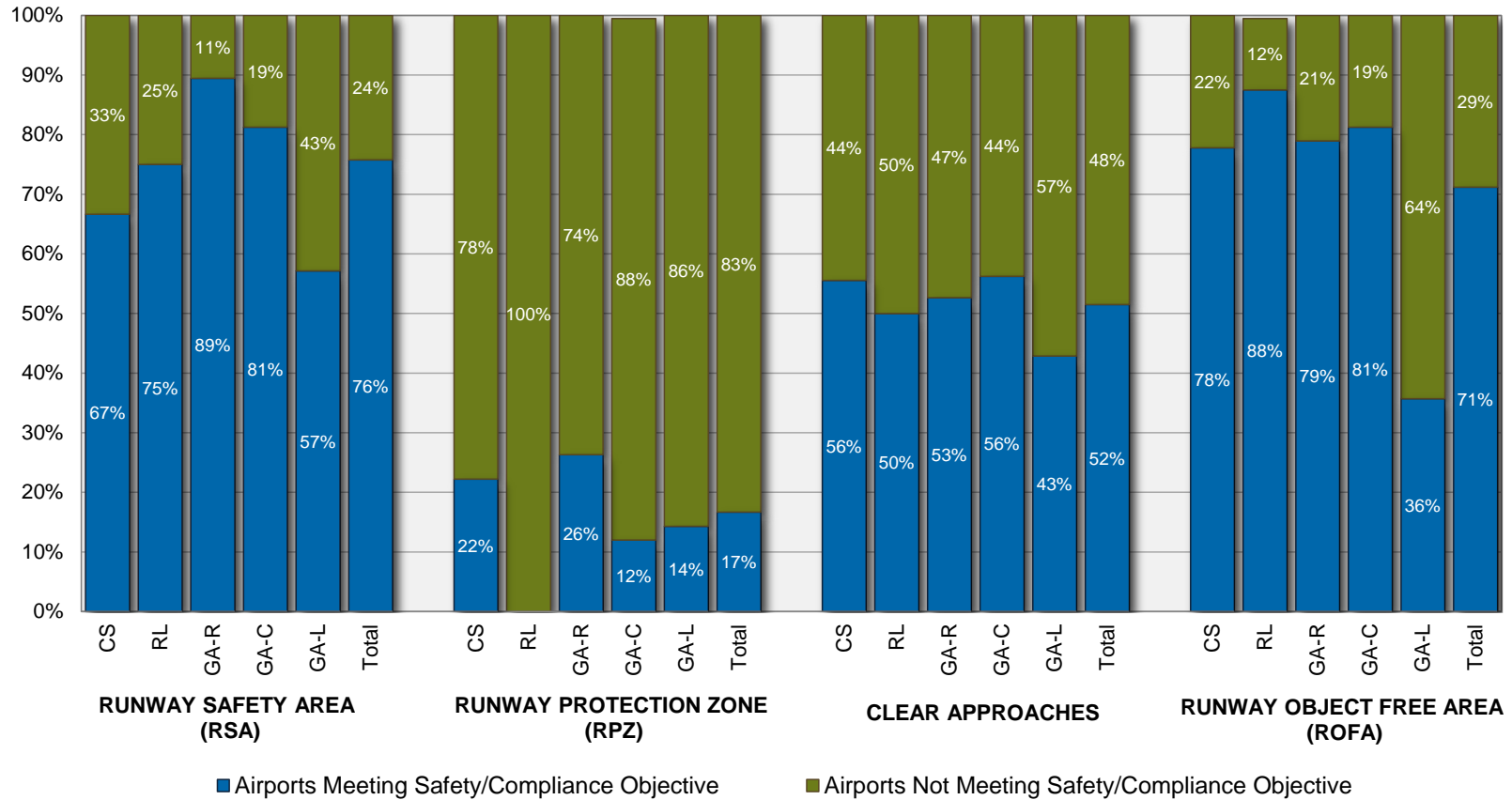
An important characteristic of a good airport system is the system’s ability to meet applicable design and safety standards. Generally speaking, when airports in any system comply with such standards, this helps to promote a system of safe and efficient airports. As previously noted, the DOAV recognizes the importance of having an airport system that operates safely. *Virginia Aviation Regulations 24 VAC 5-20-140 Minimum Requirements for Licensing* require that airports must meet minimum safety area objectives in order to receive and maintain an operating license. State Licensing Standards were utilized when developing the following VATSP safety/compliance objectives:

- **Runway Safety Area (RSA):** Maintain appropriate dimensions to meet FAA standards as determined by current ARCs for each airport AND ensure that airport surfaces are clear of obstructions as per *24 VAC 5-20-140 Minimum requirements for licensing*, if feasible
- **Runway Protection Zones (RPZs):** Clear RPZs according to FAA standards for approach categories and minimums AND ownership or easements for entire RPZ (excludes Local Service)
- **Approaches:** Maintain clear approaches as per Federal Aviation Regulations (FAR) Part 77 AND ensure minimum unobstructed approach surface of 15:1 horizontal to vertical slope at each end of the runway and an approach surface that is centered along the runway centerline and that begins at the threshold at a width of 250 feet, expands uniformly for a distance of 2,250 feet to a width of 700 feet, and continues at the width of 700 feet for a distance of 2,750 feet
- **Runway Object Free Area (ROFA):** Maintain appropriate dimensions to meet FAA standards as determined by current ARCs for each airport AND insure that airport surfaces are clear of obstructions as per *24 VAC 5-20-140 Minimum requirements for licensing*, if feasible (excludes Local Service)
- **Displaced Threshold:** If an approach surface to either physical end of the runway is obstructed and the obstacle cannot be removed, the threshold shall be located down the runway at the point where the obstruction clearance plane intersects the runway centerline (excludes Local Service)

As with all FAA planning standards and guidelines, only federally eligible airports (those included in the NPIAS) are required to meet FAA standards; however, guidance provided by the FAA is considered to be applicable to all airports to promote safety. It is also a goal expressed by DOAV for each public-use airport with a published non-precision approach procedure to clear or develop approaches to FAA Standards, where feasible.

Each airport’s current standing with the safety/compliance objectives noted above can be found in **Table 3-34** and **Table 3-35**. This information is summarized in **Figure 3-29**. Each objective is discussed in more detail below. Information summarized in Table 3-34, Table 3-35, and Figure 3-29 was obtained directly from each study airport as part of this study’s inventory effort.

Figure 3 - 29: Percent of Airports by Role that Meet Safety/Compliance Objectives



3.7.1 Runway Safety Area (RSA)

The RSA is designed to promote and increase airport safety. The dimensions for the RSA are determined by the FAA based on each airport’s ARC. The RSA is the area off each runway end that, in accordance with FAA standards, should be free and clear of any obstructions. The RSA should also be graded. This objective for the system plan is two-fold. First, that airports must be maintain appropriate RSA dimensions. Second, system airports should ensure that all RSAs are clear from obstructions. As shown in Figure 3-29, 76 percent of system airports meet RSA objectives.

All system airports were asked during the inventory process whether or not their RSAs meet FAA design standards for their respective ADG. The DOAV provided additional input as to whether or not system airports meet minimum licensing standards for RSA length and width. The following airports do not currently meet their RSA objectives:

<u>Commercial Service</u>	<u>Reliever</u>	<u>GA Regional</u>	<u>GA Community</u>	<u>Local Service</u>
<ul style="list-style-type: none"> • Newport News-Williamsburg International • Roanoke-Blacksburg Regional • Ronald Reagan Washington National 	<ul style="list-style-type: none"> • Leesburg Executive • Manassas Regional 	<ul style="list-style-type: none"> • Ingalls Field • Lonesome Pine 	<ul style="list-style-type: none"> • Lake Country Regional • Shannon • Wakefield Municipal 	<ul style="list-style-type: none"> • Gordonsville Municipal • Falwell • Lake Anna • New London • New Market • Smith Mountain Lake

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

3.7.2 Runway Protection Zone (RPZ) Protection

The FAA defines the RPZ as a trapezoidal area that is centered on the extended runway centerline. The function of the RPZ is to enhance the protection of people and property on the ground. The FAA determines the appropriate size of each airport’s RPZ based on approach categories and approach minimums.

There are two RPZ objectives. First, each airport’s RPZ, as determined by FAA dimensional guidelines, should be clear. Second, fee simple ownership or easements for the entire RPZ should be in place. Having control of the RPZ is critical to ensuring inappropriate development does not take place in the runway approaches.

As part of the VATSP Update inventory, airport sponsors were asked to estimate the acreage within their RPZ that is not owned fee simple by the airport. Information regarding RPZ easements was not available; therefore, only information for fee simple ownership was estimated. Eleven (11) system airports own their entire RPZ in fee simple; according to information obtained directly from each airport during the VATSP Update inventory.

Figure 3-29 presents a summary by role of which airports meet both of these RPZ objectives. Statewide, 83 percent of the airports report clear RPZs and 17 percent of VATSP airports report they control both ends through fee simple ownership. In order for study airports to be fully compliant with this objective, they need to

have RPZs on both ends of their primary runway that are clear and controlled. When the current performance for these two objectives is combined, 17 percent of system airports meet the RPZ objective. The following airports do not have clear RPZs as dictated by FAA minimums:

- | <u>Commercial Service</u> | <u>Reliever</u> | <u>GA Community</u> | <u>Local Service</u> |
|---|---|--|---|
| <ul style="list-style-type: none"> • Roanoke-Blacksburg Regional | <ul style="list-style-type: none"> • Manassas Regional | <ul style="list-style-type: none"> • Lake Country Regional • Shannon • Virginia Tech-Montgomery Executive | <ul style="list-style-type: none"> • Chase City Municipal • Falwell • Hummel Field • Lake Anna • New Market • Smith Mountain Lake |

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

The following airports do not currently have complete fee simple control of their primary runway RPZs:

- | <u>Commercial Service</u> | <u>Reliever</u> | <u>GA Regional</u> | <u>GA Community</u> | <u>Local Service</u> |
|---|---|--|--|--|
| <ul style="list-style-type: none"> • Charlottesville-Albemarle • Lynchburg Regional • Newport News-Williamsburg International • Norfolk International • Roanoke-Blacksburg Regional • Ronald Reagan Washington National • Shenandoah Valley Regional | <ul style="list-style-type: none"> • Chesapeake Regional • Richmond Executive-Chesterfield County • Hampton Roads Executive County • Hanover County Municipal • Leesburg Executive • Manassas Regional • Stafford Regional • Warrenton-Fauquier | <ul style="list-style-type: none"> • Accomack County • Blue Ridge Regional • Culpeper Regional • Danville Regional • Dinwiddie County • Emporia-Greenville Regional • Farmville Municipal • Lonesome Pine • Mecklenburg-Brunswick Regional • Middle Peninsula Regional • Mountain Empire • Tappahannock-Essex County • William M. Tuck • Winchester Regional | <ul style="list-style-type: none"> • Blackstone AAF • Brookneal-Campbell County • Franklin Municipal • Front Royal-Warren County • Lake Country Regional • Louisa County • Luray Caverns • New Kent County • Orange County • Shannon • Twin County • Virginia Tech-Montgomery Executive • Wakefield Municipal • Williamsburg-Jamestown | <ul style="list-style-type: none"> • Bridgewater Air Park • Chase City Municipal • Crewe Municipal • Falwell • Gordonsville Municipal • Hummel Field • Lake Anna • Lawrenceville-Brunswick • Lunenburg County • New Market • Smith Mountain Lake • Waynesboro-Eagle's Nest |

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

3.7.3 Approach Surfaces

There are two objectives for approach surfaces. All system airports should maintain clear FAA-designated optimal approach slopes as defined in the FAR Part 77 guidelines, and they should meet the Virginia Licensing Standards for unobstructed approach surfaces of 15:1 and minimum dimensions. Currently, 52 percent of system airports meet these approach surface objectives. It is desired for all system airports to meet this objective.

However, it is important to note that not all obstructions can be removed or relocated. Obstructions such as roads, buildings, or terrain are not likely to be removed or relocated to attain clear approach slopes. Other obstacles, such as brush or trees, can usually be addressed, particularly with the assistance of a vegetation management or obstruction removal program.

Each airport with obstructions in their approaches should have an obstruction removal study completed. According to data collected as part of the VATSP Update inventory effort, the following airports do not currently meet their objective for clear approaches:

<u>Commercial Service</u>	<u>Reliever</u>	<u>GA Regional</u>	<u>GA Community</u>	<u>Local Service</u>
<ul style="list-style-type: none"> • Newport News-Williamsburg International • Norfolk International • Richmond International • Washington Dulles International 	<ul style="list-style-type: none"> • Hanover County Municipal • Leesburg Executive • Stafford Regional • Warrenton-Fauquier 	<ul style="list-style-type: none"> • Accomack County • Blue Ridge Regional • Emporia-Greenville Regional • Ingalls Field • Lonesome Pine • Mecklenburg-Brunswick Regional • Mountain Empire • New River Valley • Tappahannock-Essex County 	<ul style="list-style-type: none"> • Brookneal-Campbell County • Franklin Municipal • Front Royal-Warren County • Luray Caverns • New Kent County • Shannon • Wakefield Municipal 	<ul style="list-style-type: none"> • Bridgewater Air Park • Chase City Municipal • Crewe Municipal • Hummel Field • Lake Anna • Lawrenceville-Brunswick • Lunenburg County • New Market • Smith Mountain Lake

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

In addition, three Local Service airports do not meet the state licensing standards of an unobstructed 15:1 approach surface; these airports are as follows:

- Local Service**
- Chase City Municipal
 - Crewe Municipal
 - Lake Anna

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

3.7.4 Runway Object Free Area (ROFA)

The ROFA is an object free area on the ground that is centered on a runway and is designed to enhance the safety of aircraft operations. ROFA standards for both width and length are derived from each airport’s ARC, as well as the approach visibility minimum associated with the specific runway. The VATSP objective is that all system airports should meet their ROFA dimensions as determined by their ARC and Virginia state licensing standards which indicated the ROFA should be clear of obstructions.

All system airports were asked during the VATSP Update inventory whether or not their ROFAs meet the FAA design standards for their respective ADG. In addition, the DOAV provided additional input as to whether or not system airports meet state licensing standards for ROFA length and width. As shown in Figure 3-29, 71 percent of system airports meet their ROFA objectives. The following airports noted that their existing ROFAs do not meet FAA ADG standards:

<u>Commercial Service</u>	<u>Reliever</u>	<u>GA Regional</u>	<u>GA Community</u>	<u>Local Service</u>
<ul style="list-style-type: none"> • Newport News-Williamsburg International • Norfolk International 	<ul style="list-style-type: none"> • Leesburg Executive 	<ul style="list-style-type: none"> • Emporia-Greenville Regional • Lonesome Pine • Mountain Empire • Winchester Regional 	<ul style="list-style-type: none"> • Lake Country Regional • Shannon • Wakefield Municipal 	<ul style="list-style-type: none"> • Crewe Municipal • Lake Anna • New London • New Market • Smith Mountain Lake • Waynesboro- Eagle’s Nest

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

In addition, nine airports do not meet the state licensing standards for a minimum ROFA length equal to runway length and minimum ROFA width of 250 feet:

<u>Commercial Service</u>	<u>GA Community</u>	<u>Local Service</u>
<ul style="list-style-type: none"> • Newport News-Williamsburg International 	<ul style="list-style-type: none"> • Lake Country Regional • Shannon 	<ul style="list-style-type: none"> • Chase City Municipal • Crewe Municipal • Falwell • Gordonsville Municipal • New London • New Market

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

3.7.5 Displaced Threshold

Displaced thresholds at runway ends are often used to account for approach obstacles near runway ends, compliance with runway safety areas, noise impact reductions around the airport, or to account for specific issues related to the quality and strength of runway pavement.

During the VATSP Update inventory effort, airport sponsors were asked to report if they had displaced thresholds on their primary runways. The following airports have displaced thresholds on their primary runway:

<u>Commercial Service</u>	<u>Reliever</u>	<u>GA Regional</u>	<u>GA Community</u>	<u>Local Service</u>
<ul style="list-style-type: none"> • Norfolk International • Roanoke-Blacksburg Regional 	<ul style="list-style-type: none"> • Hampton Roads Executive 	<ul style="list-style-type: none"> • Danville Regional 	<ul style="list-style-type: none"> • Blackstone AAF • Lake Country Regional • Shannon • Tangier Island • Twin County • Wakefield Municipal 	<ul style="list-style-type: none"> • Bridgewater Air Park • Crewe Municipal • Gordonsville Municipal • Hummel Field • Lake Anna • Lawrenceville-Brunswick Municipal • New London • New Market • Smith Mountain Lake

**Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. Inclusion in the list above does not guarantee any federal or state funding for a project.*

For this objective, the system plan adopted the *Virginia Aviation Regulations 24 VAC 5-20-140 Minimum Requirements for Licensing* for displaced thresholds: if the approach surface is obstructed and obstacle cannot be removed, the displaced threshold should be located at the point where obstruction clearance intersects the runway centerline.

This specific level of detailed information was not collected as part of the system plan. As part of the airport planning process, the 19 airports with displaced thresholds should: 1) analyze their obstructions to see if they can be removed and 2) ensure any displaced threshold is located at the appropriate point.

3.7.6 Future Development

In order to plan for the future growth of the airport system, the DOAV supports and funds projects for future airport development. It is an objective for system airports to plan for future development. A few of the projects that system airports can undertake to support this objective include land acquisition, obstruction clearance, and wetland mitigation. There was no data collected or analyzed as part of this objective.

3.8 Airport Planning Objective

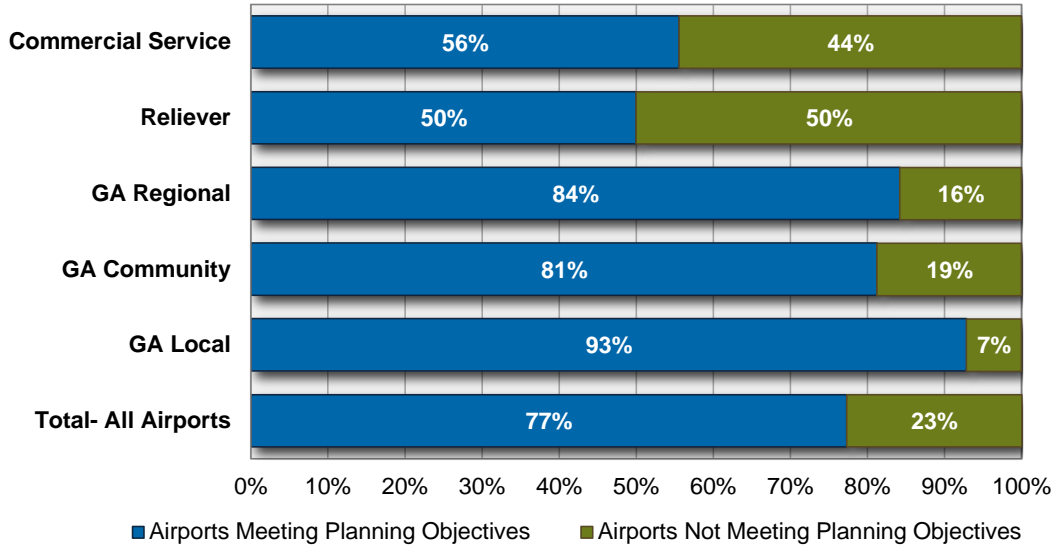
A key component in the success of a system airport is positioning airports to be able to respond to near and long-term development needs. An airport with a current ALP or master plan increases the likelihood of cooperation from the local community and mitigation of environmental concerns during periods of growth and development. A current airport plan is important for eligibility for federal and state funding for capital improvement projects. Current planning documents help Virginia's airports document facility objectives, determine priority for potential development projects, and identify compatible land uses for areas near the airport.

Airport planning documents should be updated regularly or as increased demand necessitates; as conditions at an airport or community change; or as changes in federal planning and design standards warrant. For the purpose of this analysis, the following objectives have been established:

- **Commercial Service and Reliever:** Master Plan or ALP updated every 5 years
- **GA Regional:** Master Plan or ALP updated every 10 years
- **GA Community:** Master Plan, ALP report, or Revised ALP Sheets updated every 10 years
- **Local Service:** ALP drawing on file, updated as needed

Table 3-36 details the currency of airport planning documents at system airports as obtained from airport, FAA, and DOAV records. It is important to note that even though an airport may have a recently completed master plan, the plan may not necessarily be approved by the FAA or the DOAV. In order to receive federal or state funding for projects included in the ALP or master plan, these documents must be approved. **Figure 3-30** shows that 77 percent of system airports meet their objectives for current airport planning documents.

Figure 3 - 30: Percent of Airports by Role that Meet Planning Document Objectives



The following airports do not meet the established objective for this benchmark:

Commercial Service

- Charlottesville-Albemarle
- Newport News-Williamsburg International*
- Ronald Reagan Washington National
- Shenandoah Valley Regional*

Reliever

- Hampton Roads Executive
- Hanover County Municipal
- Leesburg Executive
- Manassas Regional*

GA Regional

- Ingalls Field
- Mecklenburg-Brunswick Regional
- New River Valley
- Tappahannock-Essex County

GA Community

- Blackstone AAF
- Franklin Municipal
- Shannon

Local Service

- New London

*Note: These airports have master planning efforts underway.

3.9 Summary

This chapter has examined airport roles and the performance of Virginia’s airport system by role according to the FS&E objectives. This chapter identified facilities, services, and equipment that could, given optimum conditions, be considered in order for each airport to better fulfill its designated role in the Virginia airport system. The system needs identified here are not a list of definitive airport projects that must be completed within the 25 year planning period. All projects require local justification from an airport master plan or ALP and do not in any way constitute a commitment on behalf of either DOAV or FAA to fund any of these projects. It is also possible that some of the projects identified may not be feasible because of financial, environmental, manmade or natural constraints, or lack of local justification or interest in the project.

Information from this chapter coupled with analysis in the following chapter provides a basis for VATSP recommendations that will help to achieve a balanced for a viable, effective, and efficient system of general aviation and commercial service airports. The next chapter analyzes alternative as to where the airport system can improve.

3.10 AIRPORTS NEEDS

TABLES 3- 10 through 3- 36

Table 3 - 10: Existing and Recommended Airport Reference Codes (ARCs)

Airport	Code	VATSP Service Role	Existing	Included in NPIAS (Y/N)	Meets Objective
Commercial Service: ARC C					
Charlottesville-Albemarle	CHO	CM	C	Yes	Yes
Lynchburg Regional	LYH	CM	C	Yes	Yes
Newport News-Williamsburg International	PHF	CM	D	Yes	Yes
Norfolk International	ORF	CM	D	Yes	Yes
Richmond International	RIC	CM	D	Yes	Yes
Roanoke-Blacksburg Regional	ROA	CM	C	Yes	Yes
Ronald Reagan Washington National	DCA	CM	C	Yes	Yes
Shenandoah Valley Regional	SHD	CM	C	Yes	Yes
Washington Dulles International	IAD	CM	D	Yes	Yes
Reliever: ARC C					
Chesapeake Regional	CPK	RL	C	Yes	Yes
Hampton Roads Executive	PVG	RL	B	Yes	No
Hanover County Municipal	OFP	RL	B	Yes	No
Leesburg Executive	JYO	RL	C	Yes	Yes
Manassas Regional	HEF	RL	C	Yes	Yes
Richmond Executive-Chesterfield County	FCI	RL	C	Yes	Yes
Stafford Regional	RMN	RL	C	Yes	Yes
Warrenton-Fauquier	HWY	RL	C	Yes	Yes
GA Regional: ARC C					
Accomack County	MFV	GR	B	Yes	No
Blue Ridge Regional	MTV	GR	C	Yes	Yes
Culpeper Regional	CJR	GR	B	Yes	No
Danville Regional	DAN	GR	C	Yes	Yes
Dinwiddie County	PTB	GR	B	Yes	No
Emporia-Greenville Regional	EMV	GR	B	Yes	No

Table 3 - 10 (Continued): Existing and Recommended Airport Reference Codes (ARCs)

Airport	Code	VATSP Service Role	Existing	Included in NPIAS (Y/N)	Meets Objective
Farmville Municipal	FVX	GR	B	Yes	No
Ingalls Field	HSP	GR	B	Yes	No
Lonesome Pine	LNP	GR	B	Yes	No
Mecklenburg-Brunswick Regional	AVC	GR	B	Yes	No
Middle Peninsula Regional	FYJ	GR	B	Yes	No
Mountain Empire	MKJ	GR	B	Yes	No
New River Valley	PSK	GR	B	Yes	No
Suffolk Executive	SFQ	GR	B	Yes	No
Tappahannock-Essex County	XSA	GR	B	Yes	No
Tazewell County	JFZ	GR	B	Yes	No
Virginia Highlands	VJI	GR	B	Yes	No
William M. Tuck	W78	GR	B	Yes	No
Winchester Regional	OKV	GR	C	Yes	Yes
GA Community: ARC B					
Blackstone AAF	BKT	GC	C	No	N/A
Brookneal-Campbell County	0V4	GC	B	Yes	Yes
Franklin Municipal	FKN	GC	B	Yes	Yes
Front Royal-Warren County	FRR	GC	B	Yes	Yes
Lake Country Regional	W63	GC	B	No	N/A
Lee County	0VG	GC	B	Yes	Yes
Louisa County	LKU	GC	B	Yes	Yes
Luray Caverns	LUA	GC	B	Yes	Yes
New Kent County	W96	GC	B	Yes	Yes
Orange County	OMH	GC	B	Yes	Yes

Table 3 - 10 (Continued): Existing and Recommended Airport Reference Codes (ARCs)

Airport	Code	VATSP Service Role	Existing	Included in NPIAS (Y/N)	Meets Objective
Shannon	EZF	GC	B	No	N/A
Tangier Island	TGI	GC	B	Yes	Yes
Twin County	HLX	GC	B	Yes	Yes
Virginia Tech-Montgomery Executive	BCB	GC	B	Yes	Yes
Wakefield Municipal	AKQ	GC	B	No	N/A
Williamsburg-Jamestown	JGG	GC	B	No	N/A
Local Service: ARC A or B					
Bridgewater Air Park	VBW	LO	B	No	N/A
Chase City Municipal	CXE	LO	B	No	N/A
Crewe Municipal	W81	LO	B	No	N/A
Falwell	W24	LO	B	No	N/A
Gordonsville Municipal	GVE	LO	A	No	N/A
Grundy Municipal	GDY	LO	B	Yes	Yes
Hummel Field	W75	LO	A	No	N/A
Lake Anna	7W4	LO	A	No	N/A
Lawrenceville-Brunswick Municipal	LVL	LO	B	No	N/A
Lunenburg County	W31	LO	B	No	N/A
New London	W90	LO	B	No	N/A
New Market	8W2	LO	B	No	N/A
Smith Mountain Lake	W91	LO	B	No	N/A
Waynesboro-Eagle's Nest	W13	LO	B	No	N/A

Sources: Airport Sponsor Survey, FAA NPIAS

Note: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

Table 3 - 11: Existing and Recommended Airfield Capacity

Airport	Code	VATSP Service Role	Existing ASV	Forecasted ASV	Meets Objective
Commercial Service: 80% of calculated ASV (Planning at 60%)					
Charlottesville-Albemarle	CHO	CM	37%	37%	Yes
Lynchburg Regional	LYH	CM	45%	53%	Yes
Newport News-Williamsburg International*	PHF	CM	29%	34%	Yes
Norfolk International	ORF	CM	42%	46%	Yes
Richmond International*	RIC	CM	36%	51%	Yes
Roanoke-Blacksburg Regional	ROA	CM	20%	24%	Yes
Ronald Reagan Washington National* ¹	DCA	CM	72-87	72-87	Yes
Shenandoah Valley Regional	SHD	CM	9%	11%	Yes
Washington Dulles International* ²	IAD	CM	52%	76%	No
Reliever: 80% of calculated ASV (Planning at 60%)					
Chesapeake Regional	CPK	RL	24%	35%	Yes
Hampton Roads Executive	PVG	RL	27%	28%	Yes
Hanover County Municipal	OFP	RL	14%	19%	Yes
Leesburg Executive	JYO	RL	46%	45%	Yes
Manassas Regional*	HEF	RL	24%	26%	Yes
Richmond Executive-Chesterfield County	FCI	RL	25%	24%	Yes
Stafford Regional	RMN	RL	10%	24%	Yes
Warrenton-Fauquier	HWY	RL	19%	33%	Yes
GA Regional: 80% of 230,000 ASV (Planning at 60%)					
Accomack County	MFV	GR	3%	4%	Yes
Blue Ridge Regional	MTV	GR	10%	10%	Yes
Culpeper Regional	CJR	GR	25%	29%	Yes
Danville Regional	DAN	GR	8%	8%	Yes
Dinwiddie County	PTB	GR	13%	16%	Yes
Emporia-Greenville Regional	EMV	GR	1%	1%	Yes

Table 3 - 11 (Continued): Existing and Recommended Airfield Capacity

Airport	Code	VATSP Service Role	Existing ASV	Forecasted ASV	Meets Objective
Farmville Municipal	FVX	GR	6%	6%	Yes
Ingalls Field	HSP	GR	4%	4%	Yes
Lonesome Pine	LNP	GR	4%	4%	Yes
Mecklenburg-Brunswick Regional	AVC	GR	4%	10%	Yes
Middle Peninsula Regional	FYJ	GR	5%	10%	Yes
Mountain Empire	MKJ	GR	4%	4%	Yes
New River Valley	PSK	GR	3%	6%	Yes
Suffolk Executive	SFQ	GR	18%	17%	Yes
Tappahannock-Essex County	XSA	GR	5%	10%	Yes
Tazewell County	JFZ	GR	2%	3%	Yes
Virginia Highlands	VJI	GR	5%	5%	Yes
William M. Tuck	W78	GR	3%	3%	Yes
Winchester Regional	OKV	GR	17%	20%	Yes
GA Community: 80% of 230,000 ASV (Planning at 60%)					
Blackstone AAF	BKT	GC	0%	1%	Yes
Brookneal-Campbell County	0V4	GC	0%	0%	Yes
Franklin Municipal	FKN	GC	2%	3%	Yes
Front Royal-Warren County	FRR	GC	7%	13%	Yes
Lake Country Regional	W63	GC	2%	4%	Yes
Lee County	0VG	GC	2%	1%	Yes
Louisa County	LKU	GC	10%	11%	Yes
Luray Caverns	LUA	GC	1%	3%	Yes
New Kent County	W96	GC	7%	12%	Yes
Orange County	OMH	GC	4%	4%	Yes
Shannon	EZF	GC	13%	12%	Yes
Tangier Island	TGI	GC	0%	0%	Yes
Twin County	HLX	GC	4%	4%	Yes

Table 3 - 11 (Continued): Existing and Recommended Airfield Capacity

Airport	Code	VATSP Service Role	Existing ASV	Forecasted ASV	Meets Objective
Virginia Tech-Montgomery Executive	BCB	GC	8%	13%	Yes
Wakefield Municipal	AKQ	GC	7%	7%	Yes
Williamsburg-Jamestown	JGG	GC	12%	19%	Yes
Local Service: 80% of 230,000 ASV (Planning at 60%)					
Bridgewater Air Park	VBW	LO	5%	13%	Yes
Chase City Municipal	CXE	LO	1%	1%	Yes
Crewe Municipal	W81	LO	2%	2%	Yes
Falwell	W24	LO	4%	3%	Yes
Gordonsville Municipal	GVE	LO	4%	9%	Yes
Grundy Municipal	GDY	LO	2%	2%	Yes
Hummel Field	W75	LO	6%	5%	Yes
Lake Anna	7W4	LO	0%	1%	Yes
Lawrenceville-Brunswick Municipal	LVL	LO	1%	1%	Yes
Lunenburg County	W31	LO	0%	1%	Yes
New London	W90	LO	14%	14%	Yes
New Market	8W2	LO	7%	7%	Yes
Smith Mountain Lake	W91	LO	2%	2%	Yes
Waynesboro-Eagle's Nest	W13	LO	6%	11%	Yes

Sources: Airport Sponsor Survey, DOAV Inventory; Forecasts of Operations; and FAA

Notes: ¹Airport calculates hourly versus annual capacity. The capacity is capped by Congress. From *FAA Airport Capacity Benchmark Report*, 2004.

² From airport website, <http://www.metwashairports.com/dulles/208.htm>, June 2014, noting that the current four-runway configuration has a capacity of up to 600,000 aircraft operations per year.

Table 3 - 12: Existing and Recommended Primary Runway Lengths and Widths

Airport	Code	VATSP Service Role	Approach Category	Design Group	>500 Jet Ops (Y/N)	Primary Runway	PRIMARY RUNWAY LENGTH				PRIMARY RUNWAY WIDTH		
							Primary Runway Length	Runway Length Obj ¹	Meet Obj	Length Needed to Meet Obj.	Primary Runway Width	Runway Width Obj	Meet Obj
Commercial Service: 5,500 feet x 100 feet													
Charlottesville-Albemarle	CHO	CM	C	III	Yes	3-21	6,801	6,801	Yes		150	150	Yes
Lynchburg Regional	LYH	CM	C	III	Yes	4-22	7,100	7,100	Yes		150	150	Yes
Newport News-Williamsburg International	PHF	CM	D	V	Yes	7-25	8,003	8,003	Yes		150	150	Yes
Norfolk International	ORF	CM	D	IV	Yes	5-23	9,001	9,001	Yes		150	150	Yes
Richmond International	RIC	CM	D	IV	Yes	16-34	9,003	9,003	Yes		150	150	Yes
Roanoke-Blacksburg Regional	ROA	CM	C	IV	Yes	6-24	6,802	6,802	Yes		150	150	Yes
Ronald Reagan Washington	DCA	CM	C	IV	Yes	1-19	7,169	7,169	Yes		150	150	Yes
Shenandoah Valley Regional	SHD	CM	C	III	No	5-23	6,002	6,002	Yes		150	150	Yes
Washington Dulles International	IAD	CM	D	VI	Yes	1R-19L	11,501	11,501	Yes		150	150	Yes
General Aviation-Reliever: 5,500 feet x 100 feet													
Chesapeake Regional	CPK	RL	C	II	Yes	5-23	5,500	5,500	Yes		100	100	Yes
Hampton Roads Executive	PVG	RL	B	II	Yes	10-28	5,350	5,500	No	150	100	100	Yes
Hanover County Municipal	OPF	RL	B	II	Yes	16-34	5,402	5,500	No	98	100	100	Yes
Leesburg Executive	JYO	RL	C	II	Yes	17-35	5,500	5,500	Yes		100	100	Yes
Manassas Regional	HEF	RL	C	III	Yes	16L-34R	6,200	6,200	Yes		100	100	Yes
Richmond Executive-Chesterfield County	FCI	RL	C	II	Yes	15-33	5,500	5,500	Yes		100	100	Yes
Stafford Regional	RMN	RL	C	II	No	15-33	5,000	5,500	No	500	100	100	Yes
Warrenton-Fauquier	HWY	RL	C	II	No	15-33	5,000	5,500	No	500	100	100	Yes
General Aviation-Regional: If more than 500 annual jet ops=5,500 feet x 100 feet or less than 500 jet ops=5,000 feet x 75 feet													
Accomack County	MFV	GR	B	II	No	3-21	4,999	5,000	Yes	1	150	150	Yes
Blue Ridge Regional	MTV	GR	C	II	Yes	12-30	4,999	5,500	No	501	100	100	Yes
Culpeper Regional	CJR	GR	B	II	Yes	4-22	5,000	5,500	No	500	100	100	Yes
Danville Regional	DAN	GR	C	II	Yes	2-20	6,500	6,500	Yes		150	150	Yes
Dinwiddie County	PTB	GR	B	II	No	5-23	5,001	5,001	Yes		100	100	Yes
Emporia-Greenville Regional	EMV	GR	B	II	No	16-34	5,044	5,044	Yes		100	100	Yes

Table 3 - 12 (Continued): Existing and Recommended Primary Runway Lengths and Widths

Airport	Code	VATSP Service Role	Approach Category	Design Group	>500 Jet Ops (Y/N)	PRIMARY RUNWAY LENGTH					PRIMARY RUNWAY WIDTH				
						Primary Runway	Primary Runway Length	Runway Length Obj ¹	Meet Obj	Length Needed to Meet Obj.	Primary Runway Width	Runway Width Obj	Meet Obj	Width Needed to Meet Obj	
Farmville Municipal	FVX	GR	B	II	Yes	3-21	4,400	5,500	No	1,100	75	100	No	25	
Ingalls Field	HSP	GR	B	II	Yes	7-25	5,601	5,601	Yes		100	100	Yes		
Lonesome Pine	LNP	GR	B	II	Yes	6-24	5,400	5,500	No	100	100	100	Yes		
Mecklenburg-Brunswick Regional	AVC	GR	B	II	No	1-19	5,000	5,000	Yes		75	75	Yes		
Middle Peninsula Regional	FYJ	GR	B	II	No	10-28	5,000	5,000	Yes		75	75	Yes		
Mountain Empire	MKJ	GR	B	II	No	8-26	5,252	5,252	Yes		75	75	Yes		
New River Valley	PSK	GR	B	II	No	6-24	6,201	6,201	Yes		150	150	Yes		
Suffolk Executive	SFQ	GR	B	II	No	4-22	5,007	5,007	Yes		100	100	Yes		
Tappahannock-Essex County	XSA	GR	B	I	No	10-28	4,300	5,000	No	700	75	75	Yes		
Tazewell County	JFZ	GR	B	I	No	7-25	4,300	5,000	No	700	75	75	Yes		
Virginia Highlands	VJI	GR	B	II	No	6-24	4,450	5,000	No	550	100	100	Yes		
William M. Tuck	W78	GR	B	II	No	1-19	4,011	5,000	No	989	75	75	Yes		
Winchester Regional	OKV	GR	C	II	Yes	14-32	5,500	5,500	Yes		100	100	Yes		
General Aviation-Community: If more than 500 annual jet ops=5,500 feet x 100 feet or determined by FAA Methodology and ARC Criteria															
Blackstone AAF	BKT	GC	C	II	No	4-22	4,632	4,632	Yes		150	150	Yes		
Brookneal-Campbell County	OV4	GC	B	II	No	6-24	3,800	3,800	Yes		60	75	No	15	
Franklin Municipal	FKN	GC	B	II	No	9-27	4,977	4,977	Yes		100	100	Yes		
Front Royal-Warren County	FRR	GC	B	I	No	10-28	3,007	3,240	No	233	75	75	Yes		
Lake Country Regional	W63	GC	B	II	No	4-22	4,500	4,500	Yes		50	75	No	25	
Lee County	OVG	GC	B	II	No	7-25	5,000	5,000	Yes		75	75	Yes		
Louisa County	LKU	GC	B	II	No	9-27	4,300	4,300	Yes		100	100	Yes		
Luray Caverns	LUA	GC	B	I	No	4-22	3,125	3,300	No	175	75	75	Yes		
New Kent County	W96	GC	B	I	No	10-28	3,600	3,600	Yes		75	75	Yes		
Orange County	OMH	GC	B	I	No	8-26	3,200	3,200	Yes		75	75	Yes		
Shannon	EZF	GC	B	I	No	6-24	2,910	3,050	No	140	100	100	Yes		
Tangier Island	TGI	GC	B	I	No	2-20	2,950	3,040	No	90	75	75	Yes		

Table 3 - 12 (Continued): Existing and Recommended Primary Runway Lengths and Widths

Airport	Code	VATSP Service Role	Approach Category	Design Group	>500 Jet Ops (Y/N)	Primary Runway	PRIMARY RUNWAY LENGTH				PRIMARY RUNWAY WIDTH			
							Primary Runway Length	Runway Length Obj ¹	Meet Obj	Length Needed to Meet Obj.	Primary Runway Width	Runway Width Obj	Meet Obj	Width Needed to Meet Obj
Twin County	HLX	GC	B	II	No	1-19	4,204	4,204	Yes		75	75	Yes	
Virginia Tech-Montgomery Exec	BCB	GC	B	II	Yes	12-30	4,550	5,500	No	950	100	100	Yes	
Wakefield Municipal	AKQ	GC	B	II	No	2-20	4,337	4,337	Yes		75	75	Yes	
Williamsburg-Jamestown	JGG	GC	B	I	No	13-31	3,204	3,204	Yes		60	60	Yes	
General Aviation-Local: Preserve Existing														
Bridgewater Air Park	VBW	LO	B	II	No	15-33	2,745	2,745	Yes		60	60	Yes	
Chase City Municipal	CXE	LO	B	I	No	18-36	3,400	3,400	Yes		50	50	Yes	
Crewe Municipal	W81	LO	B	I	No	15-33	3,300	3,300	Yes		60	60	Yes	
Falwell	W24	LO	B	I	No	10-28	2,932	2,932	Yes		50	50	Yes	
Gordonsville Municipal	GVE	LO	A	I	No	5-23	2,300	2,300	Yes		40	40	Yes	
Grundy Municipal	GDY	LO	B	II	No	4-22	2,258	2,258	Yes		60	60	Yes	
Hummel Field	W75	LO	A	I	No	1-19	2,261	2,261	Yes		45	45	Yes	
Lake Anna	7W4	LO	A	I	No	8-26	2,560	2,560	Yes		50	50	Yes	
Lawrenceville-Brunswick Municipal	LVL	LO	B	I	No	18-36	3,200	3,200	Yes		50	50	Yes	
Lunenburg County	W31	LO	B	I	No	2-20	3,000	3,000	Yes		50	50	Yes	
New London	W90	LO	B	I	No	18-36	3,164	3,164	Yes		40	40	Yes	
New Market	8W2	LO	B	I	No	6-24	2,920	2,920	Yes		60	60	Yes	
Smith Mountain Lake	W91	LO	B	I	No	5-23	3,058	3,058	Yes		50	50	Yes	
Waynesboro-Eagle's Nest	W13	LO	B	I	No	6-24	2,009	2,009	Yes		50	50	Yes	

Sources: Airport Sponsor Survey and DOAV Inventory; FAA

Notes: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

¹If existing runway length is greater than the objective length, it was adopted as the objective runway length.

Table 3 - 13: Existing and Recommended Primary Runway Strength

Airport	Code	VATSP Service Role	Existing Strength (lbs)	Meets Objective	Additional Strength Needed
Commercial Service: Dual Wheel (DW) Landing Gear-60,000 lbs					
Charlottesville-Albemarle	CHO	CM	DW 160,000	Yes	
Lynchburg Regional	LYH	CM	DW 108,000	Yes	
Newport News-Williamsburg International	PHF	CM	DW 200,000	Yes	
Norfolk International	ORF	CM	DW 200,000	Yes	
Richmond International	RIC	CM	DW 200,000	Yes	
Roanoke-Blacksburg Regional	ROA	CM	DW 200,000	Yes	
Ronald Reagan Washington National	DCA	CM	DW 200,000	Yes	
Shenandoah Valley Regional	SHD	CM	DW 150,000	Yes	
Washington Dulles International	IAD	CM	DW 250,000	Yes	
Reliever: Single-Wheel (SW) Landing Gear-30,000 lbs					
Chesapeake Regional	CPK	RL	SW 30,000	Yes	
Richmond Executive-Chesterfield County	FCI	RL	SW 60,000	Yes	
Hampton Roads Executive ¹	PVG	RL	SW 12,500	No	17,500 lbs
Hanover County Municipal	OPF	RL	SW 40,000	Yes	
Leesburg Executive	JYO	RL	SW 30,000	Yes	
Manassas Regional	HEF	RL	SW 50,000	Yes	
Stafford Regional	RMN	RL	SW 30,000	Yes	
Warrenton-Fauquier	HWY	RL	SW 15,000	No	15,000 lbs
GA Regional: Single-Wheel (SW) Landing Gear-30,000 lbs					
Accomack County	MFV	GR	SW 26,000	No	4,000 lbs
Blue Ridge Regional	MTV	GR	SW 20,000	No	10,000 lbs
Culpeper Regional	CJR	GR	SW 40,000	Yes	
Danville Regional	DAN	GR	SW 90,000	Yes	
Dinwiddie County	PTB	GR	SW 12,500	No	17,500 lbs
Emporia-Greenville Regional	EMV	GR	SW 30,000	Yes	
Farmville Municipal	FVX	GR	SW 12,500	No	17,500 lbs
Ingalls Field	HSP	GR	SW 65,000	Yes	
Lonesome Pine	LNP	GR	SW 42,000	Yes	

Table 3 - 13 (Continued): Existing and Recommended Primary Runway Strength

Airport	Code	VATSP Service Role	Existing Strength (lbs)	Meets Objective	Additional Strength Needed
Mecklenburg-Brunswick Regional	AVC	GR	SW 12,500	No	17,500 lbs
Middle Peninsula Regional	FYJ	GR	SW 30,000	Yes	
Mountain Empire	MKJ	GR	SW 20,000	No	10,000 lbs
New River Valley ¹	PSK	GR	Not Rated	No	Not Rated
Suffolk Executive	SFQ	GR	SW 30,000	Yes	
Tappahannock-Essex County	XSA	GR	SW 12,500	No	17,500 lbs
Tazewell County	JFZ	GR	SW 12,500	No	17,500 lbs
Virginia Highlands	VJI	GR	SW 75,000	Yes	
William M. Tuck	W78	GR	SW 12,500	No	17,500 lbs
Winchester Regional	OKV	GR	SW 75,000	Yes	
GA Community: Single-Wheel (SW) Landing Gear-12,500 lbs					
Blackstone AAF	BKT	GC	SW 40,000	Yes	
Brookneal-Campbell County	0V4	GC	SW 12,500	Yes	
Franklin Municipal	FKN	GC	SW 12,500	Yes	
Front Royal-Warren County	FRR	GC	SW 12,500	Yes	
Lake Country Regional	W63	GC	SW 12,500	Yes	
Lee County	0VG	GC	SW 30,000	Yes	
Louisa County	LKU	GC	SW 12,500	Yes	
Luray Caverns	LUA	GC	SW 12,000	No	500 lbs
New Kent County	W96	GC	SW 12,500	Yes	
Orange County	OMH	GC	SW 12,000	No	500 lbs
Shannon	EZF	GC	SW 12,500	Yes	
Tangier Island	TGI	GC	SW 12,500	Yes	
Twin County	HLX	GC	SW 12,500	Yes	
Virginia Tech-Montgomery Executive	BCB	GC	SW 45,000	Yes	
Wakefield Municipal	AKQ	GC	SW 12,500	Yes	
Williamsburg-Jamestown	JGG	GC	SW 12,500	Yes	

Table 3 - 13 (Continued): Existing and Recommended Primary Runway Strength

Airport	Code	VATSP Service Role	Existing Strength (lbs)	Meets Objective	Additional Strength Needed
Local Service: Single-Wheel (SW) Landing Gear-12,500 lbs					
Bridgewater Air Park	VBW	LO	SW 22,000	Yes	
Chase City Municipal	CXE	LO	SW 12,500	Yes	
Crewe Municipal	W81	LO	SW 12,000	No	500 lbs
Falwell	W24	LO	SW 12,500	Yes	
Gordonsville Municipal	GVE	LO	SW 12,500	Yes	
Grundy Municipal	GDY	LO	SW 7,000	No	5,500 lbs
Hummel Field	W75	LO	SW 12,500	Yes	
Lake Anna	7W4	LO	SW 6,000	No	6,500 lbs
Lawrenceville-Brunswick Municipal	LVL	LO	SW 12,500	Yes	
Lunenburg County	W31	LO	SW 12,500	Yes	
New London	W90	LO	SW 12,500	Yes	
New Market	8W2	LO	SW 12,500	Yes	
Smith Mountain Lake	W91	LO	SW 12,500	Yes	
Waynesboro-Eagle's Nest	W13	LO	SW 12,500	Yes	

Sources: Airport Sponsor Survey and DOAV Inventory; FAA 5010

Notes: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

¹ Although New River Valley has a dual wheel strength rating of 60,000 lbs on its runway, it does not currently have single wheel strength rating. It is recommended that the single wheel strength rating be developed.

Table 3 - 14: Existing and Recommended Taxiways

Airport	Code	VATSP Service Role	2012 Total Annual Ops	2037 Projected Annual Ops	Existing Instrument Approach Minimums ¹	Approach Capability ¹	Existing Taxiway	Recommended	Meets Objective	Improvements Needed
Commercial Service: Full parallel taxiway if more than 20,000 annual ops OR landing minimums less than 400-1 OR existing LPV approach or turnarounds										
Charlottesville-Albemarle	CHO	CM	71,699	72,551	250-1/2	Precision	Full Parallel	Full Parallel	Yes	
Lynchburg Regional	LYH	CM	102,497	121,965	200-1/2	Precision	Full Parallel	Full Parallel	Yes	
Newport News-Williamsburg International	PHF	CM	76,754	91,452	200-1/2	Precision	Full Parallel	Full Parallel	Yes	
Norfolk International	ORF	CM	80,530	86,506	200-1/2	Precision	Full Parallel	Full Parallel	Yes	
Richmond International	RIC	CM	89,039	127,389	CAT II and III	Precision	Full Parallel	Full Parallel	Yes	
Roanoke-Blacksburg Regional	ROA	CM	46,618	56,127	400-7/8	Precision	Full Parallel	Full Parallel	Yes	
Ronald Reagan Washington National	DCA	CM	286,406	294,989	CAT II	Precision	Full Parallel	Full Parallel	Yes	
Shenandoah Valley Regional	SHD	CM	18,413	21,432	200-1/2	Precision	Full Parallel	Full Parallel	Yes	
Washington Dulles International	IAD	CM	311,317	457,728	CAT II and III	Precision	Full Parallel	Full Parallel	Yes	
Reliever: Full parallel taxiway if more than 20,000 annual ops OR landing minimums less than 400-1 OR existing LPV approach or turnarounds										
Chesapeake Regional	CPK	RL	45,000	62,524	200-1/2	Precision	Full Parallel	Full Parallel	Yes	
Hampton Roads Executive	PVG	RL	62,495	87,612	457-1	RNAV LPV	Full Parallel	Full Parallel	Yes	
Hanover County Municipal	OFP	RL	33,189	44,480	328-1 1/4	RNAV LPV	Full Parallel	Full Parallel	Yes	
Leesburg Executive	JYO	RL	105,819	102,544	250-1	Precision	Full Parallel	Full Parallel	Yes	
Manassas Regional	HEF	RL	86,048	93,728	250-3/4	Precision	Full Parallel	Full Parallel	Yes	
Richmond Executive-Chesterfield County	FCI	RL	57,750	85,100	200-1/2	Precision	Full Parallel	Full Parallel	Yes	
Stafford Regional	RMN	RL	23,609	55,222	200-3/4	Precision	Full Parallel	Full Parallel	Yes	
Warrenton-Fauquier	HWY	RL	43,950	65,016	200-3/4	RNAV LPV	Full Parallel	Full Parallel	Yes	
GA Regional: Full parallel taxiway if more than 20,000 annual ops OR landing minimums less than 400-1 OR existing LPV approach or turnarounds										
Accomack County	MFV	GR	6,753	9,976	299-1	RNAV LPV	Partial Parallel	Full Parallel	No	Extend to full parallel TW
Blue Ridge Regional	MTV	GR	23,400	22,500	250-1	RNAV LPV	Full Parallel	Full Parallel	Yes	
Culpeper Regional	CJR	GR	56,925	67,068	294-1	NonPrecision	Full Parallel	Full Parallel	Yes	
Danville Regional	DAN	GR	19,264	18,400	200-1/2	Precision	Full Parallel	Full Parallel	Yes	
Dinwiddie County	PTB	GR	30,485	37,026	308-1	RNAV LPV	Full Parallel	Full Parallel	Yes	

Table 3 - 14 (Continued): Existing and Recommended Taxiways

Airport	Code	VATSP Service Role	2012 Total Annual Ops	2037 Projected Annual Ops	Existing Instrument Approach Minimums ¹	Approach Capability ¹	Existing Taxiway	Recommended	Meets Obj	Improvements Needed
Emporia-Greenville Regional	EMV	GR	1,160	2,002	200-1	RNAV LPV	Partial Parallel	Full Parallel	No	Extend to full parallel TW
Farmville Municipal	FVX	GR	14,300	9,976	280-1	RNAV LPV	Stub	Full Parallel	No	Add full parallel TW
Ingalls Field	HSP	GR	10,003	22,500	315-1	Precision	Full Parallel	Full Parallel	Yes	
Lonesome Pine	LNP	GR	9,531	67,068	337-1 1/4	RNAV LPV	Partial Parallel	Full Parallel	No	Extend to full parallel TW
Mecklenburg-Brunswick Regional	AVC	GR	9,800	18,400	250-1	RNAV LPV	Full Parallel	Full Parallel	Yes	
Middle Peninsula Regional	FYJ	GR	11,424	37,026	250-1	RNAV LPV	Full Parallel	Full Parallel	Yes	
Mountain Empire	MKJ	GR	10,212	2,002	529-2	RNAV LPV	Full Parallel	Full Parallel	Yes	
New River Valley	PSK	GR	6,373	9,976	200-1	Precision	Partial Parallel	Full Parallel	No	Extend to full parallel TW
Suffolk Executive	SFQ	GR	40,582	22,500	253-1	RNAV LPV	Partial Parallel	Full Parallel	No	Extend to full parallel TW
Tappahannock-Essex County	XSA	GR	12,000	67,068	349-1 1/4	RNAV LPV	Partial Parallel	Full Parallel	No	Extend to full parallel TW
Tazewell County	JFZ	GR	4,968	18,400	427-1	RNAV LPV	Stub	Full Parallel	No	Add full parallel TW
Virginia Highlands	VJI	GR	11,218	37,026	318-1	NonPrecision	Full Parallel	Full Parallel	Yes	
William M. Tuck	W78	GR	7,452	2,002	329-1 1/4	RNAV LPV	Full Parallel	Full Parallel	Yes	
Winchester Regional	OKV	GR	39,250	9,976	200-1/2	Precision	Full Parallel	Full Parallel	Yes	
GA Community: Full parallel taxiway if more than 20,000 annual ops OR landing minimums less than 400-1 OR existing LPV approach; or turnarounds										
Blackstone AAF	BKT	GC	1,053	1,748	511-1	NonPrecision	Partial Parallel	Turnarounds	Yes	
Brookneal-Campbell County	OV4	GC	735	1,464	384-1	NonPrecision	Stub	Turnarounds	No	Add turnarounds
Franklin Municipal	FKN	GC	3,724	5,256	284-1	RNAV LPV	Partial Parallel	Full Parallel	No	Extend to full parallel TW
Front Royal-Warren County	FRR	GC	15,270	19,092	1116-1 1/4	NonPrecision - Day Only	Full Parallel	Full Parallel	Yes	
Lake Country Regional	W63	GC	4,633	8,129	433-1	NonPrecision	No Taxiway	Turnarounds	No	Add turnarounds
Lee County	OVG	GC	3,499	3,366	300-1	RNAV LPV	Full Parallel	Full Parallel	Yes	
Louisa County	LKU	GC	22,678	26,288	250-1	RNAV LPV	Full Parallel	Full Parallel	Yes	
Luray Caverns	LUA	GC	3,315	4,234	557-7	NonPrecision	No Taxiway	Turnarounds	No	Add turnarounds
New Kent County	W96	GC	15,608	27,118	419-1	NonPrecision - Day Only	Full Parallel	Full Parallel	Yes	
Orange County	OMH	GC	8,506	8,228	659-1	NonPrecision	Full Parallel	Turnarounds	Yes	
Shannon	EZF	GC	30,063	28,634	1015-3	NonPrecision - Day Only	No Taxiway	Full Parallel	No	Add full parallel TW

Table 3 - 14 (Continued): Existing and Recommended Taxiways

Airport	Code	VATSP Service Role	2012 Total Annual Ops	2037 Projected Annual Ops	Existing Instrument Approach Minimums ¹	Approach Capability ¹	Existing Taxiway	Recommended	Meets Obj	Improvements Needed
Tangier Island	TGI	GC	938	1,000	655-1	NonPrecision - Day Only	No Taxiway	Turnarounds	No	Add turnarounds
Twin County	HLX	GC	8,925	8,544	271-1	RNAV LPV	Partial Parallel	Full Parallel	No	Extend to full parallel TW
Virginia Tech-Montgomery Exec	BCB	GC	17,539	29,382	393-1 1/2	NonPrecision	Full Parallel	Full Parallel	Yes	
Wakefield Municipal	AKQ	GC	16,347	15,756	1007-3	NonPrecision - Day Only	Turnaround	Turnarounds	Yes	
Williamsburg-Jamestown	JGG	GC	27,482	33,852	1011-3	NonPrecision - Day Only	Full Parallel	Full Parallel	Yes	
Local Service: Stub taxiway²										
Bridgewater Air Park	VBW	LO	11,975	30,076	1015-3	NonPrecision - Day Only	Stub	Stub	Yes	
Chase City Municipal	CXE	LO	2,600	2,504	1014-3	NonPrecision - Day Only	No Taxiway	Stub	No	Add stub TW
Crewe Municipal	W81	LO	4,200	4,040	505-1	NonPrecision - Day Only	Turnaround	Stub	Yes	
Falwell	W24	LO	8,300	7,942	521-1	NonPrecision - Day Only	Partial	Stub	Yes	
Gordonsville Municipal	GVE	LO	9,152	12,928	1007-3	NonPrecision - Day Only	Stub	Stub	Yes	
Grundy Municipal	GDY	LO	4,177	4,004	N/A	Visual	Stub	Stub	Yes	
Hummel Field	W75	LO	12,990	12,376	1010-3	NonPrecision - Day Only	Stub	Stub	Yes	
Lake Anna	7W4	LO	760	2,184	1009-3	NonPrecision - Day Only	Stub	Stub	Yes	
Lawrenceville-Brunswick Municipal	LVL	LO	2,700	2,592	1011-3	NonPrecision - Day Only	No Taxiway	Stub	No	Add stub TW
Lunenburg County	W31	LO	392	1,344	554-1	NonPrecision - Day Only	Turnarounds	Stub	Yes	
New London	W90	LO	32,902	31,507	1009-3	NonPrecision - Day Only	Full Parallel	Stub	Yes	
New Market	8W2	LO	16,174	15,552	1017-3	NonPrecision - Day Only	Stub	Stub	Yes	
Smith Mountain Lake	W91	LO	5,128	4,968	1008-3	NonPrecision - Day Only	Partial	Stub	Yes	
Waynesboro-Eagle's Nest	W13	LO	12,800	16,698	1004-3	NonPrecision - Day Only	Full Parallel	Stub	Yes	

Sources: Airport Sponsor Survey and DOAV Inventory; VASTP 2012 forecasts; FAA. Terminal Procedures

Notes: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

¹Approach minimums and type derived from September 2013 FAA Terminal Procedures Publication (d-TTP)

² Existing taxiway type for Local Service Airports was verified using Google Earth.

Table 3 - 15: Existing and Recommended Approaches

Airport	Code	VATSP Service Role	Existing Approach	Runway End	Lowest Existing Approach Minimums (Decision Altitude)	Height Above Touchdown (HAT) ¹	Visibility (sm or RVR) ¹	Meets Objective	Improvements Needed
Commercial Service: ILS CAT I (200-1/2), LPV and LAAS (200-1/2)									
Charlottesville-Albemarle	CHO	CM	Precision	3	889-1/2	250	1/2	No	Lower minimums
Lynchburg Regional	LYH	CM	Precision	4	1106-24	200	2400	Yes	
Newport News-Williamsburg International	PHF	CM	Precision	7	239-24	200	2400	Yes	
Norfolk International	ORF	CM	Precision	23	216-1/2	200	1/2	Yes	
Richmond International	RIC	CM	Precision	34	CAT-IIIb	0	0	Yes	
Roanoke-Blacksburg Regional	ROA	CM	Precision	34	1543-7/8	400	7/8	No	Lower minimums
Ronald Reagan Washington National	DCA	CM	Precision	1	106-12 (CAT II)	100	1200	Yes	
Shenandoah Valley Regional	SHD	CM	Precision	5	1384-1/2	200	1/2	Yes	
Washington Dulles International	IAD	CM	Precision	Multiple	CAT-IIIb	0	0	Yes	
Reliever: ILS CAT I (200-1/2), LPV and LAAS (200-1/2)									
Chesapeake Regional	CPK	RL	Precision	5	217-1/2	200	1/2	Yes	
Hampton Roads Executive	PVG	RL	RNAV LPV	10	228-3/4	200	3/4	Yes	
Hanover County Municipal	OPF	RL	RNAV LPV	16	535-1 1/4	328	1 1/4	No	Lower minimums
Leesburg Executive	JYO	RL	Precision	17	628-1	250	1	No	Lower minimums
Manassas Regional	HEF	RL	Precision	16L	392-3/4	200	3/4	No	Lower minimums
Richmond Executive-Chesterfield County	FCI	RL	Precision	33	399 1/2	200	1/2	Yes	
Stafford Regional	RMN	RL	Precision	33	396-3/4	200	3/4	No	Lower minimums
Warrenton-Fauquier	HWY	RL	RNAV LPV	15	513-3/4	200	3/4	No	Lower minimums
GA Regional: LPV and LAAS (250-1)									
Accomack County	MFV	GR	RNAV LPV	3	346-1	299	1	No	Lower minimums
Blue Ridge Regional	MTV	GR	RNAV LPV	30	1175-1	250	1	Yes	
Culpeper Regional	CJR	GR	NonPrecision	4	610-1	294	1	No	LPV approach
Danville Regional	DAN	GR	Precision	2	758-1/2	200	1/2	Yes	
Dinwiddie County	PTB	GR	RNAV LPV	23	499-1	308	1	No	Lower minimums

Table 3 - 15 (Continued): Existing and Recommended Approaches

Airport	Code	VATSP Service Role	Existing Approach	Runway End	Lowest Existing Approach Minimums (Decision Altitude)	Height Above Touchdown (HAT) ¹	Visibility (sm or RVR) ¹	Meets Objective	Improvements Needed
Emporia-Greenville Regional	EMV	GR	RNAV LPV	33	310-1	200	1	Yes	
Farmville Municipal	FVX	GR	RNAV LPV	21	696-1	280	1	No	Lower minimums
Ingalls Field	HSP	GR	Precision	25	4088-1	315	1	No	Lower minimums
Lonesome Pine	LNP	GR	RNAV LPV	24	3021-1 1/4	337	1 1/4	No	Lower minimums
Mecklenburg-Brunswick Regional	AVC	GR	RNAV LPV	1	667-1	250	1	Yes	
Middle Peninsula Regional	FYJ	GR	RNAV LPV	10	263-1	250	1	Yes	
Mountain Empire	MKJ	GR	RNAV LPV	26	3048-2	529	2	No	Lower minimums
New River Valley	PSK	GR	Precision	6	2305-1	200	1	Yes	
Suffolk Executive	SFQ	GR	RNAV LPV	4	319-1	253	1	Yes	
Tappahannock-Essex County	XSA	GR	RNAV LPV	28	478-1 1/4	349	1 1/4	No	Lower minimums
Tazewell County	JFZ	GR	RNAV LPV	7	3080-1	427	1	No	Lower minimums
Virginia Highlands	VJI	GR	NonPrecision	6	2381-1	318	1	No	LPV approach, lower minimums
William M. Tuck	W78	GR	RNAV LPV	1	739-1 1/4	329	1 1/4	No	Lower minimums
Winchester Regional	OKV	GR	Precision	32	915-1/2	200	1/2	Yes	
GA Community: Ground-based (500-1), LNAV (400-1)									
Blackstone AAF	BKT	GC	NonPrecision	4	940-1	511	1	No	Lower minimums
Brookneal-Campbell County	0V4	GC	NonPrecision	24	980-1	384	1	Yes	
Franklin Municipal	FKN	GC	RNAV LPV	9	317-1	284	1	Yes	
Front Royal-Warren County	FRR	GC	NonPrecision - Day Only		1820-1 1/4	1116	1 1/4	No	Lower minimums
Lake Country Regional	W63	GC	NonPrecision	4	800-1	433	1	Yes	
Lee County	0VG	GC	RNAV LPV	25	1711-1	300	1	Yes	
Louisa County	LKU	GC	RNAV LPV	27	743-1	250	1	Yes	
Luray Caverns	LUA	GC	NonPrecision	22	1460-1	557	1	No	Lower minimums
New Kent County	W96	GC	NonPrecision - Day Only		540-1	419	1	No	Lower minimums
Orange County	OMH	GC	NonPrecision	8	1120-1	659	1	No	Lower minimums
Shannon	EZF	GC	NonPrecision - Day Only	24	1100-3	1015	3	No	Lower minimums

Table 3 - 15 (Continued): Existing and Recommended Approaches

Airport	Code	VATSP Service Role	Existing Approach	Runway End	Lowest Existing Approach Minimums (Decision Altitude)	Height Above Touchdown (HAT) ¹	Visibility (sm or RVR) ¹	Meets Objective	Improvements Needed
Tangier Island	TGI	GC	NonPrecision - Circling		660-1	655	1	No	Lower minimums
Twin County	HLX	GC	RNAV LPV	1	2964-7/8	271	1	Yes	
Virginia Tech-Montgomery Executive	BCB	GC	NonPrecision	12	2506-1 1/2	393	1 1/2	No	Lower minimums
Wakefield Municipal	AKQ	GC	NonPrecision - Day Only	20	1120-3	1007	3	No	Lower minimums
Williamsburg-Jamestown	JGG	GC	NonPrecision - Circling		1060-3	1011	3	No	Lower minimums
Local Service: Ground Based (1,000-3 Day)									
Bridgewater Air Park	VBW	LO	NonPrecision - Day Only	15/33	2180-3	1015	3	No	Lower minimums
Chase City Municipal	CXE	LO	NonPrecision - Day Only	36	1500-3	1014	3	No	Lower minimums
Crewe Municipal	W81	LO	NonPrecision - Day Only	33	920-1	505	1	Yes	
Falwell	W24	LO	NonPrecision - Day Only	28	1460-1	521	1	Yes	
Gordonsville Municipal	GVE	LO	NonPrecision - Day Only	5/23	1460-3	1007	3	No	Lower minimums
Grundy Municipal	GDY	LO	Visual		N/A			No	Add Approach
Hummel Field	W75	LO	NonPrecision - Day Only	1	1040-3	1010	3	No	Lower minimums
Lake Anna	7W4	LO	NonPrecision - Day Only	26	1360-3	1009	3	No	Lower minimums
Lawrenceville-Brunswick Municipal	LVL	LO	NonPrecision - Day Only	18	1340-3	1011	3	No	Lower minimums
Lunenburg County	W31	LO	NonPrecision - Day Only	2	1080-1	554	1	Yes	
New London	W90	LO	NonPrecision - Day Only	36	1780-3	938	3	No	Lower minimums
New Market	8W2	LO	NonPrecision - Day Only	24	1980-3	1017	3	No	Lower minimums
Smith Mountain Lake	W91	LO	NonPrecision - Day Only	23	1900-3	1008	3	No	Lower minimums
Waynesboro-Eagle's Nest	W13	LO	NonPrecision - Day Only	6	2440-3	1004	3	No	Lower minimums

Sources: Airport Sponsor Survey and DOAV Inventory; FAA U.S. Terminal Procedures; *Facilities and Equipment (NAVAID) Study*

Notes: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

¹HAT and Visibility derived from March 2014 FAA Terminal Procedures Publication (d-TTP)

Table 3 - 16: Existing and Recommended Airport Runway Instrumentation

Airport	Code	VATSP Service Role	Primary Runway	APPROACH LIGHTING			VISUAL GLIDESLOPE INDICATOR			RUNWAY LIGHTING		Meets All Objs	Improvements Needed
				RW end 1	RW end 2	Meets Obj	RW end 1 PAPIs	RW end 2 PAPIs	Meets Obj	Existing Runway Lighting	Meets Obj		
Commercial Service: MALSR (primary runway end), MALS (secondary runway end), PAPIs (both runway ends), HIRLs													
Charlottesville-Albemarle	CHO	CM	3-21	MALSR	REILs	No	None	PAPI	No	HIRLs	Yes	No	MALS RW21, PAPI RW3
Lynchburg Regional	LYH	CM	4-22	MALSR	REILs	No	None	PAPI	No	HIRLs	Yes	No	MALS RW22, PAPI RW4
Newport News-Williamsburg International	PHF	CM	7-25	MALSR	REILs	No	None	None	No	HIRLs	Yes	No	MALS RW25, PAPI RW 7 & RW25
Norfolk International	ORF	CM	5-23	MALSR	MALSR	Yes	PAPI	PAPI	Yes	HIRLs	Yes	Yes	
Richmond International	RIC	CM	16-34	MALSR	ALSF 2	Yes	None	None	No	HIRLs	Yes	No	PAPI RW16 & RW34
Roanoke-Blacksburg Regional	ROA	CM	6-24	MALSR	REILs	No	None	None	No	HIRLs	Yes	No	MALS RW24, PAPI RW6 & RW24
Ronald Reagan Washington National	DCA	CM	1-19	ALSF 2	MALSF	Yes	PAPI	None	No	HIRLs	Yes	No	PAPI RW19
Shenandoah Valley Regional	SHD	CM	5-23	MALSR	REILs	No	PAPI	PAPI	Yes	HIRLs	Yes	No	MALS RW 23
Washington Dulles International	IAD	CM	1R-19L	ALSF 2	MALSR	Yes	PAPI	PAPI	Yes	HIRLs	Yes	Yes	
Reliever: MALSR (primary runway end), MALS (secondary runway end), PAPIs (both runway ends), HIRLs													
Chesapeake Regional	CPK	RL	5-23	MALSR	REILs	No	PAPI	PAPI	Yes	HIRLs	Yes	No	MALS RW23
Hampton Roads Executive	PVG	RL	10-28	None	None	No	PAPI	PAPI	Yes	MIRLs	No	No	MALSR RW10, MALS RW28,
Hanover County Municipal	OPF	RL	16-34	REILs	REILs	No	PAPI	None	No	MIRLs	No	No	MALSR RW16, MALS RW34, PAPI RW34
Leesburg Executive	JYO	RL	17-35	ODALS	REILs	No	PAPI	PAPI	Yes	HIRLs	Yes	No	MALSR RW17, MALS RW35
Manassas Regional	HEF	RL	16L-34R	MALSR	REILs	No	PAPI	PAPI	Yes	HIRLs	Yes	No	MALS RW 34R
Richmond Executive-Chesterfield County	FCI	RL	15-33	REILs	MALSR	No	PAPI	PAPI	Yes	HIRLs	Yes	No	MALS RW15
Stafford Regional	RMN	RL	15-33	REILs	MALSF	No	PAPI	PAPI	Yes	HIRLs	Yes	No	MALS RW 15
Warrenton-Fauquier	HWY	RL	15-33	REILs	REILs	No	PAPI	PAPI	Yes	HIRLs	Yes	No	MALSR RW15, MALS RW33

Table 3 - 16 (Continued): Existing and Recommended Airport Runway Instrumentation

Airport	Code	VATSP Service Role	Primary Runway	APPROACH LIGHTING			VISUAL GLIDESLOPE INDICATOR			RUNWAY LIGHTING		Meets All Obj	Improvements Needed
				RW end 1	RW end 2	Meets Obj	RW end 1 PAPIs	RW end 2 PAPIs	Meets Obj	Existing Runway Lighting	Meets Obj		
GA Regional: REILs or approach lights (both runway ends), PAPIs (both runway ends), MIRLs													
Accomack County	MFV	GR	3-21	REILs	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Blue Ridge Regional	MTV	GR	12-30	REILs	ODALS	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Culpeper Regional	CJR	GR	4-22	REILs	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Danville Regional	DAN	GR	2-20	MALSR	REILs	Yes	PAPI	PAPI	Yes	HIRLs	Yes	Yes	
Dinwiddie County	PTB	GR	5-23	ODALS	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Emporia-Greenville Regional	EMV	GR	16-34	REILs	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Farmville Municipal	FVX	GR	3-21	No	REILs	No	PAPI	PAPI	Yes	MIRLs	Yes	No	REILs RW3
Ingalls Field	HSP	GR	7-25	No	REILs	No	PAPI	PAPI	Yes	HIRLs	Yes	No	REILs RW25
Lonesome Pine	LNP	GR	6-24	REILs	ODALS	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Mecklenburg-Brunswick Reg	AVC	GR	1-19	ODALS	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Middle Peninsula Regional	FYJ	GR	10-28	REILs	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Mountain Empire	MKJ	GR	8-26	REILs	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
New River Valley	PSK	GR	6-24	MALSR	REILs	Yes	PAPI	PAPI	Yes	HIRLs	Yes	Yes	
Suffolk Executive	SFQ	GR	4-22	REILs	REILs	Yes	PAPI	PAPI	Yes	HIRLs	Yes	Yes	
Tappahannock-Essex County	XSA	GR	10-28	REILs	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Tazewell County	JFZ	GR	7-25	REILs	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Virginia Highlands	VJI	GR	6-24	No	REILs	No	None	PAPI	No	MIRLs	Yes	No	REILs RW6, PAPI RW6
William M. Tuck	W78	GR	1-19	REILs	No	No	PAPI	PAPI	Yes	MIRLs	Yes	No	REILs RW 19
Winchester Regional	OKV	GR	14-32	REILs	MALSR	Yes	PAPI	PAPI	Yes	HIRLs	Yes	Yes	
GA Community: REILs or approach lights (both runway ends), PAPIs (both runway ends), MIRLs													
Blackstone AAF	BKT	GC	4-22	No	No	No	None	None	No	MIRLs	Yes	No	REILs RW4 & RW22, PAPI RW4 & RW22
Brookneal-Campbell County	0V4	GC	6-24	No	No	No	None	None	No	MIRLs	Yes	No	REILs RW6 & RW24, PAPI RW6 & RW24
Franklin Municipal	FKN	GC	9-27	No	No	No	PAPI	PAPI	Yes	MIRLs	Yes	No	REILs RW9 & RW27

Table 3 - 16 (Continued): Existing and Recommended Airport Runway Instrumentation

Airport	Code	VATSP Service Role	Primary Runway	APPROACH LIGHTING			VISUAL GLIDESLOPE INDICATOR			RUNWAY LIGHTING		Meets All Objs	Improvements Needed
				RW end 1	RW end 2	Meets Obj	RW end 1 PAPIs	RW end 2 PAPIs	Meets Obj	Existing Runway Lighting	Meets Obj		
Front Royal-Warren County	FRR	GC	10-28	No	No	No	None	None	No	MIRLs	Yes	No	REILs RW10 & RW28, PAPI RW10 & RW28
Lake Country Regional	W63	GC	4-22	No	No	No	None	None	No	MIRLs	Yes	No	REILs RW4 & RW22, PAPI RW4 & RW22
Lee County	OVG	GC	7-25	REILs	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Louisa County	LKU	GC	9-27	REILs	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Luray Caverns	LUA	GC	4-22	No	No	No	None	None	No	MIRLs	Yes	No	REILs RW4 & RW22, PAPI RW4 & RW22
New Kent County	W96	GC	10-28	REILs	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Orange County	OMH	GC	8-26	REILs	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Shannon	EZF	GC	6-24	No	No	No	None	None	No	MIRLs	Yes	No	REILs RW6 & RW24, PAPI RW6 & RW24
Tangier Island	TGI	GC	2-20	No	No	No	None	None	No	None	No	No	REILs RW2 & RW20, PAPI RW2 & RW20, MIRLs
Twin County	HLX	GC	1-19	REILs	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Virginia Tech-Montgomery Exec	BCB	GC	12-30	ODALS	REILs	Yes	PAPI	PAPI	Yes	MIRLs	Yes	Yes	
Wakefield Municipal	AKQ	GC	2-20	No	No	No	None	None	No	MIRLs	Yes	No	REILs RW2 & RW20, PAPI RW2 & RW20
Williamsburg-Jamestown	JGG	GC	13-31	REILs	REILs	Yes	None	None	No	MIRLs	Yes	No	PAPI RW13 & RW31
Local Service: Case-by-Case													
Bridgewater Air Park	VBW	LO	15-33	No	No		None	None		MIRLs			
Chase City Municipal	CXE	LO	18-36	No	No		None	None		LIRLs			
Crewe Municipal	W81	LO	15-33	No	No		None	None		MIRLs			
Falwell	W24	LO	10-28	No	No		None	None		MIRLs			
Gordonsville Municipal	GVE	LO	5-23	No	No		None	None		MIRLs			
Grundy Municipal	GDY	LO	4-22	No	No		None	None		MIRLs			
Hummel Field	W75	LO	1-19	No	No		None	None		MIRLs			

Table 3 - 16 (Continued): Existing and Recommended Airport Runway Instrumentation

Airport	Code	VATSP Service Role	Primary Runway	APPROACH LIGHTING			VISUAL GLIDESLOPE INDICATOR			RUNWAY LIGHTING		Meets All Objs	Improvements Needed
				RW end 1	RW end 2	Meets Obj	RW end 1 PAPIs	RW end 2 PAPIs	Meets Obj	Existing Runway Lighting	Meets Obj		
Lake Anna	7W4	LO	8-26	No	No		None	None		MIRLs			
Lawrenceville-Brunswick Muni	LVL	LO	18-36	No	No		None	None		MIRLs			
Lunenburg County	W31	LO	2-20	No	No		None	None		LIRLs			
New London	W90	LO	18-36	No	No		None	None		None			
New Market	8W2	LO	6-24	No	No		None	None		LIRLs			
Smith Mountain Lake	W91	LO	5-23	No	REILs		None	None		MIRLs			
Waynesboro-Eagle's Nest	W13	LO	6-24	No	No		None	None		MIRLs			

Sources: Airport Sponsor Survey and DOAV Inventory; FAA U.S. Terminal Procedures; *Facilities and Equipment (NAVAID) Study*

Note: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

Table 3 - 17: Existing and Recommended On-Site Weather Reporting

Airport	Code	VATSP Service Role	Existing	Meets Objective
Commercial Service: ASOS or AWOS-III on-field, 24/7, data linked				
Charlottesville-Albemarle	CHO	CM	ASOS	Yes
Lynchburg Regional	LYH	CM	ASOS	Yes
Newport News-Williamsburg International	PHF	CM	ASOS	Yes
Norfolk International	ORF	CM	ASOS	Yes
Richmond International	RIC	CM	ASOS	Yes
Roanoke-Blacksburg Regional	ROA	CM	ASOS	Yes
Ronald Reagan Washington National	DCA	CM	ASOS	Yes
Shenandoah Valley Regional	SHD	CM	AWOS-III PT	Yes
Washington Dulles International	IAD	CM	ASOS	Yes
Reliever: ASOS or AWOS-III on-field, 24/7, data linked				
Chesapeake Regional	CPK	RL	AWOS-III PT	Yes
Hampton Roads Executive	PVG	RL	AWOS-III	Yes
Hanover County Municipal	OFP	RL	ASOS	Yes
Leesburg Executive	JYO	RL	AWOS-III PT	Yes
Manassas Regional	HEF	RL	AWOS-III	Yes
Richmond Executive-Chesterfield County	FCI	RL	AWOS-III	Yes
Stafford Regional	RMN	RL	AWOS-III	Yes
Warrenton-Fauquier	HWY	RL	AWOS-III	Yes
GA Regional: ASOS or AWOS-III on-field, 24/7, data linked				
Accomack County	MFV	GR	AWOS-III PT	Yes
Blue Ridge Regional	MTV	GR	AWOS-III P	Yes
Culpeper Regional	CJR	GR	AWOS-III PT	Yes
Danville Regional	DAN	GR	ASOS	Yes
Dinwiddie County	PTB	GR	AWOS-III PT	Yes
Emporia-Greensville Regional	EMV	GR	AWOS-III PT	Yes
Farmville Municipal	FVX	GR	AWOS-III P	Yes
Ingalls Field	HSP	GR	AWOS-III	Yes
Lonesome Pine	LNP	GR	AWOS-III	Yes

Table 3 - 17 (Continued): Existing and Recommended On-Site Weather Reporting

Airport	Code	VATSP Service Role	Existing	Meets Objective
Mecklenburg-Brunswick Regional	AVC	GR	AWOS-III PT	Yes
Middle Peninsula Regional	FYJ	GR	AWOS-III P	Yes
Mountain Empire	MKJ	GR	AWOS-III	Yes
New River Valley	PSK	GR	AWOS-III PT	Yes
Suffolk Executive	SFQ	GR	AWOS-III	Yes
Tappahannock-Essex County	XSA	GR	AWOS-III	Yes
Tazewell County	JFZ	GR	AWOS-III	Yes
Virginia Highlands	VJI	GR	AWOS-III	Yes
William M. Tuck	W78	GR	AWOS-III	Yes
Winchester Regional	OKV	GR	AWOS-III PT	Yes
GA Community: AWOS-A on-field, 24/7, data linked				
Blackstone AAF	BKT	GC	AWOS-III	Yes
Brookneal-Campbell County	0V4	GC	AWOS-III	Yes
Franklin Municipal	FKN	GC	AWOS-III	Yes
Front Royal-Warren County	FRR	GC	AWOS-III	Yes
Lake Country Regional	W63	GC	AWOS-III	Yes
Lee County	0VG	GC	AWOS-III	Yes
Louisa County	LKU	GC	AWOS-III P	Yes
Luray Caverns	LUA	GC	AWOS-III	Yes
New Kent County	W96	GC	AWOS-III	Yes
Orange County	OMH	GC	AWOS-III	Yes
Shannon	EZF	GC	AWOS-III	Yes
Tangier Island	TGI	GC	AWOS-III	Yes
Twin County	HLX	GC	AWOS-III	Yes
Virginia Tech-Montgomery Executive	BCB	GC	AWOS-III PT	Yes
Wakefield Municipal	AKQ	GC	ASOS	Yes
Williamsburg-Jamestown	JGG	GC	AWOS-III	Yes

Table 3 - 17 (Continued): Existing and Recommended On-Site Weather Reporting

Airport	Code	VATSP Service Role	Existing	Meets Objective
Local Service: AWOS on-field, 24/7, data linked				
Bridgewater Air Park	VBW	LO	AWOS-III	Yes
Chase City Municipal	CXE	LO	AWOS-III	Yes
Crewe Municipal	W81	LO	AWOS-III	Yes
Falwell	W24	LO	None	No
Gordonsville Municipal	GVE	LO	AWOS-III	Yes
Grundy Municipal	GDY	LO	AWOS-III	Yes
Hummel Field	W75	LO	AWOS-III	Yes
Lake Anna	7W4	LO	AWOS-III	Yes
Lawrenceville-Brunswick Municipal	LVL	LO	AWOS-III	Yes
Lunenburg County	W31	LO	AWOS-III	Yes
New London	W90	LO	None	No
New Market	8W2	LO	AWOS-III	Yes
Smith Mountain Lake	W91	LO	None	No
Waynesboro-Eagle's Nest	W13	LO	AWOS-III	Yes

Source: Airport Sponsor Survey and DOAV Inventory

Note: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

Table 3 - 18: Existing and Recommended Communications

Airport	Code	VATSP Service Role	Existing Communications	Meets Objective	Improvement Needed
Commercial Service: Direct Access to ATC Clearance (RTR acceptable if <200,000 enplanements)					
Charlottesville-Albemarle	CHO	CM	Direct/RTR	Yes	
Lynchburg Regional	LYH	CM	Direct/RTR	Yes	
Newport News-Williamsburg International	PHF	CM	Direct/RTR	Yes	
Norfolk International	ORF	CM	Direct/RTR	Yes	
Richmond International	RIC	CM	Direct/RTR	Yes	
Roanoke-Blacksburg Regional	ROA	CM	Direct/RTR	Yes	
Ronald Reagan Washington National	DCA	CM	Direct/RTR	Yes	
Shenandoah Valley Regional	SHD	CM	Direct/RTR	Yes	
Washington Dulles International	IAD	CM	Direct/RTR	Yes	
Reliever: RTR					
Chesapeake Regional	CPK	RL	GCO	No	RTR
Hampton Roads Executive	PVG	RL	Phone Only	No	RTR
Hanover County Municipal	OFP	RL	Direct/RTR	Yes	
Leesburg Executive	JYO	RL	Direct/RTR	Yes	
Manassas Regional	HEF	RL	Direct/RTR	Yes	
Richmond Executive-Chesterfield County	FCI	RL	Direct/RTR	Yes	
Stafford Regional	RMN	RL	GCO	No	RTR
Warrenton-Fauquier	HWY	RL	GCO	No	RTR
GA Regional: RTR or GCO if at 1 mile visibility or more					
Accomack County	MFV	GR	GCO	Yes	
Blue Ridge Regional	MTV	GR	Direct/RTR	Yes	
Culpeper Regional	CJR	GR	GCO	Yes	
Danville Regional	DAN	GR	Direct/RTR	Yes	
Dinwiddie County	PTB	GR	GCO	Yes	
Emporia-Greenville Regional	EMV	GR	GCO	Yes	

Table 3 - 18 (Continued): Existing and Recommended Communications

Airport	Code	VATSP Service Role	Existing Communications	Meets Objective	Improvement Needed
Farmville Municipal	FVX	GR	GCO	Yes	
Ingalls Field	HSP	GR	None	No	GCO
Lonesome Pine	LNP	GR	None	No	GCO
Mecklenburg-Brunswick Regional	AVC	GR	GCO	Yes	
Middle Peninsula Regional	FYJ	GR	Phone Only	No	GCO
Mountain Empire	MKJ	GR	Phone Only	No	GCO
New River Valley	PSK	GR	Direct/RTR	Yes	
Suffolk Executive	SFQ	GR	GCO	Yes	
Tappahannock-Essex County	XSA	GR	Phone Only	No	GCO
Tazewell County	JFZ	GR	GCO	Yes	
Virginia Highlands	VJI	GR	None	No	GCO
William M. Tuck	W78	GR	None	No	GCO
Winchester Regional	OKV	GR	Direct/RTR	Yes	
GA Community: RTR or GCO					
Blackstone AAF	BKT	GC	Phone Only	No	GCO
Brookneal-Campbell County	0V4	GC	Other Phone	No	GCO
Franklin Municipal	FKN	GC	GCO	Yes	
Front Royal-Warren County	FRR	GC	Phone Only	No	GCO
Lake Country Regional	W63	GC	Phone Only	No	GCO
Lee County	0VG	GC	Phone Only	No	GCO
Louisa County	LKU	GC	Phone Only	No	GCO
Luray Caverns	LUA	GC	Phone Only	No	GCO
New Kent County	W96	GC	GCO	Yes	
Orange County	OMH	GC	Phone Only	No	GCO
Shannon	EZF	GC	GCO	Yes	
Tangier Island	TGI	GC	None	No	GCO

Table 3 - 18 (Continued): Existing and Recommended Communications

Airport	Code	VATSP Service Role	Existing Communications	Meets Objective	Improvement Needed
Twin County	HLX	GC	None	No	GCO
Virginia Tech-Montgomery Exec	BCB	GC	RCO	Yes	
Wakefield Municipal	AKQ	GC	Phone Only	No	GCO
Williamsburg-Jamestown	JGG	GC	GCO	Yes	
Local Service: Preserve Existing					
Bridgewater Air Park	VBW	LO	Phone Only	Yes	
Chase City Municipal ¹	CXE	LO	None	Yes	¹
Crewe Municipal	W81	LO	Phone Only	Yes	
Falwell	W24	LO	Phone Only	Yes	
Gordonsville Municipal	GVE	LO	RCO	Yes	
Grundy Municipal	GDY	LO	Phone Only	Yes	
Hummel Field	W75	LO	Phone Only	Yes	
Lake Anna	7W4	LO	Phone Only	Yes	
Lawrenceville-Brunswick Municipal	LVL	LO	Phone Only	Yes	
Lunenburg County	W31	LO	Phone Only	Yes	
New London	W90	LO	Phone Only	Yes	
New Market	8W2	LO	Phone Only	Yes	
Smith Mountain Lake	W91	LO	Phone Only	Yes	
Waynesboro-Eagle's Nest	W13	LO	Phone Only	Yes	

Source: Airport Sponsor Survey and DOAV Inventory

Notes: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

¹Although there is no specific communication objective for Local Service airports, it is recommended that Chase City Municipal install a phone or other clearance delivery communication.

Table 3 - 19: Existing and Recommended Visual Aids

Airport	Code	VATSP Service Role	Rotating Beacon	Wind Cone	Segmented Circle	Meets Objective	Improvements Needed
Commercial Service: Rotating Beacon, Lighted Wind Cone/Segmented Circle							
Charlottesville-Albemarle	CHO	CM	Yes	Lighted	No	Yes	
Lynchburg Regional	LYH	CM	Yes	Lighted	No	Yes	
Newport News-Williamsburg International	PHF	CM	Yes	Lighted	No	Yes	
Norfolk International	ORF	CM	Yes	Lighted	No	Yes	
Richmond International	RIC	CM	Yes	Lighted	No	Yes	
Roanoke-Blacksburg Regional	ROA	CM	Yes	Lighted	Yes	Yes	
Ronald Reagan Washington National	DCA	CM	Yes	Lighted	No	Yes	
Shenandoah Valley Regional	SHD	CM	Yes	Lighted	No	Yes	
Washington Dulles International	IAD	CM	Yes	Lighted	No	Yes	
Reliever: Rotating Beacon, Lighted Wind Cone/Segmented Circle							
Chesapeake Regional	CPK	RL	Yes	Lighted	Yes	Yes	
Hampton Roads Executive	PVG	RL	Yes	Lighted	No	Yes	
Hanover County Municipal	OFP	RL	Yes	Lighted	Yes	Yes	
Leesburg Executive	JYO	RL	Yes	Yes	Yes	No	Light Wind Cone
Manassas Regional	HEF	RL	Yes	Lighted	Yes	Yes	
Richmond Executive-Chesterfield County	FCI	RL	Yes	Lighted	Yes	Yes	
Stafford Regional	RMN	RL	Yes	Lighted	Yes	Yes	
Warrenton-Fauquier	HWY	RL	Yes	Lighted	Yes	Yes	
GA Regional: Rotating Beacon, Lighted Wind Cone							
Accomack County	MFV	GR	Yes	Lighted	Yes	Yes	
Blue Ridge Regional	MTV	GR	Yes	Lighted	Yes	Yes	
Culpeper Regional	CJR	GR	Yes	Lighted	Yes	Yes	
Danville Regional	DAN	GR	Yes	Lighted	Yes	Yes	
Dinwiddie County	PTB	GR	Yes	Lighted	No	Yes	
Emporia-Greenville Regional	EMV	GR	Yes	Lighted	Yes	Yes	

Table 3 - 19 (Continued): Existing and Recommended Visual Aids

Airport	Code	VATSP Service Role	Rotating Beacon	Wind Cone	Segmented Circle	Meets Objective	Improvements Needed
Farmville Municipal	FVX	GR	Yes	Lighted	No	Yes	
Ingalls Field	HSP	GR	Yes	Lighted	Yes	Yes	
Lonesome Pine	LNP	GR	Yes	Lighted	Yes	Yes	
Mecklenburg-Brunswick Regional	AVC	GR	Yes	Lighted	Yes	Yes	
Middle Peninsula Regional	FYJ	GR	Yes	Lighted	Yes	Yes	
Mountain Empire	MKJ	GR	Yes	Lighted	Yes	Yes	
New River Valley	PSK	GR	Yes	Lighted	Yes	Yes	
Suffolk Executive	SFQ	GR	Yes	Lighted	Yes	Yes	
Tappahannock-Essex County	XSA	GR	Yes	Lighted	No	Yes	
Tazewell County	JFZ	GR	Yes	Lighted	Yes	Yes	
Virginia Highlands	VJI	GR	Yes	Lighted	Yes	Yes	
William M. Tuck	W78	GR	Yes	Lighted	No	Yes	
Winchester Regional	OKV	GR	Yes	Lighted	Yes	Yes	
GA Community: Rotating Beacon, Wind Cone							
Blackstone AAF	BKT	GC	Yes	Lighted	Yes	Yes	
Brookneal-Campbell County	0V4	GC	Yes	Lighted	Yes	Yes	
Franklin Municipal	FKN	GC	Yes	Lighted	No	Yes	
Front Royal-Warren County	FRR	GC	Yes	Lighted	No	Yes	
Lake Country Regional	W63	GC	Yes	Yes	No	Yes	
Lee County	0VG	GC	Yes	Lighted	Yes	Yes	
Louisa County	LKU	GC	Yes	Lighted	Yes	Yes	
Luray Caverns	LUA	GC	Yes	Lighted	Yes	Yes	
New Kent County	W96	GC	Yes	Lighted	Yes	Yes	
Orange County	OMH	GC	Yes	Lighted	Yes	Yes	
Shannon	EZF	GC	Yes	Lighted	No	Yes	
Tangier Island	TGI	GC	Yes	Yes	No	Yes	
Twin County	HLX	GC	Yes	Lighted	No	Yes	

Table 3 - 19 (Continued): Existing and Recommended Visual Aids

Airport	Code	VATSP Service Role	Rotating Beacon	Wind Cone	Segmented Circle	Meets Objective	Improvements Needed
Virginia Tech-Montgomery Exec	BCB	GC	Yes	Lighted	Yes	Yes	
Wakefield Municipal	AKQ	GC	Yes	Lighted	Yes	Yes	
Williamsburg-Jamestown	JGG	GC	Yes	Lighted	No	Yes	
Local Service: Rotating Beacon, Wind Cone							
Bridgewater Air Park	VBW	LO	Yes	Yes	No	Yes	
Chase City Municipal	CXE	LO	Yes	Yes	No	Yes	
Crewe Municipal	W81	LO	Yes	Lighted	No	No	Rotating Beacon
Falwell	W24	LO	No	Lighted	Yes	Yes	
Gordonsville Municipal	GVE	LO	Yes	Lighted	No	Yes	
Grundy Municipal	GDY	LO	Yes	Yes	No	Yes	
Hummel Field	W75	LO	Yes	Lighted	No	Yes	
Lake Anna	7W4	LO	Yes	No	No	No	Wind Cone
Lawrenceville-Brunswick Municipal	LVL	LO	Yes	Lighted	No	Yes	
Lunenburg County	W31	LO	Yes	Lighted	No	Yes	
New London	W90	LO	No	Yes	No	No	Rotating Beacon
New Market	8W2	LO	Yes	Lighted	No	Yes	
Smith Mountain Lake	W91	LO	Yes	Yes	No	Yes	
Waynesboro-Eagle's Nest	W13	LO	Yes	Yes	No	Yes	

Source: Airport Sponsor Survey and DOAV Inventory

Note: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

Table 3 - 20: Existing and Recommended T-Hangars

Airport	Code	VATSP Service Role	Existing T-Hangar Spaces	T-Hangars Needed	Meets Objective	Improvements Needed
Commercial Service: Based on existing inventory, forecast based aircraft, and applying appropriate distribution						
Charlottesville-Albemarle	CHO	CM	20	21	Yes	
Lynchburg Regional	LYH	CM	12	36	No	24 add'l spaces
Newport News-Williamsburg International	PHF	CM	30	36	No	6 add'l spaces
Norfolk International	ORF	CM	42	12	Yes	
Richmond International	RIC	CM	0	7	No	7 add'l spaces
Roanoke-Blacksburg Regional	ROA	CM	34	75	No	41 add'l spaces
Ronald Reagan Washington National	DCA	CM	0	0	Yes	
Shenandoah Valley Regional	SHD	CM	59	37	Yes	
Washington Dulles International	IAD	CM	0	1	Yes	
Reliever: Based on existing inventory, forecast based aircraft, and applying appropriate distribution						
Chesapeake Regional	CPK	RL	88	148	No	60 add'l spaces
Hampton Roads Executive	PVG	RL	170	191	No	21 add'l spaces
Hanover County Municipal	OFP	RL	54	117	No	63 add'l spaces
Leesburg Executive	JYO	RL	96	144	No	48 add'l spaces
Manassas Regional	HEF	RL	76	265	No	189 add'l spaces
Richmond Executive-Chesterfield County	FCI	RL	110	93	Yes	
Stafford Regional	RMN	RL	40	67	No	27 add'l spaces
Warrenton-Fauquier	HWY	RL	124	184	No	60 add'l spaces
GA Regional: Based on existing inventory, forecast based aircraft, and applying appropriate distribution						
Accomack County	MFV	GR	18	33	No	15 add'l spaces
Blue Ridge Regional	MTV	GR	52	30	Yes	
Culpeper Regional	CJR	GR	105	111	No	6 add'l spaces
Danville Regional	DAN	GR	33	28	Yes	
Dinwiddie County	PTB	GR	52	55	Yes	
Emporia-Greenville Regional	EMV	GR	6	8	Yes	
Farmville Municipal	FVX	GR	17	17	Yes	

Table 3 - 20 (Continued): Existing and Recommended T-Hangars

Airport	Code	VATSP Service Role	Existing T-Hangar Spaces	T-Hangars Needed	Meets Objective	Improvements Needed
Ingalls Field	HSP	GR	0	2	Yes	
Lonesome Pine	LNP	GR	6	10	Yes	
Mecklenburg-Brunswick Regional	AVC	GR	31	28	Yes	
Middle Peninsula Regional	FYJ	GR	23	50	No	27 add'l spaces
Mountain Empire	MKJ	GR	0	17	No	17 add'l spaces
New River Valley	PSK	GR	10	38	No	28 add'l spaces
Suffolk Executive	SFQ	GR	60	40	Yes	
Tappahannock-Essex County	XSA	GR	24	39	No	15 add'l spaces
Tazewell County	JFZ	GR	8	10	Yes	
Virginia Highlands	VJI	GR	50	32	Yes	
William M. Tuck	W78	GR	20	13	Yes	
Winchester Regional	OKV	GR	61	92	No	31 add'l spaces
GA Community: Based on existing inventory, forecast based aircraft, and applying appropriate distribution						
Blackstone AAF	BKT	GC	10	6	Yes	
Brookneal-Campbell County	OV4	GC	0	0	Yes	
Franklin Municipal	FKN	GC	22	18	Yes	
Front Royal-Warren County	FRR	GC	32	30	Yes	
Lake Country Regional	W63	GC	0	6	No	6 add'l spaces
Lee County	OVG	GC	10	3	Yes	
Louisa County	LKU	GC	40	30	Yes	
Luray Caverns	LUA	GC	24	13	Yes	
New Kent County	W96	GC	45	45	Yes	
Orange County	OMH	GC	28	15	Yes	
Shannon	EZF	GC	129	45	Yes	
Tangier Island	TGI	GC	0	0	Yes	
Twin County	HLX	GC	6	6	Yes	
Virginia Tech-Montgomery Executive	BCB	GC	9	34	No	25 add'l spaces

Table 3 - 20 (Continued): Existing and Recommended T-Hangars

Airport	Code	VATSP Service Role	Existing T-Hangar Spaces	T-Hangars Needed	Meets Objective	Improvements Needed
Wakefield Municipal	AKQ	GC	21	13	Yes	
Williamsburg-Jamestown	JGG	GC	41	45	Yes	
Local Service: Preserve Existing						
Bridgewater Air Park	VBW	LO	0		Yes	
Chase City Municipal	CXE	LO	7		Yes	
Crewe Municipal	W81	LO	8		Yes	
Falwell	W24	LO	6		Yes	
Gordonsville Municipal	GVE	LO	15		Yes	
Grundy Municipal	GDY	LO	20		Yes	
Hummel Field	W75	LO	10		Yes	
Lake Anna	7W4	LO	1		Yes	
Lawrenceville-Brunswick Municipal	LVL	LO	0		Yes	
Lunenburg County	W31	LO	9		Yes	
New London	W90	LO	40		Yes	
New Market	8W2	LO	20		Yes	
Smith Mountain Lake	W91	LO	10		Yes	
Waynesboro-Eagle's Nest	W13	LO	20		Yes	

Sources: Airport Sponsor Survey, DOAV Inventory; and Forecasts of Based Aircraft

Note: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

Table 3 - 21: Existing and Recommended Conventional Hangars

Airport	Code	VATSP Service Role	Existing Conventional Hangar Spaces (SF)	Conventional Hangar Spaces Needed (SF)	Meets Objective	Improvements Needed
Commercial Service: Based on existing inventory, forecast based aircraft, and applying appropriate distribution						
Charlottesville-Albemarle	CHO	CM	52,677	74,785	No	22,108 add'l SF
Lynchburg Regional	LYH	CM	62,000	74,346	No	12,346 add'l SF
Newport News-Williamsburg International	PHF	CM	92,725	145,925	No	53,200 add'l SF
Norfolk International	ORF	CM	164,000	119,648	Yes	
Richmond International	RIC	CM	280,909	134,858	Yes	
Roanoke-Blacksburg Regional	ROA	CM	124,800	69,374	Yes	
Ronald Reagan Washington National	DCA	CM	550,000	0	Yes	
Shenandoah Valley Regional	SHD	CM	48,000	53,304	No	5,304 add'l SF
Washington Dulles International	IAD	CM	183,673	194,538	No	10,865 add'l SF
Reliever: Based on existing inventory, forecast based aircraft, and applying appropriate distribution						
Chesapeake Regional	CPK	RL	15,600	31,069	No	15,469 add'l SF
Hampton Roads Executive	PVG	RL	104,000	48,450	Yes	
Hanover County Municipal	OFP	RL	23,534	18,728	Yes	
Leesburg Executive	JYO	RL	78,000	95,912	No	17,912 add'l SF
Manassas Regional	HEF	RL	456,600	230,414	Yes	
Richmond Executive-Chesterfield County	FCI	RL	24,400	150,708	No	126,308 add'l SF
Stafford Regional	RMN	RL	30,000	95,337	No	65,337 add'l SF
Warrenton-Fauquier	HWY	RL	5,000	28,776	No	23,776 add'l SF
GA Regional: Based on existing inventory, forecast based aircraft, and applying appropriate distribution						
Accomack County	MFV	GR	0	31,069	No	15,469 add'l SF
Blue Ridge Regional	MTV	GR	34,400	150,708	No	126,308 add'l SF
Culpeper Regional	CJR	GR	23,600	48,450	Yes	
Danville Regional	DAN	GR	14,650	18,728	Yes	
Dinwiddie County	PTB	GR	27,000	95,912	No	17,912 add'l SF
Emporia-Greenville Regional	EMV	GR	1,750	230,414	Yes	
Farmville Municipal	FVX	GR	56,937	95,337	No	65,337 add'l SF
Ingalls Field	HSP	GR	9,250	28,776	No	23,776 add'l SF

Table 3 - 21 (Continued): Existing and Recommended Conventional Hangars

Airport	Code	VATSP Service Role	Existing Conventional Hangar Spaces (SF)	Conventional Hangar Spaces Needed (SF)	Meets Objective	Improvements Needed
Lonesome Pine	LNP	GR	23,700	31,069	No	15,469 add'l SF
Mecklenburg-Brunswick Regional	AVC	GR	13,864	150,708	No	126,308 add'l SF
Middle Peninsula Regional	FYJ	GR	4,800	48,450	Yes	
Mountain Empire	MKJ	GR	22,800	18,728	Yes	
New River Valley	PSK	GR	39,600	95,912	No	17,912 add'l SF
Suffolk Executive	SFQ	GR	17,000	230,414	Yes	
Tappahannock-Essex County	XSA	GR	0	95,337	No	65,337 add'l SF
Tazewell County	JFZ	GR	10,000	28,776	No	23,776 add'l SF
Virginia Highlands	VJI	GR	60,400	31,069	No	15,469 add'l SF
William M. Tuck	W78	GR	8,800	150,708	No	126,308 add'l SF
Winchester Regional	OKV	GR	67,850	48,450	Yes	
GA Community: Based on existing inventory, forecast based aircraft, and applying appropriate distribution						
Blackstone AAF	BKT	GC	0	1,777	Yes	
Brookneal-Campbell County	OV4	GC	0	11,600	No	11,600 add'l SF
Franklin Municipal	FKN	GC	35,100	6,253	Yes	
Front Royal-Warren County	FRR	GC	4,400	13,029	No	8,629 add'l SF
Lake Country Regional	W63	GC	8,000	1,777	Yes	
Lee County	OVG	GC	0	1,408	Yes	
Louisa County	LKU	GC	20,600	11,444	Yes	
Luray Caverns	LUA	GC	9,600	15,530	No	5,930 add'l SF
New Kent County	W96	GC	1,600	15,574	No	13,964 add'l SF
Orange County	OMH	GC	17,200	10,117	Yes	
Shannon	EZF	GC	5,000	16,728	No	11,728 add'l SF
Tangier Island	TGI	GC	0	0	Yes	
Twin County	HLX	GC	21,000	3,188	Yes	
Virginia Tech-Montgomery Executive	BCB	GC	13,000	37,682	No	24,682 add'l SF
Wakefield Municipal	AKQ	GC	2,500	4,038	Yes	
Williamsburg-Jamestown	JGG	GC	15,900	15,574	Yes	

Table 3 - 21 (Continued): Existing and Recommended Conventional Hangars

Airport	Code	VATSP Service Role	Existing Conventional Hangar Spaces (SF)	Conventional Hangar Spaces Needed (SF)	Meets Objective	Improvements Needed
Local Service: Preserve Existing						
Bridgewater Air Park	VBW	LO	52,050		Yes	
Chase City Municipal	CXE	LO	22,500		Yes	
Crewe Municipal	W81	LO	5,225		Yes	
Falwell	W24	LO	10,000		Yes	
Gordonsville Municipal	GVE	LO	7,150		Yes	
Grundy Municipal	GDY	LO	0		Yes	
Hummel Field	W75	LO	0		Yes	
Lake Anna	7W4	LO	1,764		Yes	
Lawrenceville-Brunswick Municipal	LVL	LO	8,220		Yes	
Lunenburg County	W31	LO	2,400		Yes	
New London	W90	LO	0		Yes	
New Market	8W2	LO	32,000		Yes	
Smith Mountain Lake	W91	LO	Unknown		Yes	
Waynesboro-Eagle's Nest	W13	LO	4,800		Yes	

Sources: Airport Sponsor Survey, DOAV Inventory; and Forecast Based Aircraft

Note: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

Table 3 - 22: Existing and Recommended Apron Area

Airport	Code	VATSP Service Role	Existing General Aviation Apron Space (SY)	Transient Apron Space Needed (SY)	Based Aircraft Apron Space Needed (SY)	Meets Objective	Improvements Needed
Commercial Service: Forecast busy day transient operations multiplied by the appropriate requirement; Forecast Based Aircraft multiplied by parking distribution and size requirements							
Charlottesville-Albemarle	CHO	CM	42,946	137,232	10,054	No	104,341 add'l SY
Lynchburg Regional	LYH	CM	34,520	259,943	16,613	No	242,037 add'l SY
Newport News-Williamsburg International	PHF	CM	229,000	120,758	16,643	Yes	
Norfolk International	ORF	CM	77,000	49,298	2,901	Yes	
Richmond International	RIC	CM	26,500	16,431	2,948	Yes	
Roanoke-Blacksburg Regional	ROA	CM	60,000	93,884	32,893	No	66,776 add'l SY
Ronald Reagan Washington National	DCA	CM	397,414	25,062	0	Yes	
Shenandoah Valley Regional	SHD	CM	34,000	45,073	16,493	No	27,566 add'l SY
Washington Dulles International	IAD	CM	82,998	189,103	526	No	106,631 add'l SY
Reliever: Forecast busy day transient operations multiplied by the appropriate requirement; Forecast Based Aircraft multiplied by parking distribution and size requirements							
Chesapeake Regional	CPK	RL	39,100	70,576	31,874	No	63,351 add'l SY
Hampton Roads Executive	PVG	RL	54,896	261,086	41,964	No	248,153 add'l SY
Hanover County Municipal	OFP	RL	30,500	48,448	26,248	No	44,196 add'l SY
Leesburg Executive	JYO	RL	63,111	41,382	34,926	No	13,198 add'l SY
Manassas Regional	HEF	RL	337,088	260,439	59,024	Yes	
Richmond Executive-Chesterfield County	FCI	RL	73,026	48,063	19,889	Yes	
Stafford Regional	RMN	RL	46,450	160,155	16,228	No	129,993 add'l SY
Warrenton-Fauquier	HWY	RL	45,000	91,706	39,929	No	86,635 add'l SY
GA Regional: Forecast busy day transient operations multiplied by the appropriate requirement; Forecast Based Aircraft multiplied by parking distribution and size requirements							
Accomack County	MFV	GR	19,206	21,789	4,520	No	7,104 add'l SY
Blue Ridge Regional	MTV	GR	26,094	29,087	4,399	No	7,391 add'l SY
Culpeper Regional	CJR	GR	60,000	110,795	15,541	No	66,337 add'l SY
Danville Regional	DAN	GR	59,928	37,138	4,035	Yes	

Table 3 - 22 (Continued): Existing and Recommended Apron Area

Airport	Code	VATSP Service Role	Existing General Aviation Apron Space (SY)	Transient Apron Space Needed (SY)	Based Aircraft Apron Space Needed (SY)	Meets Objective	Improvements Needed
Dinwiddie County	PTB	GR	60,335	114,870	8,320	No	62,855 add'l SY
Emporia-Greensville Regional	EMV	GR	4,700	5,826	1,253	Yes	
Farmville Municipal	FVX	GR	13,000	24,245	2,466	No	13,712 add'l SY
Ingalls Field	HSP	GR	27,135	35,686	315	No	8,867 add'l SY
Lonesome Pine	LNP	GR	9,000	24,302	1,617	No	16,919 add'l SY
Mecklenburg-Brunswick Regional	AVC	GR	7,430	21,571	3,889	No	18,030 add'l SY
Middle Peninsula Regional	FYJ	GR	12,638	51,830	7,285	No	46,477 add'l SY
Mountain Empire	MKJ	GR	22,730	27,113	2,466	No	6,849 add'l SY
New River Valley	PSK	GR	11,800	16,745	6,056	No	11,001 add'l SY
Suffolk Executive	SFQ	GR	21,500	14,331	5,967	Yes	
Tappahannock-Essex County	XSA	GR	19,600	14,603	6,218	Yes	
Tazewell County	JFZ	GR	18,744	8,509	1,771	Yes	
Virginia Highlands	VJI	GR	47,069	26,004	4,666	Yes	
William M. Tuck	W78	GR	3,050	9,810	1,989	No	8,749 add'l SY
Winchester Regional	OKV	GR	58,311	103,223	13,568	No	58,480 add'l SY
GA Community: Forecast busy day transient operations multiplied by the appropriate requirement; Forecast Based Aircraft multiplied by parking distribution and size requirements							
Blackstone AAF	BKT	GC	10,000	1,159	2,987	Yes	
Brookneal-Campbell County	OV4	GC	9,000	3,993	0	Yes	
Franklin Municipal	FKN	GC	33,275	11,952	9,581	Yes	
Front Royal-Warren County	FRR	GC	11,700	38,531	16,099	No	42,930 add'l SY
Lake Country Regional	W63	GC	1,140	4,358	2,987	No	6,205 add'l SY
Lee County	OVG	GC	16,038	6,201	1,435	Yes	
Louisa County	LKU	GC	14,061	35,025	15,515	No	36,479 add'l SY
Luray Caverns	LUA	GC	16,500	11,182	5,892	Yes	
New Kent County	W96	GC	19,625	85,250	24,322	No	89,948 add'l SY

Table 3 - 22 (Continued): Existing and Recommended Apron Area

Airport	Code	VATSP Service Role	Existing General Aviation Apron Space (SY)	Transient Apron Space Needed (SY)	Based Aircraft Apron Space Needed (SY)	Meets Objective	Improvements Needed
Orange County	OMH	GC	26,205	20,308	8,911	Yes	
Shannon	EZF	GC	12,400	16,241	23,467	No	27,307 add'l SY
Tangier Island	TGI	GC	13,666	4,129	0	Yes	
Twin County	HLX	GC	8,444	19,708	3,281	No	14,545 add'l SY
Virginia Tech-Montgomery Executive	BCB	GC	24,000	80,531	18,543	No	75,074 add'l SY
Wakefield Municipal	AKQ	GC	16,316	28,011	6,789	No	18,484 add'l SY
Williamsburg-Jamestown	JGG	GC	29,416	57,337	24,322	No	52,244 add'l SY
Local Service: Preserve Existing							
Bridgewater Air Park	VBW	LO	6,451			Yes	
Chase City Municipal	CXE	LO	3,214			Yes	
Crewe Municipal	W81	LO	4,732			Yes	
Falwell	W24	LO	2,490			Yes	
Gordonsville Municipal	GVE	LO	2,500			Yes	
Grundy Municipal	GDY	LO	8,636			Yes	
Hummel Field	W75	LO	1,300			Yes	
Lake Anna	7W4	LO	1,042			Yes	
Lawrenceville-Brunswick Municipal	LVL	LO	8,460			Yes	
Lunenburg County	W31	LO	3,400			Yes	
New London	W90	LO	2,076			Yes	
New Market	8W2	LO	3,500			Yes	
Smith Mountain Lake	W91	LO	4,976			Yes	
Waynesboro-Eagle's Nest	W13	LO	2,267			Yes	

Sources: Airport Sponsor Survey, DOAV Inventory, Forecast Operations, and FAA Form 5010

Note: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

Table 3 - 23: Existing and Recommended Terminal Buildings

Airport	Code	VATSP Service Role	Existing Commercial Terminal Space (SF)	Existing General Aviation Terminal Space (SF)	General Aviation Terminal Space Needed (SF)	Commercial Terminal Space Needed (SF)	Meets Obj	Improvements Needed
Commercial Service: As per the needs identified in Master Plan								
Charlottesville-Albemarle	CHO	CM	60,000	5,000	7,249	66,575	No	2,249 add'l SF (GA Terminal) 6,575 add'l SF (Comm. Terminal)
Lynchburg Regional	LYH	CM	38,000	4,464	8,709	38,000	No	4,245 add'l SF (GA Terminal)
Newport News-Williamsburg International	PHF	CM	114,860	25,000	7,632	460,000	No	345,140 add'l SF (Comm. Terminal)
Norfolk International	ORF	CM	396,596	54,000	5,658	506,380	No	109,784 add'l SF (Comm. Terminal)
Richmond International	RIC	CM	510,000	30,680	6,132	720,000	No	210,000 add'l SF (Comm. Terminal)
Roanoke-Blacksburg Regional	ROA	CM	99,000	6,271	6,218	127,883	No	28,883 add'l SF (Comm. Terminal)
Ronald Reagan Washington National	DCA	CM	NA	NA	NA	NA	NA	
Shenandoah Valley Regional	SHD	CM	9,000	7,300	10,000	16,000	No	2,700 add'l SF (GA Terminal) 7,000 add'l SF (Comm. Terminal)
Washington Dulles International	IAD	CM	NA	NA	NA	NA	NA	
Reliever: Based on DOAV terminal building requirements to represent the total terminal space needed								
Chesapeake Regional	CPK	RL	N/A	3,150	7,844	N/A	No	4,696 add'l SF
Hampton Roads Executive	PVG	RL	N/A	6,800	7,489	N/A	Yes	
Hanover County Municipal	OFP	RL	N/A	2,600	6,741	N/A	No	4,141 add'l SF
Leesburg Executive	JYO	RL	N/A	18,339	8,362	N/A	Yes	
Manassas Regional	HEF	RL	N/A	18,500	8,156	N/A	Yes	
Richmond Executive-Chesterfield County	FCI	RL	N/A	23,000	7,264	N/A	Yes	
Stafford Regional	RMN	RL	N/A	10,000	7,254	N/A	Yes	
Warrenton-Fauquier	HWY	RL	N/A	2,400	7,713	N/A	No	5,313 add'l SF
GA Regional: Based on DOAV terminal building requirements to represent the total terminal space needed								
Accomack County	MFV	GR	N/A	6,000	3,422	N/A	Yes	
Blue Ridge Regional	MTV	GR	N/A	5,300	5,402	N/A	Yes	

Table 3 - 23 (Continued): Existing and Recommended Terminal Buildings

Airport	Code	VATSP Service Role	Existing Commercial Terminal Space (SF)	Existing General Aviation Terminal Space (SF)	General Aviation Terminal Space Needed (SF)	Commercial Terminal Space Needed (SF)	Meets Obj	Improvements Needed
Culpeper Regional	CJR	GR	N/A	10,976	7,532	N/A	Yes	
Danville Regional	DAN	GR	N/A	17,000	4,896	N/A	Yes	
Dinwiddie County	PTB	GR	N/A	6,600	6,315	N/A	Yes	
Emporia-Greenville Regional	EMV	GR	N/A	2,100	2,383	N/A	Yes	
Farmville Municipal	FVX	GR	N/A	2,800	4,157	N/A	No	1,357 add'l SF
Ingalls Field	HSP	GR	N/A	6,000	3,348	N/A	Yes	
Lonesome Pine	LNP	GR	N/A	4,000	3,247	N/A	Yes	
Mecklenburg-Brunswick Regional	AVC	GR	N/A	3,000	5,568	N/A	No	2,568 add'l SF
Middle Peninsula Regional	FYJ	GR	N/A	4,798	5,456	N/A	Yes	
Mountain Empire	MKJ	GR	N/A	2,000	3,371	N/A	No	1,371 add'l SF
New River Valley	PSK	GR	N/A	4,543	3,987	N/A	Yes	
Suffolk Executive	SFQ	GR	N/A	3,500	6,444	N/A	No	2,944 add'l SF
Tappahannock-Essex County	XSA	GR	N/A	3,720	5,587	N/A	No	1,867 add'l SF
Tazewell County	JFZ	GR	N/A	3,600	2,864	N/A	Yes	
Virginia Highlands	VJI	GR	N/A	9,000	3,953	N/A	Yes	
William M. Tuck	W78	GR	N/A	720	2,842	N/A	No	2,122 add'l SF
Winchester Regional	OKV	GR	N/A	9,000	6,860	N/A	Yes	
GA Community: Based on DOAV terminal building requirements to represent the total terminal space needed								
Blackstone AAF	BKT	GC	N/A	1,200	2,383	N/A	Yes	
Brookneal-Campbell County	0V4	GC	N/A	600	2,383	N/A	No	1,783 add'l SF
Franklin Municipal	FKN	GC	N/A	3,800	2,590	N/A	Yes	
Front Royal-Warren County	FRR	GC	N/A	3,070	5,914	N/A	No	2,844 add'l SF
Lake Country Regional	W63	GC	N/A	1,500	3,050	N/A	No	1,550 add'l SF
Lee County	0VG	GC	N/A	3,700	2,383	N/A	Yes	
Louisa County	LKU	GC	N/A	1,000	5,704	N/A	No	4,707 add'l SF

Table 3 - 23 (Continued): Existing and Recommended Terminal Buildings

Airport	Code	VATSP Service Role	Existing Commercial Terminal Space (SF)	Existing General Aviation Terminal Space (SF)	General Aviation Terminal Space Needed (SF)	Commercial Terminal Space Needed (SF)	Meets Obj	Improvements Needed
Luray Caverns	LUA	GC	N/A	1,000	2,942	N/A	No	1,942 add'l SF
New Kent County	W96	GC	N/A	10,000	5,751	N/A	Yes	
Orange County	OMH	GC	N/A	5,800	3,071	N/A	Yes	
Shannon	EZF	GC	N/A	5,640	5,838	N/A	Yes	
Tangier Island	TGI	GC	N/A	575	2,383	N/A	No	1,808 add'l SF
Twin County	HLX	GC	N/A	4,000	3,134	N/A	Yes	
Virginia Tech-Montgomery Exec	BCB	GC	N/A	5,400	5,880	N/A	Yes	
Wakefield Municipal	AKQ	GC	N/A	2,880	4,570	N/A	No	1,690 add'l SF
Williamsburg-Jamestown	JGG	GC	N/A	4,827	6,653	N/A	No	1,826 add'l SF
Local Service: 1,236 SF of public use space								
Bridgewater Air Park	VBW	LO	N/A	0	1,607	N/A	No	1,607 add'l SF
Chase City Municipal	CXE	LO	N/A	0	1,607	N/A	No	1,607 add'l SF
Crewe Municipal	W81	LO	N/A	1,500	1,607	N/A	Yes	
Falwell	W24	LO	N/A	600	1,607	N/A	Yes	
Gordonsville Municipal	GVE	LO	N/A	0	1,607	N/A	No	1,607 add'l SF
Grundy Municipal	GDY	LO	N/A	2,130	1,607	N/A	Yes	
Hummel Field	W75	LO	N/A	700	1,607	N/A	Yes	
Lake Anna	7W4	LO	N/A	0	1,607	N/A	No	1,607 add'l SF
Lawrenceville-Brunswick Municipal	LVL	LO	N/A	1,316	1,607	N/A	Yes	
Lunenburg County	W31	LO	N/A	0	1,607	N/A	No	1,607 add'l SF
New London	W90	LO	N/A	3,500	1,607	N/A	Yes	
New Market	8W2	LO	N/A	5,000	1,607	N/A	Yes	
Smith Mountain Lake	W91	LO	N/A	0	1,607	N/A	No	1,607 add'l SF
Waynesboro-Eagle's Nest	W13	LO	N/A	1,500	1,607	N/A	Yes	

Sources: Airport Sponsor Survey, DOAV Inventory, Forecast Operations, and DOAV Terminal Building Area Calculator.

Notes: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

N/A= Not Available.

Table 3 - 24: Existing and Recommended Auto Parking

Airport	Code	VATSP Service Role	Existing Auto Parking Spaces	Auto Parking Spaces Needed	Meets Objective	Improvements Needed
Commercial Service: Minimum 100 parking spots per 100,000 enplanements per 150/5360-13						
Charlottesville-Albemarle	CHO	CM	1,073	350	Yes	
Lynchburg Regional	LYH	CM	544	96	Yes	
Newport News-Williamsburg International	PHF	CM	2,615	642	Yes	
Norfolk International	ORF	CM	9,548	2,276	Yes	
Richmond International	RIC	CM	12,412	3,319	Yes	
Roanoke-Blacksburg Regional	ROA	CM	1,988	428	Yes	
Ronald Reagan Washington National	DCA	CM	10,050	12,359	No	2,309 add'l spaces
Shenandoah Valley Regional	SHD	CM	500	18	Yes	
Washington Dulles International	IAD	CM	23,894	21,306	Yes	
Reliever: 1 space airport/tenant employee plus 1.5 spaces per based aircraft departure on average day in peak month						
Chesapeake Regional	CPK	RL	88	198	No	110 add'l spaces
Richmond Executive-Chesterfield County	FCI	RL	339	273	Yes	
Hampton Roads Executive	PVG	RL	140	266	No	126 add'l spaces
Hanover County Municipal	OPF	RL	63	159	No	96 add'l spaces
Leesburg Executive	JYO	RL	163	522	No	359 add'l spaces
Manassas Regional	HEF	RL	110	745	No	635 add'l spaces
Stafford Regional	RMN	RL	61	210	No	149 add'l spaces
Warrenton-Fauquier	HWY	RL	40	169	No	129 add'l spaces
GA Regional: 1 space airport/tenant employee plus 1.5 spaces per based aircraft departure on average day in peak month						
Accomack County	MFV	GR	30	31	Yes	
Blue Ridge Regional	MTV	GR	30	66	No	36 add'l spaces
Culpeper Regional	CJR	GR	268	167	Yes	
Danville Regional	DAN	GR	36	65	No	29 add'l spaces
Dinwiddie County	PTB	GR	55	104	No	49 add'l spaces
Emporia-Greenville Regional	EMV	GR	25	11	Yes	

Table 3 - 24 (Continued): Existing and Recommended Auto Parking

Airport	Code	VATSP Service Role	Existing Auto Parking Spaces	Auto Parking Spaces Needed	Meets Objective	Improvements Needed
Farmville Municipal	FVX	GR	40	45	Yes	
Ingalls Field	HSP	GR	15	25	Yes	
Lonesome Pine	LNP	GR	32	24	Yes	
Mecklenburg-Brunswick Regional	AVC	GR	30	36	Yes	
Middle Peninsula Regional	FYJ	GR	40	94	No	54 add'l spaces
Mountain Empire	MKJ	GR	30	28	Yes	
New River Valley	PSK	GR	60	38	Yes	
Suffolk Executive	SFQ	GR	40	144	No	104 add'l spaces
Tappahannock-Essex County	XSA	GR	23	58	No	35 add'l spaces
Tazewell County	JFZ	GR	35	20	Yes	
Virginia Highlands	VJI	GR	75	42	Yes	
William M. Tuck	W78	GR	17	19	Yes	
Winchester Regional	OKV	GR	73	152	No	79 add'l spaces
GA Community: 1 space airport/tenant employee plus 1.5 spaces per based aircraft departure on average day in peak month						
Blackstone AAF	BKT	GC	8	8	Yes	
Brookneal-Campbell County	0V4	GC	12	4	Yes	
Franklin Municipal	FKN	GC	56	16	Yes	
Front Royal-Warren County	FRR	GC	36	54	Yes	
Lake Country Regional	W63	GC	10	20	Yes	
Lee County	0VG	GC	22	9	Yes	
Louisa County	LKU	GC	8	74	No	66 add'l spaces
Luray Caverns	LUA	GC	45	16	Yes	
New Kent County	W96	GC	23	70	No	47 add'l spaces
Orange County	OMH	GC	31	78	No	47 add'l spaces
Shannon	EZF	GC	25	86	No	61 add'l spaces
Tangier Island	TGI	GC	0	1	Yes	

Table 3 - 24 (Continued): Existing and Recommended Auto Parking

Airport	Code	VATSP Service Role	Existing Auto Parking Spaces	Auto Parking Spaces Needed	Meets Objective	Improvements Needed
Twin County	HLX	GC	24	24	Yes	
Virginia Tech-Montgomery Executive	BCB	GC	70	94	No	24 add'l spaces
Wakefield Municipal	AKQ	GC	10	37	No	27 add'l spaces
Williamsburg-Jamestown	JGG	GC	71	98	No	27 add'l spaces
Local Service: 1 space airport/tenant employee plus 1.5 spaces per based aircraft departure on average day in peak month						
Bridgewater Air Park	VBW	LO	250	331	No	81 add'l spaces
Chase City Municipal	CXE	LO	6	7	Yes	
Crewe Municipal	W81	LO	10	10	Yes	
Falwell	W24	LO	30	45	Yes	
Gordonsville Municipal	GVE	LO	25	34	Yes	
Grundy Municipal	GDY	LO	20	10	Yes	
Hummel Field	W75	LO	14	37	No	23 add'l spaces
Lake Anna	7W4	LO	6	6	Yes	
Lawrenceville-Brunswick Municipal	LVL	LO	16	8	Yes	
Lunenburg County	W31	LO	13	4	Yes	
New London	W90	LO	30	74	No	44 add'l spaces
New Market	8W2	LO	10	42	No	32 add'l spaces
Smith Mountain Lake	W91	LO	0	12	Yes	
Waynesboro-Eagle's Nest	W13	LO	50	39	Yes	

Sources: Airport Sponsor Survey, DOAV Inventory, and Forecast Operations

Notes: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

Table 3 - 25: Existing and Recommended FBO

Airport	Code	VATSP Service Role	FBO	FBO Name	Meets Objective	Improvements Needed
Commercial Service: Full Service						
Charlottesville-Albemarle	CHO	CM	Full	Landmark Aviation	Yes	
Lynchburg Regional	LYH	CM	Full	Freedom Aviation	Yes	
Newport News-Williamsburg International	PHF	CM	Full	Atlantic Aviation	Yes	
Norfolk International	ORF	CM	Full	Landmark Aviation	Yes	
Richmond International	RIC	CM	Full	Millionair, Richmond Jet Center, Aero	Yes	
Roanoke-Blacksburg Regional	ROA	CM	Full	Landmark, Executive Air, Roanoke-Blacksburg Aero	Yes	
Ronald Reagan Washington National	DCA	CM	Full	Signature	Yes	
Shenandoah Valley Regional ¹	SHD	CM	Limited	Shenandoah Valley Regional Airport	Yes	
Washington Dulles International	IAD	CM	Full	Signature, Landmark, Dulles Jet Center	Yes	
Reliever: Full Service						
Chesapeake Regional	CPK	RL	Full	Horizon Aviation	Yes	
Hampton Roads Executive	PVG	RL	Full	Virginia Aviation Associates	Yes	
Hanover County Municipal	OPF	RL	Full	Heart of Virginia Aviation	Yes	
Leesburg Executive	JYO	RL	Full	Landmark, Project	Yes	
Manassas Regional	HEF	RL	Full	Dulles Aviation, APP Jet Center	Yes	
Richmond Executive-Chesterfield County	FCI	RL	Full	Dominion Aviation Services	Yes	
Stafford Regional	RMN	RL	Full	Stafford Regional	Yes	
Warrenton-Fauquier	HWY	RL	Full	Warrenton-Fauquier Aviation	Yes	
GA Regional: Full Service						
Accomack County	MFV	GR	Limited	Accomack County Airport Commission	No	Add Full-Service FBO
Blue Ridge Regional	MTV	GR	Full	Blue Ridge Airport Authority	Yes	
Culpeper Regional ¹	CJR	GR	Limited	Culpeper Regional Airport	Yes	
Danville Regional	DAN	GR	Yes	General Aviation Inc.	Yes	
Dinwiddie County	PTB	GR	Yes	Dinwiddie County Airport	Yes	
Emporia-Greenville Regional	EMV	GR	Limited	Vick's Aviation	No	Add Full-Service FBO

Table 3 - 25 (Continued): Existing and Recommended FBO

Airport	Code	VATSP Service Role	FBO	FBO Name	Meets Objective	Improvements Needed
Farmville Municipal ¹	FVX	GR	Limited	Town of Farmville	Yes	
Ingalls Field	HSP	GR	Limited	Bath County Airport Authority	No	Add Full-Service FBO
Lonesome Pine	LNP	GR	Limited	Cumberland Airport Commission	No	Add Full-Service FBO
Mecklenburg-Brunswick Regional	AVC	GR	Limited	Mecklenburg-Brunswick Regional	No	Add Full-Service FBO
Middle Peninsula Regional	FYJ	GR	Limited	West Point Aviation	No	Add Full-Service FBO
Mountain Empire ¹	MKJ	GR	Limited	Smyth Wythe Airport Commission	Yes	
New River Valley	PSK	GR	Limited	New River Valley Airport	No	Add Full-Service FBO
Suffolk Executive	SFQ	GR	Full	Suffolk Executive Airport	Yes	
Tappahannock-Essex County	XSA	GR	Full	Tappahannock-Essex County	Yes	
Tazewell County	JFZ	GR	Limited	Tazewell County Airport	No	Add Full-Service FBO
Virginia Highlands	VJI	GR	Limited	Virginia Highlands Airport	No	Add Full-Service FBO
William M. Tuck	W78	GR	None	None	No	Add Full-Service FBO
Winchester Regional ¹	OKV	GR	Limited	Winchester Aviation	Yes	
GA Community: Limited Service						
Blackstone AAF	BKT	GC	None	None	No	Add Limited Service FBO
Brookneal-Campbell County	0V4	GC	None	None	No	Add Limited Service FBO
Franklin Municipal	FKN	GC	Full	Franklin Municipal Airport	Yes	
Front Royal-Warren County	FRR	GC	Full	Cass Aviation	Yes	
Lake Country Regional	W63	GC	None	None	No	Add Limited Service FBO
Lee County	0VG	GC	None	None	No	Add Limited Service FBO
Louisa County	LKU	GC	Full	Central Virginia Flight Services	Yes	
Luray Caverns	LUA	GC	None	None	No	Add Limited Service FBO
New Kent County ¹	W96	GC	Limited	New Kent County Airport	Yes	
Orange County	OMH	GC	None	None	No	Add Limited Service FBO
Shannon	EZF	GC	Full	Air Shannon	Yes	
Tangier Island	TGI	GC	None	None	No	Add Limited Service FBO
Twin County	HLX	GC	Full	Twin County Airport	Yes	

Table 3 - 25 (Continued): Existing and Recommended FBO

Airport	Code	VATSP Service Role	FBO	FBO Name	Meets Objective	Improvements Needed
Virginia Tech-Montgomery Executive ¹	BCB	GC	Limited	Virginia Tech Airport	Yes	
Wakefield Municipal	AKQ	GC	No	None	No	Add Limited Service FBO
Williamsburg-Jamestown	JGG	GC	Full	Williamsburg-Jamestown Airport	Yes	
Local Service: Limited Services						
Bridgewater Air Park	VBW	LO	Full	Dynamic Aviation	Yes	
Chase City Municipal	CXE	LO	None	None	No	Add Limited Service FBO
Crewe Municipal	W81	LO	None	None	No	Add Limited Service FBO
Falwell	W24	LO	Full	Falwell Airport	Yes	
Gordonsville Municipal	GVE	LO	Limited	Gordonsville Airport	Yes	
Grundy Municipal	GDY	LO	None	None	No	Add Limited Service FBO
Hummel Field	W75	LO	Limited	Hummel Field Airfield	Yes	
Lake Anna	7W4	LO	None	None	No	Add Limited Service FBO
Lawrenceville-Brunswick Municipal	LVL	LO	None	None	No	Add Limited Service FBO
Lunenburg County	W31	LO	None	None	No	Add Limited Service FBO
New London	W90	LO	Limited	Rucker Tibbs Aviation	Yes	
New Market	8W2	LO	Limited	New Market Aeronautics	Yes	
Smith Mountain Lake	W91	LO	Limited	Virginia Air Services	Yes	
Waynesboro-Eagle's Nest	W13	LO	Full	Eagles Nest Flight Services	Yes	

Sources: Airport Sponsor Survey and DOAV Inventory, AOPA, airport/FBO websites

Note: ¹ Although FBO does not provide maintenance, it is provided by another on-airport business and a full-service FBO is not needed

Table 3 - 26: Existing and Recommended Fuel

Airport	Code	VATSP Service Role	Fuel	24/7 (Yes/No)	Card Reader (Yes/No)	Meets Obj.	Improvements Needed
Commercial Service: 24-7 Jet A and Avgas (100LL) with card reader							
Charlottesville-Albemarle	CHO	CM	Jet A and Avgas	Yes	Yes	Yes	
Lynchburg Regional	LYH	CM	Jet A and Avgas	No	No	No	24/7 and Card Reader
Newport News-Williamsburg International	PHF	CM	Jet A and Avgas	No	No	No	24/7 and Card Reader
Norfolk International	ORF	CM	Jet A and Avgas	Yes	Yes	Yes	
Richmond International	RIC	CM	Jet A and Avgas	Yes	Yes	Yes	
Roanoke-Blacksburg Regional	ROA	CM	Jet A and Avgas	Yes	No	No	Card Reader
Ronald Reagan Washington National	DCA	CM	Jet A	No	No	Yes	Not recommended for airport
Shenandoah Valley Regional	SHD	CM	Jet A and Avgas	Yes	Yes	Yes	
Washington Dulles International	IAD	CM	Jet A and Avgas	Yes	Yes	Yes	
Reliever: 24-7 Jet A and Avgas (100LL) with card reader							
Chesapeake Regional	CPK	RL	Jet A and Avgas	No	No	No	24/7 and Card Reader
Hampton Roads Executive	PVG	RL	Jet A and Avgas	Yes	Yes	Yes	
Hanover County Municipal	OPF	RL	Jet A and Avgas	No	No	No	24/7 and Card Reader
Leesburg Executive	JYO	RL	Jet A and Avgas	No	No	No	24/7 and Card Reader
Manassas Regional	HEF	RL	Jet A and Avgas	No	No	No	24/7 and Card Reader
Richmond Executive-Chesterfield County	FCI	RL	Jet A and Avgas	No	No	No	24/7 and Card Reader
Stafford Regional	RMN	RL	Jet A and Avgas	No	No	No	24/7 and Card Reader
Warrenton-Fauquier	HWY	RL	Jet A and Avgas	No	No	No	24/7 and Card Reader
GA Regional: 24-7 Jet A and Avgas (100LL) with card reader							
Accomack County	MFV	GR	Jet A and Avgas	Yes	Yes	Yes	
Blue Ridge Regional	MTV	GR	Jet A and Avgas	No	No	No	24/7 and Card Reader (Jet A only)
Culpeper Regional	CJR	GR	Jet A and Avgas	Yes	No	No	24/7 Avgas and Card Reader
Danville Regional	DAN	GR	Jet A and Avgas	No	No	No	24/7 and Card Reader

Table 3 - 26 (Continued): Existing and Recommended Fuel

Airport	Code	VATSP Service Role	Fuel	24/7 (Yes/No)	Card Reader (Yes/No)	Meets Obj.	Improvements Needed
Dinwiddie County	PTB	GR	Jet A and Avgas	Yes	Yes	Yes	
Emporia-Greenville Regional	EMV	GR	Jet A and Avgas	No	No	No	24/7 and Card Reader
Farmville Municipal	FVX	GR	Jet A and Avgas	Yes	Yes	Yes	
Ingalls Field	HSP	GR	Jet A and Avgas	No	No	No	24/7 and Card Reader
Lonesome Pine	LNP	GR	Jet A and Avgas	No	No	No	24/7 and Card Reader
Mecklenburg-Brunswick Regional	AVC	GR	Jet A and Avgas	Yes	Yes	Yes	
Middle Peninsula Regional	FYJ	GR	Jet A and Avgas	Yes	Yes	Yes	
Mountain Empire	MKJ	GR	Jet A and Avgas	No	No	No	24/7 and Card Reader
New River Valley	PSK	GR	Jet A and Avgas	No	No	No	24/7 and Card Reader
Suffolk Executive	SFQ	GR	Jet A and Avgas	Yes	Yes	No	Card Reader (Jet A)
Tappahannock-Essex County	XSA	GR	Jet A and Avgas	Yes	Yes	Yes	
Tazewell County	JFZ	GR	Jet A and Avgas	No	No	No	24/7 and Card Reader
Virginia Highlands	VJI	GR	Jet A and Avgas	No	No	No	24/7 and Card Reader
William M. Tuck	W78	GR	Avgas	No	No	No	Jet A, 24/7, and Card Reader
Winchester Regional	OKV	GR	Jet A and Avgas	Yes	Yes	Yes	
GA Community: 24/7 Avgas (100LL)							
Blackstone AAF	BKT	GC	Jet A and Avgas	Yes	Yes	Yes	
Brookneal-Campbell County	0V4	GC	Avgas	Yes	Yes	Yes	
Franklin Municipal	FKN	GC	Jet A and Avgas	Yes	Yes	Yes	
Front Royal-Warren County	FRR	GC	Avgas	Yes	Yes	Yes	
Lake Country Regional	W63	GC	Avgas	No	No	No	24/7
Lee County	0VG	GC	Avgas	Yes	Yes	Yes	
Louisa County	LKU	GC	Jet A and Avgas	Yes	Yes	Yes	
Luray Caverns	LUA	GC	Jet A and Avgas	Yes	No	Yes	
New Kent County	W96	GC	Avgas	Yes	Yes	Yes	

Table 3 - 26 (Continued): Existing and Recommended Fuel

Airport	Code	VATSP Service Role	Fuel	24/7 (Yes/No)	Card Reader (Yes/No)	Meets Obj.	Improvements Needed
Orange County	OMH	GC	Jet A and Avgas	Yes	Yes	Yes	
Shannon	EZF	GC	Jet A and Avgas	Yes	Yes	Yes	
Tangier Island	TGI	GC	None	N/A	N/A	No	Avgas, 24/7
Twin County	HLX	GC	Jet A and Avgas	Yes	Yes	Yes	
Virginia Tech-Montgomery Executive	BCB	GC	Jet A and Avgas	No	No	No	24/7
Wakefield Municipal	AKQ	GC	Avgas	Yes	Yes	Yes	
Williamsburg-Jamestown	JGG	GC	Jet A and Avgas	No	No	No	24/7
Local Service: Fuel							
Bridgewater Air Park	VBW	LO	Jet A and Avgas	No	No	Yes	
Chase City Municipal	CXE	LO	None	N/A	N/A	No	Avgas
Crewe Municipal	W81	LO	Avgas	Yes	No	Yes	
Falwell	W24	LO	Avgas	Yes	No	Yes	
Gordonsville Municipal	GVE	LO	Avgas	No	No	Yes	
Grundy Municipal	GDY	LO	None	N/A	N/A	No	Avgas
Hummel Field	W75	LO	Avgas	Yes	Yes	Yes	
Lake Anna	7W4	LO	None	N/A	N/A	No	Avgas
Lawrenceville-Brunswick Municipal	LVL	LO	Avgas	Yes	No	Yes	
Lunenburg County	W31	LO	Avgas	Yes	Yes	Yes	
New London	W90	LO	Avgas	No	No	Yes	
New Market	8W2	LO	Avgas	Yes	Yes	Yes	
Smith Mountain Lake	W91	LO	Avgas	No	No	Yes	
Waynesboro-Eagle's Nest	W13	LO	Avgas	No	No	Yes	

Sources: Airport Sponsor Survey and DOAV Inventory

Notes: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

Table 3 - 27: Existing and Recommended Aircraft Maintenance

Airport	Code	VATSP Service Role	Maintenance	Meets Objective	Improvements Needed
Commercial Service: On-Site Major Aircraft Maintenance					
Charlottesville-Albemarle	CHO	CM	Major	Yes	
Lynchburg Regional	LYH	CM	Major	Yes	
Newport News-Williamsburg International	PHF	CM	Major	Yes	
Norfolk International	ORF	CM	Major	Yes	
Richmond International	RIC	CM	Major	Yes	
Roanoke-Blacksburg Regional	ROA	CM	Major	Yes	
Ronald Reagan Washington National	DCA	CM	Minor	Yes	Not recommended for airport
Shenandoah Valley Regional	SHD	CM	Major	Yes	
Washington Dulles International	IAD	CM	Major	Yes	
Reliever: On-Site Major Aircraft Maintenance					
Chesapeake Regional	CPK	RL	Major	Yes	
Hampton Roads Executive	PVG	RL	Major	Yes	
Hanover County Municipal	OFP	RL	Major	Yes	
Leesburg Executive	JYO	RL	Major	Yes	
Manassas Regional	HEF	RL	Major	Yes	
Richmond Executive-Chesterfield County	FCI	RL	Major	Yes	
Stafford Regional	RMN	RL	None	No	Offer Maintenance
Warrenton-Fauquier	HWY	RL	Major	Yes	
GA Regional: On-Site Minor Aircraft Maintenance					
Accomack County	MFV	GR	None	No	Offer Maintenance
Blue Ridge Regional	MTV	GR	Minor	Yes	
Culpeper Regional	CJR	GR	Major	Yes	
Danville Regional	DAN	GR	Minor	Yes	
Dinwiddie County	PTB	GR	Major	Yes	
Emporia-Greenville Regional	EMV	GR	None	No	Offer Maintenance

Table 3 - 27 (Continued): Existing and Recommended Aircraft Maintenance

Airport	Code	VATSP Service Role	Maintenance	Meets Objective	Improvements Needed
Farmville Municipal	FVX	GR	Major	Yes	
Ingalls Field	HSP	GR	None	No	Offer Maintenance
Lonesome Pine	LNP	GR	None	No	Offer Maintenance
Mecklenburg-Brunswick Regional	AVC	GR	None	No	Offer Maintenance
Middle Peninsula Regional	FYJ	GR	None	No	Offer Maintenance
Mountain Empire	MKJ	GR	Major	Yes	
New River Valley	PSK	GR	Minor	Yes	
Suffolk Executive	SFQ	GR	Major	Yes	
Tappahannock-Essex County	XSA	GR	Major	Yes	
Tazewell County	JFZ	GR	None	No	Offer Maintenance
Virginia Highlands	VJI	GR	None	No	Offer Maintenance
William M. Tuck	W78	GR	None	No	Offer Maintenance
Winchester Regional	OKV	GR	Major	Yes	
GA Community: Preserve Existing					
Blackstone AAF	BKT	GC	None	Yes	
Brookneal-Campbell County	OV4	GC	None	Yes	
Franklin Municipal	FKN	GC	Major	Yes	
Front Royal-Warren County	FRR	GC	Minor	Yes	
Lake Country Regional	W63	GC	Minor	Yes	
Lee County	OVG	GC	None	Yes	
Louisa County	LKU	GC	Major	Yes	
Luray Caverns	LUA	GC	None	Yes	
New Kent County	W96	GC	Minor	Yes	
Orange County	OMH	GC	Minor	Yes	
Shannon	EZF	GC	Minor	Yes	
Tangier Island	TGI	GC	None	Yes	
Twin County	HLX	GC	Major	Yes	

Table 3 - 27 (Continued): Existing and Recommended Aircraft Maintenance

Airport	Code	VATSP Service Role	Maintenance	Meets Objective	Improvements Needed
Virginia Tech-Montgomery Executive	BCB	GC	Minor	Yes	
Wakefield Municipal	AKQ	GC	Minor	Yes	
Williamsburg-Jamestown	JGG	GC	Minor	Yes	
Local Service: Preserve Existing					
Bridgewater Air Park	VBW	LO	None	Yes	
Chase City Municipal	CXE	LO	None	Yes	
Crewe Municipal	W81	LO	None	Yes	
Falwell	W24	LO	Minor	Yes	
Gordonsville Municipal	GVE	LO	None	Yes	
Grundy Municipal	GDY	LO	None	Yes	
Hummel Field	W75	LO	None	Yes	
Lake Anna	7W4	LO	None	Yes	
Lawrenceville-Brunswick Municipal	LVL	LO	None	Yes	
Lunenburg County	W31	LO	None	Yes	
New London	W90	LO	Minor	Yes	
New Market	8W2	LO	None	Yes	
Smith Mountain Lake	W91	LO	None	Yes	
Waynesboro-Eagle's Nest	W13	LO	Major	Yes	

Source: Airport Sponsor Survey and DOAV Inventory

Table 3 - 28: Existing and Recommended Aircraft Rental and Charter Service

Airport	Code	VATSP Service Role	Aircraft Rental	Meets Rental Objective	Charter Service	Meets Charter Objective
Commercial Service: Aircraft Rental and Charter Service Available						
Charlottesville-Albemarle	CHO	CM	No	No	Yes	Yes
Lynchburg Regional	LYH	CM	Yes	Yes	Yes	Yes
Newport News-Williamsburg International	PHF	CM	Yes	Yes	Yes	Yes
Norfolk International	ORF	CM	Yes	Yes	Yes	Yes
Richmond International	RIC	CM	Yes	Yes	Yes	Yes
Roanoke-Blacksburg Regional	ROA	CM	Yes	Yes	Yes	Yes
Ronald Reagan Washington National	DCA	CM	No	No	Yes	Yes
Shenandoah Valley Regional	SHD	CM	Yes	Yes	Yes	Yes
Washington Dulles International	IAD	CM	No	No	Yes	Yes
Reliever: Aircraft Rental and Charter Service Available						
Chesapeake Regional	CPK	RL	Yes	Yes	Yes	Yes
Hampton Roads Executive	PVG	RL	Yes	Yes	Yes	Yes
Hanover County Municipal	OFP	RL	Yes	Yes	Yes	Yes
Leesburg Executive	JYO	RL	Yes	Yes	Yes	Yes
Manassas Regional	HEF	RL	Yes	Yes	Yes	Yes
Richmond Executive-Chesterfield County	FCI	RL	Yes	Yes	Yes	Yes
Stafford Regional	RMN	RL	No	No	No	No
Warrenton-Fauquier	HWY	RL	Yes	Yes	Yes	Yes
GA Regional: Aircraft Rental and Charter Service Available						
Accomack County	MFV	GR	No	No	Yes	Yes
Blue Ridge Regional	MTV	GR	No	No	Yes	Yes
Culpeper Regional	CJR	GR	Yes	Yes	Yes	Yes
Danville Regional	DAN	GR	Yes	Yes	No	No
Dinwiddie County	PTB	GR	No	No	No	No
Emporia-Greenville Regional	EMV	GR	No	No	No	No

Table 3 - 28 (Continued): Existing and Recommended Aircraft Rental and Charter Service

Airport	Code	VATSP Service Role	Aircraft Rental	Meets Rental Objective	Charter Service	Meets Charter Objective
Farmville Municipal	FVX	GR	Yes	Yes	No	No
Ingalls Field	HSP	GR	No	No	No	No
Lonesome Pine	LNP	GR	Yes	Yes	No	No
Mecklenburg-Brunswick Regional	AVC	GR	No	No	No	No
Middle Peninsula Regional	FYJ	GR	No	No	No	No
Mountain Empire	MKJ	GR	No	No	No	No
New River Valley	PSK	GR	Yes	Yes	No	No
Suffolk Executive	SFQ	GR	No	No	No	No
Tappahannock-Essex County	XSA	GR	No	No	No	No
Tazewell County	JFZ	GR	Yes	Yes	No	No
Virginia Highlands	VJI	GR	Yes	Yes	No	No
William M. Tuck	W78	GR	No	No	No	No
Winchester Regional	OKV	GR	Yes	Yes	No	No
GA Community: Aircraft Rental and Charter Service Available						
Blackstone AAF	BKT	GC	No	No	No	No
Brookneal-Campbell County	0V4	GC	No	No	No	No
Franklin Municipal	FKN	GC	No	No	No	No
Front Royal-Warren County	FRR	GC	Yes	Yes	No	No
Lake Country Regional	W63	GC	No	No	No	No
Lee County	0VG	GC	No	No	No	No
Louisa County	LKU	GC	Yes	Yes	No	No
Luray Caverns	LUA	GC	No	No	No	No
New Kent County	W96	GC	Yes	Yes	No	No
Orange County	OMH	GC	Yes	Yes	No	No
Shannon	EZF	GC	Yes	Yes	No	No
Tangier Island	TGI	GC	No	No	No	No

Table 3 - 28 (Continued): Existing and Recommended Aircraft Rental and Charter Service

Airport	Code	VATSP Service Role	Aircraft Rental	Meets Rental Objective	Charter Service	Meets Charter Objective
Twin County	HLX	GC	Yes	Yes	No	No
Virginia Tech-Montgomery Executive	BCB	GC	Yes	Yes	No	No
Wakefield Municipal	AKQ	GC	No	No	No	No
Williamsburg-Jamestown	JGG	GC	No	No	No	No
Local Service: Aircraft Rental and Charter Service Available						
Bridgewater Air Park	VBW	LO	No	No	No	No
Chase City Municipal	CXE	LO	No	No	No	No
Crewe Municipal	W81	LO	No	No	No	No
Falwell	W24	LO	Yes	Yes	Yes	Yes
Gordonsville Municipal	GVE	LO	No	No	No	No
Grundy Municipal	GDY	LO	No	No	No	No
Hummel Field	W75	LO	No	No	No	No
Lake Anna	7W4	LO	No	No	No	No
Lawrenceville-Brunswick Municipal	LVL	LO	No	No	No	No
Lunenburg County	W31	LO	Yes	Yes	No	No
New London	W90	LO	Yes	Yes	No	No
New Market	8W2	LO	Yes	Yes	Yes	Yes
Smith Mountain Lake	W91	LO	No	No	No	No
Waynesboro-Eagle's Nest	W13	LO	Yes	Yes	No	No

Sources: Airport Sponsor Survey and DOAV Inventory

Table 3 - 29: Existing and Recommended Pilot Training

Airport	Code	VATSP Service Role	Pilot Training	Meets Objective	Improvements Needed
Commercial Service: Full-Time Pilot Training					
Charlottesville-Albemarle	CHO	CM	Full time	Yes	
Lynchburg Regional	LYH	CM	Full time	Yes	
Newport News-Williamsburg International	PHF	CM	Full time	Yes	
Norfolk International	ORF	CM	None	Yes	Not recommended for airport
Richmond International	RIC	CM	Full time	Yes	
Roanoke-Blacksburg Regional	ROA	CM	Full time	Yes	
Ronald Reagan Washington National	DCA	CM	None	Yes	Not recommended for airport
Shenandoah Valley Regional	SHD	CM	Full time	Yes	
Washington Dulles International	IAD	CM	None	Yes	Not recommended for airport
Reliever: Full-Time Pilot Training					
Chesapeake Regional	CPK	RL	Full time	Yes	
Hampton Roads Executive	PVG	RL	Full time	Yes	
Hanover County Municipal	OFP	RL	Full time	Yes	
Leesburg Executive	JYO	RL	Full time	Yes	
Manassas Regional	HEF	RL	Full time	Yes	
Richmond Executive-Chesterfield County	FCI	RL	Full time	Yes	
Stafford Regional	RMN	RL	None	No	Add Full-time Flight Training
Warrenton-Fauquier	HWY	RL	Full time	Yes	
GA Regional: Full-Time Pilot Training					
Accomack County	MFV	GR	None	No	Add Full-time Flight Training
Blue Ridge Regional	MTV	GR	None	No	Add Full-time Flight Training
Culpeper Regional	CJR	GR	Part time	No	Add Full-time Flight Training
Danville Regional	DAN	GR	Full time	Yes	
Dinwiddie County	PTB	GR	Part time	No	Add Full-time Flight Training
Emporia-Greenville Regional	EMV	GR	None	No	Add Full-time Flight Training
Farmville Municipal	FVX	GR	Part time	No	

Table 3 - 29 (Continued): Existing and Recommended Pilot Training

Airport	Code	VATSP Service Role	Pilot Training	Meets Objective	Improvements Needed
Ingalls Field	HSP	GR	None	No	Add Full-time Flight Training
Lonesome Pine	LNP	GR	Full time	Yes	
Mecklenburg-Brunswick Regional	AVC	GR	Part time	No	Add Full-time Flight Training
Middle Peninsula Regional	FYJ	GR	None	No	Add Full-time Flight Training
Mountain Empire	MKJ	GR	None	No	Add Full-time Flight Training
New River Valley	PSK	GR	Part time	No	Add Full-time Flight Training
Suffolk Executive	SFQ	GR	None	No	Add Full-time Flight Training
Tappahannock-Essex County	XSA	GR	Part time	No	Add Full-time Flight Training
Tazewell County	JFZ	GR	Part time	No	Add Full-time Flight Training
Virginia Highlands	VJI	GR	Part time	No	Add Full-time Flight Training
William M. Tuck	W78	GR	None	No	Add Full-time Flight Training
Winchester Regional	OKV	GR	Full time	Yes	
GA Community: Part-Time Pilot Training					
Blackstone AAF	BKT	GC	None	No	Add Part-time Flight Training
Brookneal-Campbell County	0V4	GC	None	No	Add Part-time Flight Training
Franklin Municipal	FKN	GC	None	No	Add Part-time Flight Training
Front Royal-Warren County	FRR	GC	Full time	Yes	
Lake Country Regional	W63	GC	None	No	Add Part-time Flight Training
Lee County	0VG	GC	None	No	Add Part-time Flight Training
Louisa County	LKU	GC	Full time	Yes	
Luray Caverns	LUA	GC	None	No	Add Part-time Flight Training
New Kent County	W96	GC	Full time	Yes	
Orange County	OMH	GC	Part time	Yes	
Shannon	EZF	GC	Full time	Yes	
Tangier Island	TGI	GC	None	No	Add Part-time Flight Training
Twin County	HLX	GC	Part time	Yes	
Virginia Tech-Montgomery Executive	BCB	GC	Part time	Yes	

Table 3 - 29 (Continued): Existing and Recommended Pilot Training

Airport	Code	VATSP Service Role	Pilot Training	Meets Objective	Improvements Needed
Wakefield Municipal	AKQ	GC	None	No	Add Part-time Flight Training
Williamsburg-Jamestown	JGG	GC	Full time	Yes	
Local Service: Part-Time Pilot Training					
Bridgewater Air Park	VBW	LO	None	No	Add Part-time Flight Training
Chase City Municipal	CXE	LO	None	No	Add Part-time Flight Training
Crewe Municipal	W81	LO	None	No	Add Part-time Flight Training
Falwell	W24	LO	None	No	Add Part-time Flight Training
Gordonsville Municipal	GVE	LO	Part time	Yes	
Grundy Municipal	GDY	LO	None	No	Add Part-time Flight Training
Hummel Field	W75	LO	None	No	Add Part-time Flight Training
Lake Anna	7W4	LO	None	No	Add Part-time Flight Training
Lawrenceville-Brunswick Municipal	LVL	LO	None	No	Add Part-time Flight Training
Lunenburg County	W31	LO	None	No	Add Part-time Flight Training
New London	W90	LO	Full time	Yes	
New Market	8W2	LO	Full time	Yes	
Smith Mountain Lake	W91	LO	None	No	Add Part-time Flight Training
Waynesboro-Eagle's Nest	W13	LO	Full time	Yes	

Sources: Airport Sponsor Survey and DOAV Inventory

Table 3 - 30: Existing and Recommended Terminal/Pilot Services

Airport	Code	VATSP Service Role	GA Terminal Building & Restroom	Public Phone	Flight Planning/Lounge	Meets Obj.	Improvements Needed
Commercial Service: Phone, Restroom, Lounge							
Charlottesville-Albemarle	CHO	CM	Yes	Yes	Yes	Yes	
Lynchburg Regional	LYH	CM	Yes	Yes	Yes	Yes	
Newport News-Williamsburg International	PHF	CM	Yes	Yes	Yes	Yes	
Norfolk International	ORF	CM	Yes	Yes	Yes	Yes	
Richmond International	RIC	CM	Yes	Yes	Yes	Yes	
Roanoke-Blacksburg Regional	ROA	CM	Yes	Yes	Yes	Yes	
Ronald Reagan Washington National	DCA	CM	Yes	Yes	Yes	Yes	
Shenandoah Valley Regional	SHD	CM	Yes	Yes	Yes	Yes	
Washington Dulles International	IAD	CM	Yes	Yes	Yes	Yes	
Reliever: Phone, Restroom, Lounge							
Chesapeake Regional	CPK	RL	Yes	Yes	Yes	Yes	
Hampton Roads Executive	PVG	RL	Yes	Yes	Yes	Yes	
Hanover County Municipal	OFP	RL	Yes	Yes	Yes	Yes	
Leesburg Executive	JYO	RL	Yes	Yes	Yes	Yes	
Manassas Regional	HEF	RL	Yes	Yes	Yes	Yes	
Richmond Executive-Chesterfield County	FCI	RL	Yes	Yes	Yes	Yes	
Stafford Regional	RMN	RL	Yes	Yes	Yes	Yes	
Warrenton-Fauquier	HWY	RL	Yes	Yes	Yes	Yes	
GA Regional: Phone, Restroom, Lounge							
Accomack County	MFV	GR	Yes	No	Yes	No	Phone
Blue Ridge Regional	MTV	GR	Yes	Yes	Yes	Yes	
Culpeper Regional	CJR	GR	Yes	Yes	Yes	Yes	
Danville Regional	DAN	GR	Yes	No	Yes	No	Phone
Dinwiddie County	PTB	GR	Yes	Yes	Yes	Yes	
Emporia-Greenville Regional	EMV	GR	Yes	Yes	Yes	Yes	

Table 3 - 30 (Continued): Existing and Recommended Terminal/Pilot Services

Airport	Code	VATSP Service Role	GA Terminal Building & Restroom	Public Phone	Flight Planning/ Lounge	Meets Obj.	Improvements Needed
Farmville Municipal	FVX	GR	Yes	Yes	Yes	Yes	
Ingalls Field	HSP	GR	Yes	Yes	Yes	Yes	
Lonesome Pine	LNP	GR	Yes	Yes	Yes	Yes	
Mecklenburg-Brunswick Regional	AVC	GR	Yes	Yes	Yes	Yes	
Middle Peninsula Regional	FYJ	GR	Yes	Yes	Yes	Yes	
Mountain Empire	MKJ	GR	Yes	Yes	Yes	Yes	
New River Valley	PSK	GR	Yes	Yes	Yes	Yes	
Suffolk Executive	SFQ	GR	Yes	Yes	Yes	Yes	
Tappahannock-Essex County	XSA	GR	Yes	Yes	Yes	Yes	
Tazewell County	JFZ	GR	Yes	No	Yes	No	Phone
Virginia Highlands	VJI	GR	Yes	Yes	Yes	Yes	
William M. Tuck	W78	GR	Yes	Yes	No	No	Flight Planning
Winchester Regional	OKV	GR	Yes	Yes	Yes	Yes	
GA Community: Shelter, Restrooms, Phone							
Blackstone AAF	BKT	GC	Yes	Yes	No	Yes	
Brookneal-Campbell County	0V4	GC	Yes	Yes	No	Yes	
Franklin Municipal	FKN	GC	Yes	Yes	Yes	Yes	
Front Royal-Warren County	FRR	GC	Yes	Yes	Yes	Yes	
Lake Country Regional	W63	GC	Yes	No	No	No	Phone,
Lee County	0VG	GC	Yes	No	Yes	No	Phone
Louisa County	LKU	GC	Yes	No	Yes	No	Phone
Luray Caverns	LUA	GC	Yes	Yes	Yes	Yes	
New Kent County	W96	GC	Yes	No	No	No	Phone,
Orange County	OMH	GC	Yes	No	Yes	No	Phone
Shannon	EZF	GC	Yes	No	Yes	No	Phone
Tangier Island	TGI	GC	Yes	Yes	No	Yes	
Twin County	HLX	GC	Yes	No	Yes	No	Phone

Table 3 - 30 (Continued): Existing and Recommended Terminal/Pilot Services

Airport	Code	VATSP Service Role	GA Terminal Building & Restroom	Public Phone	Flight Planning/ Lounge	Meets Obj.	Improvements Needed
Virginia Tech-Montgomery Exec	BCB	GC	Yes	Yes	Yes	Yes	
Wakefield Municipal	AKQ	GC	Yes	Yes	No	Yes	
Williamsburg-Jamestown	JGG	GC	Yes	Yes	Yes	Yes	
Local Service: Shelter, Restrooms, Phone							
Bridgewater Air Park	VBW	LO	No	Yes	No	No	Shelter, Restroom
Chase City Municipal	CXE	LO	No	No	No	No	Shelter, Restroom, Phone
Crewe Municipal	W81	LO	Yes	Yes	No	Yes	
Falwell	W24	LO	Yes	Yes	Yes	Yes	
Gordonsville Municipal	GVE	LO	No	No	No	No	Shelter, Restroom, Phone
Grundy Municipal	GDY	LO	Yes	Yes	No	Yes	
Hummel Field	W75	LO	Yes	Yes	No	Yes	
Lake Anna	7W4	LO	No	No	No	No	Shelter, Restroom, Phone
Lawrenceville-Brunswick Municipal	LVL	LO	Yes	No	No	No	Phone
Lunenburg County	W31	LO	Yes	Yes	Yes	Yes	
New London	W90	LO	Yes	Yes	Yes	Yes	
New Market	8W2	LO	Yes	No	No	No	Phone
Smith Mountain Lake	W91	LO	Yes	No	No	No	Phone
Waynesboro-Eagle's Nest	W13	LO	Yes	Yes	Yes	Yes	

Source: Airport Sponsor Survey and DOAV Inventory

Notes: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

When an airport responded with a N/A, it was assumed to be deficient.

Table 3 - 31: Existing and Recommended Ground Transportation

Airport	Code	VATSP Service Role	On-Site Rental Car	Rental Car Access	On-Site Courtesy Car	Meets Obj	Improvements Needed
Commercial Service: On-Site Rental Car							
Charlottesville-Albemarle	CHO	CM	Yes	-	-	Yes	
Lynchburg Regional	LYH	CM	Yes	-	-	Yes	
Newport News-Williamsburg International	PHF	CM	Yes	-	-	Yes	
Norfolk International	ORF	CM	Yes	-	-	Yes	
Richmond International	RIC	CM	Yes	-	-	Yes	
Roanoke-Blacksburg Regional	ROA	CM	Yes	-	-	Yes	
Ronald Reagan Washington National	DCA	CM	Yes	-	-	Yes	
Shenandoah Valley Regional	SHD	CM	Yes	-	-	Yes	
Washington Dulles International	IAD	CM	Yes	-	-	Yes	
Reliever: Rental Car Access							
Chesapeake Regional	CPK	RL	Yes	-	-	Yes	
Hampton Roads Executive	PVG	RL	No	Yes	Yes	Yes	
Hanover County Municipal	OFP	RL	Yes	-	-	Yes	
Leesburg Executive	JYO	RL	Yes	-	-	Yes	
Manassas Regional	HEF	RL	Yes	-	-	Yes	
Richmond Executive-Chesterfield County	FCI	RL	Yes	-	-	Yes	
Stafford Regional	RMN	RL	Yes	-	-	Yes	
Warrenton-Fauquier	HWY	RL	No	Yes	Yes	Yes	
GA Regional: Rental Car Access or On-Site Courtesy Car							
Accomack County	MFV	GR	No	Yes	No	Yes	
Blue Ridge Regional	MTV	GR	Yes	-	-	Yes	
Culpeper Regional	CJR	GR	No	Yes	Yes	Yes	
Danville Regional	DAN	GR	Yes	Yes	Yes	Yes	
Dinwiddie County	PTB	GR	No	Yes	Yes	Yes	
Emporia-Greenville Regional	EMV	GR	No	No	Yes	Yes	

Table 3 - 31 (Continued): Existing and Recommended Ground Transportation

Airport	Code	VATSP Service Role	On-Site Rental Car	Rental Car Access	On-Site Courtesy Car	Meets Obj	Improvements Needed
Farmville Municipal	FVX	GR	Yes	-	Yes	Yes	
Ingalls Field	HSP	GR	Yes	Yes	No	Yes	
Lonesome Pine	LNP	GR	No	Yes	Yes	Yes	
Mecklenburg-Brunswick Regional	AVC	GR	No	Yes	Yes	Yes	
Middle Peninsula Regional	FYJ	GR	No	Yes	Yes	Yes	
Mountain Empire	MKJ	GR	Yes	-	Yes	Yes	
New River Valley	PSK	GR	No	Yes	Yes	Yes	
Suffolk Executive	SFQ	GR	No	Yes	No	Yes	
Tappahannock-Essex County	XSA	GR	Yes	-	No	Yes	
Tazewell County	JFZ	GR	Yes	-	Yes	Yes	
Virginia Highlands	VJI	GR	No	Yes	Yes	Yes	
William M. Tuck	W78	GR	No	Yes	No	Yes	
Winchester Regional	OKV	GR	No	Yes	Yes	Yes	
GA Community: On Site Courtesy Car							
Blackstone AAF	BKT	GC	No	No	No	No	Offer Courtesy Car
Brookneal-Campbell County	0V4	GC	No	No	No	No	Offer Courtesy Car
Franklin Municipal	FKN	GC	No	Yes	Yes	Yes	
Front Royal-Warren County	FRR	GC	No	No	No	No	Offer Courtesy Car
Lake Country Regional	W63	GC	Yes	-	Yes	Yes	
Lee County	0VG	GC	No	No	No	No	Offer Courtesy Car
Louisa County	LKU	GC	No	Yes	Yes	Yes	
Luray Caverns	LUA	GC	No	Yes	No	Yes	
New Kent County	W96	GC	No	Yes	No	Yes	
Orange County	OMH	GC	No	Yes	Yes	Yes	
Shannon	EZF	GC	No	Yes	No	Yes	
Tangier Island	TGI	GC	No	Yes	No	Yes	

Table 3 - 31 (Continued): Existing and Recommended Ground Transportation

Airport	Code	VATSP Service Role	On-Site Rental Car	Rental Car Access	On-Site Courtesy Car	Meets Obj	Improvements Needed
Twin County	HLX	GC	No	Yes	Yes	Yes	
Virginia Tech-Montgomery Executive	BCB	GC	Yes	-	Yes	Yes	
Wakefield Municipal	AKQ	GC	No	No	No	No	Offer Courtesy Car
Williamsburg-Jamestown	JGG	GC	Yes	-	No	Yes	
Local Service: Preserve Existing							
Bridgewater Air Park	VBW	LO	No	No	No	Yes	
Chase City Municipal	CXE	LO	No	No	No	Yes	
Crewe Municipal	W81	LO	No	No	No	Yes	
Falwell	W24	LO	Yes	Yes	Yes	Yes	
Gordonsville Municipal	GVE	LO	No	No	No	Yes	
Grundy Municipal	GDY	LO	No	No	No	Yes	
Hummel Field	W75	LO	No	No	No	Yes	
Lake Anna	7W4	LO	No	No	No	Yes	
Lawrenceville-Brunswick Municipal	LVL	LO	No	No	No	Yes	
Lunenburg County	W31	LO	No	No	Yes	Yes	
New London	W90	LO	No	No	No	Yes	
New Market	8W2	LO	No	Yes	Yes	Yes	
Smith Mountain Lake	W91	LO	No	No	No	Yes	
Waynesboro-Eagle's Nest	W13	LO	No	Yes	Yes	Yes	

Sources: Airport Sponsor Survey and DOAV Inventory, AOPA

Notes: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

Table 3 - 32: Existing and Recommended Utilities

Airport	Code	VATSP Service Role	Electricity	Water	Sewer	Hardwired Internet	WiFi	Meets Objective	Improvements Needed
Commercial Service: Electricity, Water, Sewer, Communications (WiFi Access)									
Charlottesville-Albemarle	CHO	CM	Yes	Yes	Yes	Yes	Yes	Yes	
Lynchburg Regional	LYH	CM	Yes	Yes	Yes	Yes	Yes	Yes	
Newport News-Williamsburg International	PHF	CM	Yes	Yes	Yes	Yes	Yes	Yes	
Norfolk International	ORF	CM	Yes	Yes	Yes	Yes	Yes	Yes	
Richmond International	RIC	CM	Yes	Yes	Yes	Yes	Yes	Yes	
Roanoke-Blacksburg Regional	ROA	CM	Yes	Yes	Yes	Yes	Yes	Yes	
Ronald Reagan Washington National	DCA	CM	Yes	Yes	Yes	Yes	Yes	Yes	
Shenandoah Valley Regional	SHD	CM	Yes	Yes	Yes	Yes	Yes	Yes	
Washington Dulles International	IAD	CM	Yes	Yes	Yes	Yes	Yes	Yes	
Reliever: Electricity, Water, Sewer, Communications (WiFi Access)									
Chesapeake Regional	CPK	RL	Yes	Yes	Yes	Yes	Yes	Yes	
Hampton Roads Executive	PVG	RL	Yes	Yes	Yes	Yes	Yes	Yes	
Hanover County Municipal	OFP	RL	Yes	Yes	Yes	Yes	No	No	Wi-Fi
Leesburg Executive	JYO	RL	Yes	Yes	Yes	Yes	Yes	Yes	
Manassas Regional	HEF	RL	Yes	Yes	Yes	Yes	Yes	Yes	
Richmond Executive-Chesterfield County	FCI	RL	Yes	Yes	Yes	Yes	Yes	Yes	
Stafford Regional	RMN	RL	Yes	Yes	Yes	Yes	Yes	Yes	
Warrenton-Fauquier	HWY	RL	Yes	Yes	Yes	Yes	Yes	Yes	
GA Regional: Electricity, Water, Sewer, Communications (Hard-wired Internet or WiFi Access)									
Accomack County	MFV	GR	Yes	Yes	Yes	Yes	Yes	Yes	
Blue Ridge Regional	MTV	GR	Yes	Yes	Yes	Yes	Yes	Yes	
Culpeper Regional	CJR	GR	Yes	Yes	Yes	Yes	Yes	Yes	
Danville Regional	DAN	GR	Yes	Yes	Yes	Yes	Yes	Yes	
Dinwiddie County	PTB	GR	Yes	Yes	Yes	Yes	Yes	Yes	
Emporia-Greenville Regional	EMV	GR	Yes	Yes	Yes	Yes	Yes	Yes	
Farmville Municipal	FVX	GR	Yes	Yes	Yes	Yes	Yes	Yes	

Table 3 - 32 (Continued): Existing and Recommended Utilities

Airport	Code	VATSP Service Role	Electricity	Water	Sewer	Hardwired Internet	WiFi	Meets Objective	Improvements Needed
Ingalls Field	HSP	GR	Yes	Yes	Yes	Yes	Yes	Yes	
Lonesome Pine	LNP	GR	Yes	Yes	Yes	Yes	Yes	Yes	
Mecklenburg-Brunswick Regional	AVC	GR	Yes	Yes	Yes	Yes	Yes	Yes	
Middle Peninsula Regional	FYJ	GR	Yes	Yes	Yes	Yes	Yes	Yes	
Mountain Empire	MKJ	GR	Yes	Yes	Yes	Yes	Yes	Yes	
New River Valley	PSK	GR	Yes	Yes	Yes	Yes	Yes	Yes	
Suffolk Executive	SFQ	GR	Yes	Yes	Yes	Yes	Yes	Yes	
Tappahannock-Essex County	XSA	GR	Yes	Yes	Yes	Yes	Yes	Yes	
Tazewell County	JFZ	GR	Yes	Yes	Yes	Yes	Yes	Yes	
Virginia Highlands	VJI	GR	Yes	Yes	Yes	Yes	Yes	Yes	
William M. Tuck	W78	GR	Yes	Yes	Yes	Yes	No	Yes	
Winchester Regional	OKV	GR	Yes	Yes	Yes	Yes	Yes	Yes	
GA Community: Electricity, Water, Sewer, Communications (Hard-wired Internet or WiFi Access)									
Blackstone AAF	BKT	GC	Yes	Yes	Yes	No	No	No	WiFi
Brookneal-Campbell County	0V4	GC	Yes	Yes	Yes	No	No	No	WiFi
Franklin Municipal	FKN	GC	Yes	Yes	Yes	No	Yes	Yes	
Front Royal-Warren County	FRR	GC	Yes	Yes	Yes	Yes	Yes	Yes	
Lake Country Regional	W63	GC	Yes	Yes	Yes	No	No	No	WiFi
Lee County	0VG	GC	Yes	Yes	Yes	Yes	Yes	Yes	
Louisa County	LKU	GC	Yes	Yes	Yes	Yes	Yes	Yes	
Luray Caverns	LUA	GC	Yes	Yes	Yes	Yes	Yes	Yes	
New Kent County	W96	GC	Yes	Yes	Yes	No	Yes	Yes	
Orange County	OMH	GC	Yes	Yes	Yes	Yes	Yes	Yes	
Shannon	EZF	GC	Yes	Yes	Yes	No	Yes	Yes	
Tangier Island	TGI	GC	Yes	Yes	Yes	No	No	No	WiFi
Twin County	HLX	GC	Yes	Yes	Yes	Yes	No	Yes	
Virginia Tech-Montgomery Executive	BCB	GC	Yes	Yes	Yes	Yes	Yes	Yes	

Table 3 - 32 (Continued): Existing and Recommended Utilities

Airport	Code	VATSP Service Role	Electricity	Water	Sewer	Hardwired Internet	WiFi	Meets Objective	Improvements Needed
Wakefield Municipal	AKQ	GC	Yes	Yes	Yes	Yes	No	Yes	
Williamsburg-Jamestown	JGG	GC	Yes	Yes	Yes	Yes	Yes	Yes	
Local Service: Electricity									
Bridgewater Air Park	VBW	LO	Yes	Yes	Yes	No	No	Yes	
Chase City Municipal	CXE	LO	No	Yes	Yes	No	No	No	Electricity
Crewe Municipal	W81	LO	Yes	Yes	Yes	Yes	No	Yes	
Falwell	W24	LO	Yes	Yes	No	Yes	Yes	Yes	
Gordonsville Municipal	GVE	LO	No	No	No	No	No	No	Electricity
Grundy Municipal	GDY	LO	Yes	Yes	No	No	No	Yes	
Hummel Field	W75	LO	Yes	Yes	No	No	Yes	Yes	
Lake Anna	7W4	LO	No	No	No	No	No	No	Electricity
Lawrenceville-Brunswick Municipal	LVL	LO	Yes	Yes	Yes	No	No	Yes	
Lunenburg County	W31	LO	Yes	No	No	No	No	Yes	
New London	W90	LO	Yes	No	No	Yes	Yes	Yes	
New Market	8W2	LO	Yes	No	No	Yes	Yes	Yes	
Smith Mountain Lake	W91	LO	Yes	Yes	Yes	No	No	Yes	
Waynesboro-Eagle's Nest	W13	LO	Yes	Yes	Yes	Yes	Yes	Yes	

Source: Airport Sponsor Survey and DOAV Inventory

Note: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

**Table 3 - 33: Existing and Recommended Pavement Maintenance
Percent of Airport Pavements with PCIs of Over 70**

Airport	Code	VATSP Service Role	Runway Pavement	Taxiway Pavements	Apron Pavements	Taxilane Pavements	Meets All Objectives	Pavement needing immediate improvement
Commercial Service								
Charlottesville-Albemarle	CHO	CM	100.0%	16.9%	96.9%	N/A	No	Taxiway, Apron
Lynchburg Regional	LYH	CM	98.3%	79.4%	24.3%	N/A	No	Runway, Taxiway, Apron
Newport News-Williamsburg International	PHF	CM	100.0%	65.9%	69.1%	0.0%	No	Taxiway, Apron, Taxilane
Norfolk International	ORF	CM	59.0%	82.0%	49.0%	100.0%	No	Runway, Taxiway, Apron
Richmond International	RIC	CM	34.3%	92.2%	82.3%	N/A	No	Runway, Taxiway, Apron
Roanoke-Blacksburg Regional	ROA	CM	70.0%	70.0%	70.0%	70.0%	No	Runway, Taxiway, Apron, Taxilane
Ronald Reagan Washington National	DCA	CM	N/A	N/A	N/A	N/A	Yes	
Shenandoah Valley Regional	SHD	CM	100.0%	100.0%	100.0%	N/A	Yes	
Washington Dulles International	IAD	CM	71.0%	74.0%	44.0%	43.0%	No	Runway, Taxiway, Apron, Taxilane
Reliever								
Chesapeake Regional	CPK	RL	100.0%	100.0%	100.0%	N/A	Yes	
Hampton Roads Executive	PVG	RL	46.5%	15.9%	99.0%	100.0%	No	Taxiway, Apron
Hanover County Municipal	OFP	RL	13.4%	100.0%	11.0%	N/A	No	Runway, Apron
Leesburg Executive	JYO	RL	100.0%	100.0%	94.1%	50.0%	No	Apron, Taxilane
Manassas Regional	HEF	RL	100.0%	90.0%	63.0%	100.0%	No	Taxiway, Apron
Richmond Executive-Chesterfield County	FCI	RL	100.0%	96.3%	24.1%	100.0%	No	Taxiway, Apron
Stafford Regional	RMN	RL	100.0%	100.0%	100.0%	N/A	Yes	
Warrenton-Fauquier	HWY	RL	100.0%	100.0%	100.0%	N/A	Yes	
GA Regional								
Accomack County	MFV	GR	100.0%	94.1%	81.6%	N/A	No	Taxiway, Apron
Blue Ridge Regional	MTV	GR	100.0%	73.3%	92.5%	35.0%	No	Taxiway, Apron, Taxilane
Culpeper Regional	CJR	GR	100.0%	100.0%	100.0%	100.0%	Yes	
Danville Regional	DAN	GR	55.9%	13.6%	100.0%	20.0%	No	Runway, Taxiway, Taxilane
Dinwiddie County	PTB	GR	100.0%	64.3%	11.9%	N/A	No	Taxiway, Apron
Emporia-Greenville Regional	EMV	GR	100.0%	63.9%	14.6%	60.0%	No	Taxiway, Apron, Taxilane

**Table 3 - 33 (Continued): Existing and Recommended Pavement Maintenance
Percent of Airport Pavements with PCIs of Over 70**

Airport	Code	VATSP Service Role	Runway Pavement	Taxiway Pavements	Apron Pavements	Taxilane Pavements	Meets All Objectives	Pavement needing immediate improvement
Farmville Municipal	FVX	GR	100.0%	88.3%	75.0%	N/A	No	Taxiway, Apron
Ingalls Field	HSP	GR	100.0%	100.0%	100.0%	N/A	Yes	
Lonesome Pine	LNP	GR	90.0%	39.4%	72.1%	N/A	No	Runway, Taxiway, Apron
Mecklenburg-Brunswick Regional	AVC	GR	100.0%	100.0%	85.0%	50.0%	No	Apron, Taxilane
Middle Peninsula Regional	FYJ	GR	100.0%	17.9%	100.0%	N/A	No	Taxiway
Mountain Empire	MKJ	GR	90.0%	100.0%	98.4%	N/A	No	Runway, Apron
New River Valley	PSK	GR	95.0%	90.9%	100.0%	N/A	No	Runway, Taxiway
Suffolk Executive	SFQ	GR	51.3%	57.1%	27.7%	71.0%	No	Runway, Taxiway, Apron, Taxilane
Tappahannock-Essex County	XSA	GR	N/A	N/A	N/A	N/A	Unknown	
Tazewell County	JFZ	GR	100.0%	100.0%	92.8%	100.0%	No	Apron
Virginia Highlands	VJI	GR	100.0%	97.8%	96.0%	N/A	No	Taxiway, Apron
William M. Tuck	W78	GR	100.0%	100.0%	100.0%	85.0%	No	Taxilane
Winchester Regional	OKV	GR	100.0%	100.0%	29.9%	N/A	No	Apron
GA Community								
Blackstone AAF	BKT	GC	100.0%	65.0%	50.0%	0.0%	No	Taxiway, Apron, Taxilane
Brookneal-Campbell County	OV4	GC	85.0%	90.0%	90.0%	90.0%	No	Runway, Taxiway, Apron, Taxilane
Franklin Municipal	FKN	GC	100.0%	51.5%	78.5%	N/A	No	Taxiway, Apron
Front Royal-Warren County	FRR	GC	100.0%	70.0%	70.0%	70.0%	No	Taxiway, Apron, Taxilane
Lake Country Regional	W63	GC	0.0%	N/A	0.0%	0.0%	No	Runway, Taxiway, Apron, Taxilane
Lee County	OVG	GC	100.0%	100.0%	100.0%	N/A	Yes	
Louisa County	LKU	GC	100.0%	100.0%	100.0%	N/A	Yes	
Luray Caverns	LUA	GC	0.0%	71.9%	85.5%	N/A	No	Runway, Taxiway, Apron
New Kent County	W96	GC	100.0%	73.2%	0.0%	54.0%	No	Taxiway, Apron, Taxilane
Orange County	OMH	GC	100.0%	100.0%	92.5%	N/A	No	Apron
Shannon	EZF	GC	85.0%	0.0%	100.0%	N/A	No	Runway, Taxiway
Tangier Island	TGI	GC	100.0%	100.0%	100.0%	100.0%	Yes	

**Table 3 - 33 (Continued): Existing and Recommended Pavement Maintenance
Percent of Airport Pavements with PCIs of Over 70**

Airport	Code	VATSP Service Role	Runway Pavement	Taxiway Pavements	Apron Pavements	Taxilane Pavements	Meets All Objectives	Pavement needing immediate improvement
Twin County	HLX	GC	100.0%	100.0%	100.0%	N/A	Yes	
Virginia Tech-Montgomery Executive	BCB	GC	100.0%	20.0%	100.0%	N/A	No	Taxiway
Wakefield Municipal	AKQ	GC	100.0%	20.0%	0.0%	80.0%	No	Taxiway, Apron, Taxilane
Williamsburg-Jamestown	JGG	GC	100.0%	36.5%	50.0%	N/A	No	Taxiway, Apron
Local Service								
Bridgewater Air Park	VBW	LO	100.0%	57.9%	32.7%	N/A	No	Taxiway, Apron
Chase City Municipal	CXE	LO	0.0%	0.0%	0.0%	N/A	No	Runway, Taxiway, Apron
Crewe Municipal	W81	LO	100.0%	100.0%	17.3%	N/A	No	Apron
Falwell	W24	LO	100.0%	100.0%	100.0%	N/A	Yes	
Gordonsville Municipal	GVE	LO	0.0%	0.0%	0.0%	N/A	No	Runway, Taxiway, Apron
Grundy Municipal	GDY	LO	100.0%	100.0%	39.9%	N/A	No	Apron
Hummel Field	W75	LO	100.0%	40.0%	100.0%	N/A	No	Taxiway
Lake Anna	7W4	LO	100.0%	N/A	100.0%	N/A	Yes	
Lawrenceville-Brunswick Municipal	LVL	LO	95.0%	95.0%	20.0%	N/A	No	Runway, Taxiway, Apron
Lunenburg County	W31	LO	0.0%	0.0%	0.0%	N/A	No	Runway, Taxiway, Apron
New London	W90	LO	70.0%	1.4%	70.0%	N/A	No	Runway, Taxiway, Apron
New Market	8W2	LO	0.0%	0.0%	0.0%	N/A	No	Runway, Taxiway, Apron
Smith Mountain Lake	W91	LO	0.0%	100.0%	0.0%	N/A	No	Runway, Apron
Waynesboro-Eagle's Nest	W13	LO	90.0%	88.6%	100.0%	N/A	No	Runway, Taxiway

Sources: Commonwealth of Virginia 2008 Aviation Pavement Management Program; DOAV ACIPs; Campbell and Paris.

Notes: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

N/A= not available

PCIs not available for Tappahannock-Essex County, Blackstone AAF, Brookneal- Campbell County

Table 3 - 34: Existing RSA and RPZ Objectives

Airport	Code	VATSP Service Role	Runway Safety Area (RSA)			Runway Protection Zone (RPZ)		
			Meets FAA ADG Stds	DOAV Licensing Length and Width Dimensions	Meets RSA Obj	Clear RPZ	RPZ Ownership (estimated acreage not owned fee simple)	Meets RPZ Obj
Commercial Service								
Charlottesville-Albemarle	CHO	CM	Yes	Yes	Yes	Yes	39.5	No
Lynchburg Regional	LYH	CM	Yes	Yes	Yes	Yes	1.1	No
Newport News-Williamsburg International	PHF	CM	No	No	No	Yes	RW 7: 29%, RW 25: 0	No
Norfolk International	ORF	CM	Yes	Yes	Yes	Yes	34.2	No
Richmond International	RIC	CM	Yes	Yes	Yes	Yes	negligible	Yes
Roanoke-Blacksburg Regional	ROA	CM	No	No	No	No	8.4	No
Ronald Reagan Washington National	DCA	CM	No	No	No	Yes	59.0	No
Shenandoah Valley Regional	SHD	CM	Yes	Yes	Yes	Yes	26.8	No
Washington Dulles International	IAD	CM	Yes	Yes	Yes	Yes	0.0	Yes
Reliever								
Chesapeake Regional	CPK	RL	Yes	Yes	Yes	Yes	18.3	No
Hampton Roads Executive	PVG	RL	Yes	Yes	Yes	Yes	4.6	No
Hanover County Municipal	OFP	RL	Yes	Yes	Yes	Yes	0.6	No
Leesburg Executive	JYO	RL	No	Yes	No	Yes	18.0	No
Manassas Regional	HEF	RL	No	Yes	No	No	22.3	No
Richmond Executive-Chesterfield County	FCI	RL	Yes	Yes	Yes	Yes	23.5	No
Stafford Regional	RMN	RL	Yes	Yes	Yes	Yes	33.0	No
Warrenton-Fauquier	HWY	RL	Yes	Yes	Yes	Yes	0.5	No
GA Regional								
Accomack County	MFV	GR	Yes	Yes	Yes	Yes	27.4	No
Blue Ridge Regional	MTV	GR	Yes	Yes	Yes	Yes	10.4	No

Table 3 - 34 (Continued): Existing RSA and RPZ Objectives

Airport	Code	VATSP Service Role	Runway Safety Area (RSA)			Runway Protection Zone (RPZ)		
			Meets FAA ADG Stds	DOAV Licensing Length and Width Dimensions	Meets RSA Obj	Clear RPZ	RPZ Ownership (estimated acreage not owned fee simple)	Meets RPZ Obj
Culpeper Regional	CJR	GR	Yes	Yes	Yes	Yes	6.0	No
Danville Regional	DAN	GR	Yes	Yes	Yes	Yes	47.4	No
Dinwiddie County	PTB	GR	Yes	Yes	Yes	Yes	30.9	No
Emporia-Greenville Regional	EMV	GR	Yes	Yes	Yes	Yes	6.9	No
Farmville Municipal	FVX	GR	Yes	Yes	Yes	Yes	4.9	No
Ingalls Field	HSP	GR	No	No	No	Yes	0.0	Yes
Lonesome Pine	LNP	GR	No	No	No	Yes	unknown	No
Mecklenburg-Brunswick Regional	AVC	GR	Yes	Yes	Yes	Yes	1.8	No
Middle Peninsula Regional	FYJ	GR	Yes	Yes	Yes	Yes	7.5	No
Mountain Empire	MKJ	GR	Yes	Yes	Yes	Yes	11.5	No
New River Valley	PSK	GR	Yes	Yes	Yes	Yes	0.0	Yes
Suffolk Executive	SFQ	GR	Yes	Yes	Yes	Yes	0.0	Yes
Tappahannock-Essex County	XSA	GR	Yes	Yes	Yes	Yes	0.3	No
Tazewell County	JFZ	GR	Yes	Yes	Yes	Yes	0.0	Yes
Virginia Highlands	VJI	GR	Yes	Yes	Yes	Yes	0.0	Yes
William M. Tuck	W78	GR	Yes	Yes	Yes	Yes	9.6	No
Winchester Regional	OKV	GR	Yes	Yes	Yes	Yes	2.9	No
GA Community								
Blackstone AAF	BKT	GC	Yes	Yes	Yes	Yes	2.3	No
Brookneal-Campbell County	0V4	GC	Yes	Yes	Yes	Yes	unknown	No
Franklin Municipal	FKN	GC	Yes	Yes	Yes	Yes	9.1	No
Front Royal-Warren County	FRR	GC	Yes	Yes	Yes	Yes	0.1	No
Lake Country Regional	W63	GC	No	No	No	No	23.4	No

Table 3 - 34 (Continued): Existing RSA and RPZ Objectives

Airport	Code	VATSP Service Role	Runway Safety Area (RSA)			Runway Protection Zone (RPZ)		
			Meets FAA ADG Stds	DOAV Licensing Length and Width Dimensions	Meets RSA Obj	Clear RPZ	RPZ Ownership (estimated acreage not owned fee simple)	Meets RPZ Obj
Lee County	OVG	GC	Yes	Yes	Yes	Yes	0.0	Yes
Louisa County	LKU	GC	Yes	Yes	Yes	Yes	0.2	No
Luray Caverns	LUA	GC	Yes	Yes	Yes	Yes	0.3	No
New Kent County	W96	GC	Yes	Yes	Yes	Yes	10.8	No
Orange County	OMH	GC	Yes	Yes	Yes	Yes	11.1	No
Shannon	EZF	GC	No	Yes	No	No	11.4	No
Tangier Island	TGI	GC	Yes	Yes	Yes	Yes	0.0	Yes
Twin County	HLX	GC	Yes	Yes	Yes	Yes	10.0	No
Virginia Tech-Montgomery Executive	BCB	GC	Yes	Yes	Yes	No	4.4	No
Wakefield Municipal	AKQ	GC	No	No	No	Yes	15.6	No
Williamsburg-Jamestown	JGG	GC	Yes	Yes	Yes	Yes	7.0	No
Local Service								
Bridgewater Air Park	VBW	LO	Yes	Yes	Yes	Yes	N/A	No
Chase City Municipal	CXE	LO	Yes	Yes	Yes	No	7.5	No
Crewe Municipal	W81	LO	Yes	Yes	Yes	Yes	5.1	No
Falwell	W24	LO	No	No	No	No	0.0	No
Gordonsville Municipal	GVE	LO	No	No	No	Yes	3.8	No
Grundy Municipal	GDY	LO	Yes	Yes	Yes	Yes	0.0	Yes
Hummel Field	W75	LO	Yes	Yes	Yes	No	7.0	No
Lake Anna	7W4	LO	No	Yes	No	No	12.0	No
Lawrenceville-Brunswick Municipal	LVL	LO	Yes	Yes	Yes	Yes	14.7	No
Lunenburg County	W31	LO	Yes	Yes	Yes	Yes	2.0	No
New London	W90	LO	No	No	No	Yes	0.0	Yes

Table 3 - 34 (Continued): Existing RSA and RPZ Objectives

Airport	Code	VATSP Service Role	Runway Safety Area (RSA)			Runway Protection Zone (RPZ)		
			Meets FAA ADG Stds	DOAV Licensing Length and Width Dimensions	Meets RSA Obj	Clear RPZ	RPZ Ownership (estimated acreage not owned fee simple)	Meets RPZ Obj
New Market	8W2	LO	No	Yes	No	Unknown	12.8	No
Smith Mountain Lake	W91	LO	No	No	No	No	Unknown	No
Waynesboro-Eagle's Nest	W13	LO	Yes	Yes	Yes	Yes	4.7	No

Sources: Airport Sponsor Survey and DOAV Inventory; DOAV

Notes: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

Table 3 - 35: Existing Approach Surface, ROFA, and Displaced Threshold Objectives

Airport	Code	VATSP Service Role	Approach Surfaces			ROFA			Displaced Threshold Present
			Clear Part 77 Approach	DOAV Licensing 15:1 clear approaches	Meets Approach Obj	Meets FAA ADG Stds	DOAV Licensing Length and Width Dimensions	Meets ROFA Obj	
Commercial Service									
Charlottesville-Albemarle	CHO	CM	Yes	Yes	Yes	Yes	Yes	Yes	No
Lynchburg Regional	LYH	CM	Yes	Yes	Yes	Yes	Yes	Yes	No
Newport News-Williamsburg International	PHF	CM	No	Yes	No	No	No	No	No
Norfolk International	ORF	CM	No	Yes	No	No	Yes	No	Yes
Richmond International	RIC	CM	No	Yes	No	Yes	Yes	Yes	No
Roanoke-Blacksburg Regional	ROA	CM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ronald Reagan Washington National	DCA	CM	0	Yes	Yes	Yes	Yes	Yes	No
Shenandoah Valley Regional	SHD	CM	Yes	Yes	Yes	Yes	Yes	Yes	No
Washington Dulles International	IAD	CM	No	Yes	No	Yes	Yes	Yes	No
Reliever									
Chesapeake Regional	CPK	RL	Yes	Yes	Yes	Yes	Yes	Yes	No
Hampton Roads Executive	PVG	RL	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hanover County Municipal	OFP	RL	No	Yes	No	Yes	Yes	Yes	No
Leesburg Executive	JYO	RL	No	Yes	No	No	Yes	No	No
Manassas Regional	HEF	RL	Yes	Yes	Yes	Yes	Yes	Yes	No
Richmond Executive-Chesterfield County	FCI	RL	Yes	Yes	Yes	Yes	Yes	Yes	No
Stafford Regional	RMN	RL	No	Yes	No	Yes	Yes	Yes	No
Warrenton-Fauquier	HWY	RL	No	Yes	No	Yes	Yes	Yes	No
GA Regional									
Accomack County	MFV	GR	No	Yes	No	Yes	Yes	Yes	No
Blue Ridge Regional	MTV	GR	No	Yes	No	Yes	Yes	Yes	No

Table 3 - 35 (Continued): Existing Approach Surface, ROFA, and Displaced Threshold Objectives

Airport	Code	VATSP Service Role	Approach Surfaces			ROFA			Displaced Threshold Present
			Clear Part 77 Approach	DOAV Licensing 15:1 clear approaches	Meets Approach Obj	Meets FAA ADG Stds	DOAV Licensing Length and Width Dimensions	Meets ROFA Obj	
Culpeper Regional	CJR	GR	Yes	Yes	Yes	Yes	Yes	Yes	No
Danville Regional	DAN	GR	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dinwiddie County	PTB	GR	Yes	Yes	Yes	Yes	Yes	Yes	No
Emporia-Greensville Regional	EMV	GR	No	Yes	No	No	Yes	No	No
Farmville Municipal	FVX	GR	Yes	Yes	Yes	Yes	Yes	Yes	No
Ingalls Field	HSP	GR	No	Yes	No	Yes	Yes	Yes	No
Lonesome Pine	LNP	GR	No	Yes	No	No	Yes	No	No
Mecklenburg-Brunswick Regional	AVC	GR	No	Yes	No	Yes	Yes	Yes	No
Middle Peninsula Regional	FYJ	GR	Yes	Yes	Yes	Yes	Yes	Yes	No
Mountain Empire	MKJ	GR	No	Yes	No	No	Yes	No	No
New River Valley	PSK	GR	No	Yes	No	Yes	Yes	Yes	No
Suffolk Executive	SFQ	GR	Yes	Yes	Yes	Yes	Yes	Yes	No
Tappahannock-Essex County	XSA	GR	No	Yes	No	Yes	Yes	Yes	No
Tazewell County	JFZ	GR	Yes	Yes	Yes	Yes	Yes	Yes	No
Virginia Highlands	VJI	GR	Yes	Yes	Yes	Yes	Yes	Yes	No
William M. Tuck	W78	GR	Yes	Yes	Yes	Yes	Yes	Yes	No
Winchester Regional	OKV	GR	Yes	Yes	Yes	No	Yes	No	No
GA Community									
Blackstone AAF	BKT	GC	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Brookneal-Campbell County	0V4	GC	No	Yes	No	Yes	Yes	Yes	No
Franklin Municipal	FKN	GC	No	Yes	No	Yes	Yes	Yes	No
Front Royal-Warren County	FRR	GC	No	Yes	No	Yes	Yes	Yes	No
Lake Country Regional	W63	GC	Yes	Yes	Yes	No	No	No	Yes

Table 3 - 35 (Continued): Existing Approach Surface, ROFA, and Displaced Threshold Objectives

Airport	Code	VATSP Service Role	Approach Surfaces			ROFA			Displaced Threshold Present
			Clear Part 77 Approach	DOAV Licensing 15:1 clear approaches	Meets Approach Obj	Meets FAA ADG Stds	DOAV Licensing Length and Width Dimensions	Meets ROFA Obj	
Lee County	OVG	GC	Yes	Yes	Yes	Yes	Yes	Yes	No
Louisa County	LKU	GC	Yes	Yes	Yes	Yes	Yes	Yes	No
Luray Caverns	LUA	GC	No	Yes	No	Yes	Yes	Yes	No
New Kent County	W96	GC	No	No	No	Yes	Yes	Yes	No
Orange County	OMH	GC	Yes	Yes	Yes	Yes	Yes	Yes	No
Shannon	EZF	GC	No	Yes	No	No	No	No	Yes
Tangier Island	TGI	GC	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Twin County	HLX	GC	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Virginia Tech-Montgomery Executive	BCB	GC	Yes	Yes	Yes	Yes	Yes	Yes	No
Wakefield Municipal	AKQ	GC	No	Yes	No	No	Yes	No	Yes
Williamsburg-Jamestown	JGG	GC	Yes	Yes	Yes	Yes	Yes	Yes	No
Local Service									
Bridgewater Air Park	VBW	LO	No	Yes	No	Yes	Yes	Yes	Yes
Chase City Municipal	CXE	LO	Yes	No	No	Yes	No	No	No
Crewe Municipal	W81	LO	Unknown	No	No	No	No	No	Yes
Falwell	W24	LO	Yes	Yes	Yes	Yes	No	No	No
Gordonsville Municipal	GVE	LO	Yes	Yes	Yes	Yes	No	No	Yes
Grundy Municipal	GDY	LO	Yes	Yes	Yes	Yes	Yes	Yes	No
Hummel Field	W75	LO	Unknown	Yes	No	Yes	Yes	Yes	Yes
Lake Anna	7W4	LO	No	No	No	No	Yes	No	No
Lawrenceville-Brunswick Municipal	LVL	LO	No	Yes	No	Yes	Yes	Yes	Yes
Lunenburg County	W31	LO	No	Yes	No	Yes	Yes	Yes	No
New London	W90	LO	Yes	Yes	Yes	No	No	No	Yes

Table 3 - 35 (Continued): Existing Approach Surface, ROFA, and Displaced Threshold Objectives

Airport	Code	VATSP Service Role	Approach Surfaces			ROFA			Displaced Threshold Present
			Clear Part 77 Approach	DOAV Licensing 15:1 clear approaches	Meets Approach Obj	Meets FAA ADG Stds	DOAV Licensing Length and Width Dimensions	Meets ROFA Obj	
New Market	8W2	LO	Yes	Yes	Yes	No	No	No	Yes
Smith Mountain Lake	W91	LO	No	Yes	No	No	Yes	No	Yes
Waynesboro-Eagle's Nest	W13	LO	Yes	Yes	Yes	No	Yes	No	No

Sources: Airport Sponsor Survey and DOAV Inventory; DOAV

Note: Projects identified to improve system performance have not been analyzed to determine whether or not they can be implemented. All projects must be identified and justified during the ALP or master planning process. A project listed in the table above does not guarantee any federal or state funding for a project.

Table 3 - 36: Existing and Recommended Planning Documents

Airport	Code	VATSP Service Role	Most Recent Planning Document	Year	Plan >10 years old	Plan in last 5-10 years	Plan in last 5 years	Meets Obj
Commercial Service: Master Plan or ALP Report updated every 5 years								
Charlottesville-Albemarle	CHO	CM	Master Plan	2005		X		No
Lynchburg Regional	LYH	CM	Master Plan	2010			X	Yes
Newport News-Williamsburg International	PHF	CM	Master Plan	1997	X			No
Norfolk International	ORF	CM	ALP	2011			X	Yes
Richmond International	RIC	CM	ALP	2011			X	Yes
Roanoke-Blacksburg Regional	ROA	CM	ALP	2010			X	Yes
Ronald Reagan Washington	DCA	CM	ALP	2007		X		No
Shenandoah Valley Regional	SHD	CM	ALP	2006	X			No
Washington Dulles International	IAD	CM	ALP	2009			X	Yes
Reliever: Master Plan or ALP Report updated every 5 years								
Chesapeake Regional	CPK	RL	Master Plan	2008			X	Yes
Hampton Roads Executive	PVG	RL	ALP	2006		X		No
Hanover County Municipal	OFP	RL	Master Plan	2000	X			No
Leesburg Executive	JYO	RL	ALP	2007		X		No
Manassas Regional	HEF	RL	ALP	2002	X			No
Richmond Executive-Chesterfield County	FCI	RL	Master Plan	2011			X	Yes
Stafford Regional	RMN	RL	ALP	2009			X	Yes
Warrenton-Fauquier	HWY	RL	Master Plan	2011			X	Yes
GA Regional: Master Plan or ALP Report updated every 10 years								
Accomack County	MFV	GR	ALP	2004		X		Yes
Blue Ridge Regional	MTV	GR	ALP	2005		X		Yes
Culpeper Regional	CJR	GR	Master Plan	2011			X	Yes
Danville Regional	DAN	GR	Master Plan	2009			X	Yes
Dinwiddie County	PTB	GR	ALP	2010			X	Yes

Table 3 - 36 (Continued): Existing and Recommended Planning Documents

Airport	Code	VATSP Service Role	Most Recent Planning Document	Year	Plan >10 years old	Plan in last 5-10 years	Plan in last 5 years	Meets Obj
Emporia-Greenville Regional	EMV	GR	ALP	2007		X		Yes
Farmville Municipal	FVX	GR	ALP	2005		X		Yes
Ingalls Field	HSP	GR	ALP	1993	X			No
Lonesome Pine	LNP	GR	ALP	2008			X	Yes
Mecklenburg-Brunswick Regional	AVC	GR	ALP	1993	X			No
Middle Peninsula Regional	FYJ	GR	ALP	2006		X		Yes
Mountain Empire	MKJ	GR	ALP	2008			X	Yes
New River Valley	PSK	GR	ALP	2008			X	Yes
Suffolk Executive	SFQ	GR	ALP	2006		X		Yes
Tappahannock-Essex County	XSA	GR	Master Plan	1998	X			No
Tazewell County	JFZ	GR	ALP	2009			X	Yes
Virginia Highlands	VJI	GR	ALP	2004		X		Yes
William M. Tuck	W78	GR	ALP	2005		X		Yes
Winchester Regional	OKV	GR	ALP	2005		X		Yes
GA Community: Master Plan, ALP Report or Revised ALP Plan Sheets updated every 10 years								
Blackstone AAF	BKT	GC	Master Plan	2001	X			No
Brookneal-Campbell County	0V4	GC	Revised ALP Sheets	2012			X	Yes
Franklin Municipal	FKN	GC	ALP	2002	X			No
Front Royal-Warren County	FRR	GC	ALP	2009			X	Yes
Lake Country Regional	W63	GC	ALP	2011			X	Yes
Lee County	0VG	GC	Revised ALP Sheets	2007		X		Yes
Louisa County	LKU	GC	Revised ALP Sheets	2008			X	Yes
Luray Caverns	LUA	GC	ALP	2007		X		Yes
New Kent County	W96	GC	ALP	2009			X	Yes
Orange County	OMH	GC	Revised ALP Sheets	2006			X	Yes
Shannon	EZF	GC	ALP	2002	X			No

Table 3 - 36 (Continued): Existing and Recommended Planning Documents

Airport	Code	VATSP Service Role	Most Recent Planning Document	Year	Plan >10 years old	Plan in last 5-10 years	Plan in last 5 years	Meets Obj
Tangier Island	TGI	GC	Revised ALP Sheets	2010			X	Yes
Twin County	HLX	GC	ALP	2007		X		Yes
Virginia Tech-Montgomery Exec	BCB	GC	Master Plan	2008			X	Yes
Wakefield Municipal	AKQ	GC	ALP Plan Set Only	2005		X		Yes
Williamsburg-Jamestown	JGG	GC	ALP	2006		X		Yes
Local Service: ALP Drawing on File, updated as needed								
Bridgewater Air Park	VBW	LO	Master Plan	2000	X			Yes
Chase City Municipal	CXE	LO	Master Plan	1974	X			Yes
Crewe Municipal	W81	LO	ALP Plan Set Only	1992	X			Yes
Falwell	W24	LO	ALP Plan Set Only	1998	X			Yes
Gordonsville Municipal	GVE	LO	ALP Plan Set Only	2009			X	Yes
Grundy Municipal	GDY	LO	ALP Plan Set Only	2009			X	Yes
Hummel Field	W75	LO	ALP	2005		X		Yes
Lake Anna	7W4	LO	Revise ALP Sheets	2012			X	Yes
Lawrenceville-Brunswick Municipal	LVL	LO	ALP	2000	X			Yes
Lunenburg County	W31	LO	Revised ALP Sheet	2012			X	Yes
New London	W90	LO	None	None				No
New Market	8W2	LO	Master Plan	2001	X			Yes
Smith Mountain Lake	W91	LO	ALP Plan Set Only	1985	X			Yes
Waynesboro-Eagle's Nest	W13	LO	Revised ALP Sheet	2001	X			Yes

Sources: DOAV, individual airport ALPs and Master Plans

