



VIRGINIA AIR TRANSPORTATION SYSTEM PLAN



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EXECUTIVE SUMMARY



VIRGINIA AIR TRANSPORTATION SYSTEM PLAN



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VATSP IMPLEMENTATION

The VATSP Update recommends changes to the way Virginia classifies its airports, both in terms of the airport role definitions and how those roles are assigned to the system airports.

DOAV and the VAB will need to evaluate airport funding formulas to reflect their priorities for development of the aviation system. Through continued prudent planning and implementation, as evidenced with the success of the system to date, DOAV will continue to meet the needs of the Virginia aviation system and the residents of the Commonwealth, in the near term and into the future.

The VATSP has shown that the Virginia aviation system faces future challenges in meeting all its needs. The guidance of the VATSP will assist DOAV and individual airports in meeting these challenges by identifying expected financial shortfalls and helping DOAV to better align their available resources to their priorities. With limited funding sources for improvements to Virginia's system airports, the state needs to plan for ways to either increase its funding sources, prioritize its needs, or both. This is critical if Virginia's aviation system is to continue as a national leader in aviation and function as a key component of the state's economy, contributing more than **\$23 billion** annually in economic output while relying on only **\$23 million** in annual state funding.



VIRGINIA'S AIRPORT SYSTEM

Virginia is home to 66 public use airports that provide great value to the people and businesses of Virginia. These airports link Virginians to an aviation network that provides the safest and fastest transportation on the planet. They also allow for the movement of goods from around the world. On top of these benefits, these airports facilitate development, fueling economic activity throughout the state.

According to the 2018 Virginia Airport System Economic Impact Study, these airports are responsible for more than 146,000 jobs in Virginia. Those jobs earn nearly \$8 billion in wages and support \$23 billion in economic output in the Commonwealth. Keeping these assets operating efficiently is very beneficial to the inhabitants of Virginia. The Virginia Department of Aviation (DOAV), in collaboration with local airport sponsors, the Virginia Aviation Board (VAB), the Federal Aviation Administration (FAA), and other state and federal agencies, works diligently to support, oversee, and maintain their aviation system. DOAV periodically updates the statewide airport system plan to aid in the development of the aviation system. This Virginia Air Transportation System Plan (VATSP) Update is the result of the latest system planning effort.

WHAT IS A SYSTEM PLAN?

A statewide airport system plan takes a wide-ranging look at the airport assets that the state assists or oversees, with most airports owned or operated by local municipalities or airport authorities.

Typically, the aviation system consists of all the public use airports in the state, which are usually a subset of all the airports in the state. Military airfields and privately owned, private use airports are usually not included in the airport system plan. What varies from one airport system plan to another is how privately owned, public use airports are treated. Virginia's aviation system includes 10 privately owned airports among its 66 system airports.

DOAV MISSION

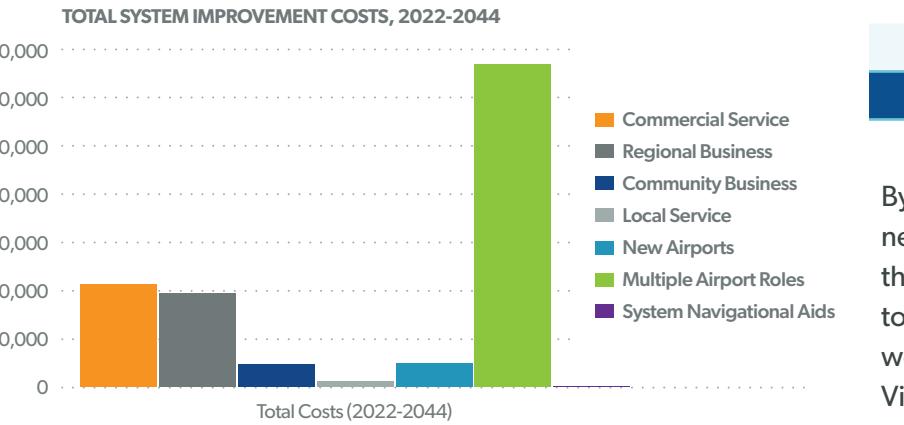
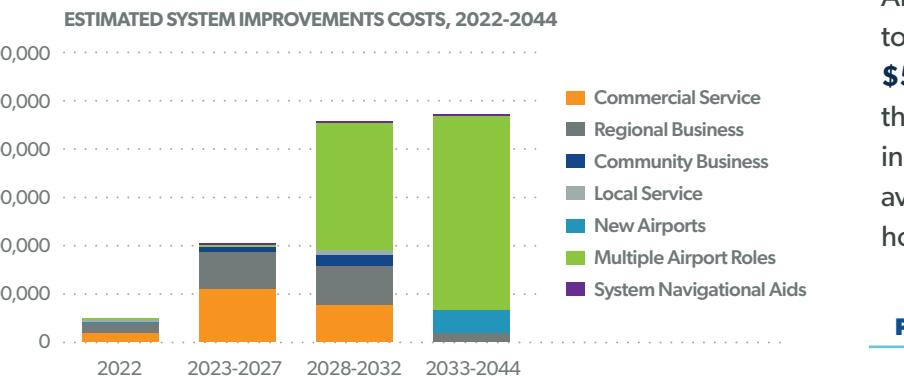
The Department of Aviation develops, promotes, and advances aviation in Virginia for the benefit of all. We partner with airports and others in Virginia to improve airport facilities, provide safe air transportation, cultivate new technologies, inspire the next generation, and foster economic development in the Commonwealth.

Most state aviation agencies have one or two primary responsibilities when it comes to their airport system. One is to inspect and license their airports to ensure safety measures are in place. The other is to decide where to invest state airport funding – both in terms of which airports and what type of projects. DOAV holds both of these responsibilities.

A system plan assists the state aviation agency with long-term planning by sharing data and trends to guide decisions on where best to invest in airport infrastructure. The plan development consists of analyzing the existing aviation system and the individual airports and helping to identify where airport improvements will make the system and individual components more effective. These improvements focus on enhancing the performance of the system – any airport improvements still need justification at the master plan level in order to be eligible for FAA funding. The state aviation agency weighs input from those studies as well as other sources when making decisions.

DOAV VISION

The Department of Aviation will support Virginia in being an economic development leader and a world gateway by embracing new aviation technologies, improving and growing Virginia's aviation system, and supporting airports in the Commonwealth.



An analysis of available funding sources (federal and state) was completed to assess where and how much funding may be available to address the **\$5.6 billion** in federal and state funding eligible development costs over the 20-year planning period. This analysis, which excludes \$300 million in locally funded costs, determined that a substantial amount of money is available from the two sources of funding estimated above **\$2.6 billion**; however, the resulting shortfall totals approximately **\$2.9 billion**.

Planning Period	Project Demand	Funding Available	Funding Shortfall
2022	\$249,593,000	\$22,610,000	\$2,598,000
2023-2027	\$981,090,000	\$766,431,000	\$214,659,000
2028-2032	\$1,297,594,000	\$473,452,000	\$824,142,000
2023-2044	\$3,035,207,000	\$1,160,180,000	\$1,875,097,000
Total	\$5,563,484,000	\$2,623,602,000	\$2,939,882,000

By assuming that unmet needs from an earlier period are rolled over to the next period, the accumulated funding gap grows rapidly. By the end of the 2044 planning period, the total unfunded airport needs are expected to exceed **\$2.9 billion**. FAA, DOAV and individual airports will need to work collaboratively to address this funding gap in order to ensure that the Virginia aviation system can continue to provide excellent air transportation services.





PHOTOGRAPHER:
DOAV
LOCATION:
CHARLOTTESVILLE-ALBEMARLE AIRPORT (CHO)

PROJECTED AVIATION SYSTEM COSTS & FUNDING

Estimated costs over the next 20 years to provide the recommended improvements to the Virginia aviation system total more than \$5.9 billion. These costs are expected to be spread across the planning period and occur across all airport roles.

These improvements consist of recommended projects that:

- Enhance the facilities, equipment, and services at system airports.
- Expand access to the aviation system through new airports and improvements at existing airports.
- Maintain airport pavements.
- Anticipate future technology such as electric charging for aircraft, unleaded avgas, sustainable aviation fuels, and air traffic management technology.

Airport Role	2022 Costs	2023-2027 Costs	2028-2032 Costs	2033-2044 Costs	Total Costs
Commercial Service	\$102,187,000	\$561,374,000	\$395,275,000	\$10,249,000	\$1,069,085,000
Regional Business	\$108,540,000	\$385,947,000	\$398,289,000	\$89,987,000	\$982,763,000
Community Business	\$30,135,000	\$59,464,000	\$134,174,000	\$2,870,000	\$226,643,000
Local Service	\$16,406,000	\$8,487,000	\$40,744,000	\$-	\$65,637,000
New Airports	\$-	\$-	\$-	\$247,721,000	\$247,721,000
Multiple Airport Roles	\$5,312,000	\$15,730,000	\$1,287,659,000	\$2,001,470,000	\$3,310,171,000
System Navigational Aids	\$-	\$7,459,000	\$4,644,000	\$2,481,000	\$14,584,000
Total	\$262,580,000	\$1,038,461,000	\$2,260,785,000	\$2,354,778,000	\$5,916,604,000

Virginia's aviation system needs more than \$5.9 billion to improve and maintain its safe, efficient, and growing operations.

AIRPORT SYSTEM PLANNING GOALS & OBJECTIVES

The VATSP develops a modern blueprint for airport development in the Commonwealth for the next 20 years. To accomplish this, DOAV developed a set of goals, objectives, performance measures, and targets that guided certain elements of the system plan. DOAV's mission forms the foundation for these VATSP goals:

GOAL 1: Assist DOAV in developing and maintaining a safe airport aviation system.

GOAL 2: Provide DOAV with a blueprint for airport development based on the airport's role.

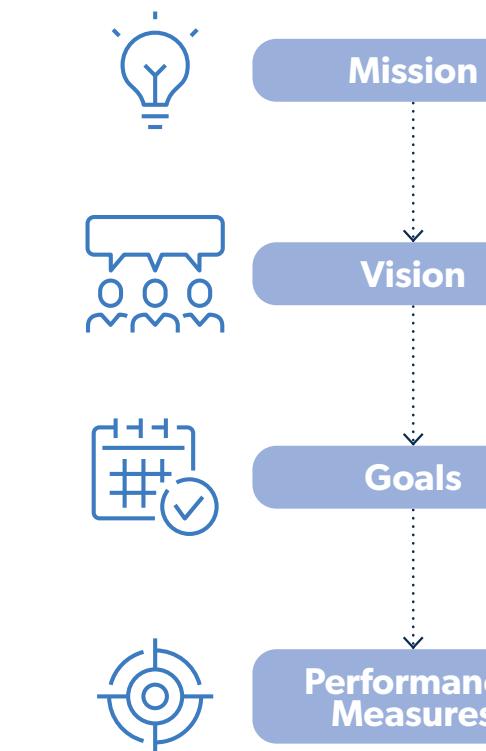
GOAL 3: Assist DOAV in developing an accessible airport aviation system.

GOAL 4: Assist DOAV in leveraging the economic development from system airports.

GOAL 5: Assist DOAV in its continued use of technology to support the aviation system.

GOAL 6: Promote environmental stewardship and sustainability in the aviation system.

The objectives, performance measures, and targets established for these goals serve to either evaluate the progress toward the particular goal or provide DOAV with information about the airport system.



VATSP STUDY OVERVIEW

The VATSP is DOAV's guiding document of its public use airport system. The document seeks to augment and facilitate connections between the high-level assessment of airports in the FAA National Plan of Integrated Airport Systems (NPIAS) and the detailed plans spelled out in individual airport master plans.

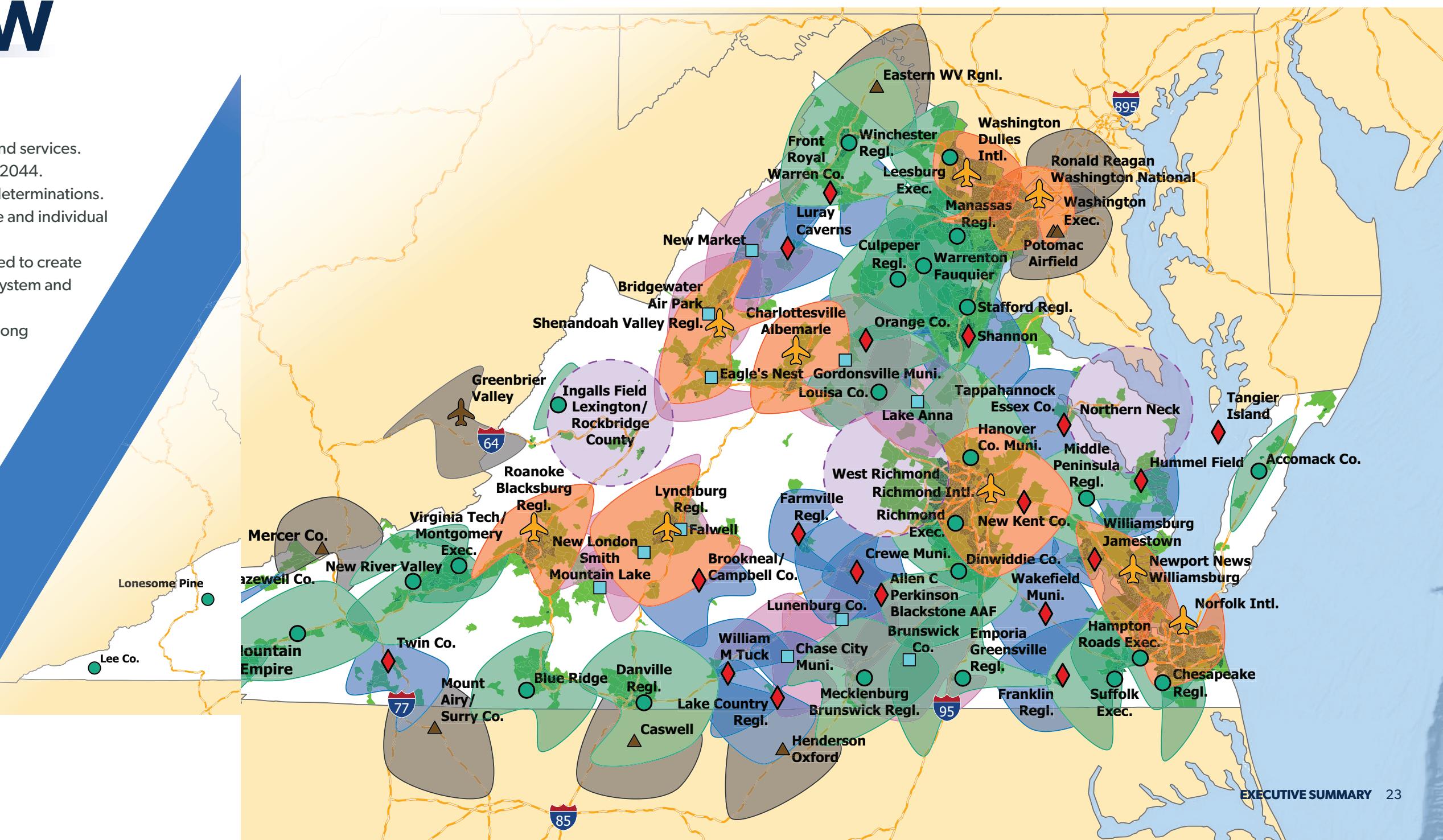
DOAV routinely updates the VATSP to remain current and responsive to emerging aviation developments. This VATSP update builds upon the previous update in 2016, continuing some of the long-term analyses while also introducing new evaluations in response to the changing needs and technologies of Virginia aviation.



The VATSP assessed:

- Virginia's 66 system airports, their facilities, and services.
- Anticipated aviation activity in Virginia out to 2044.
- A revamped set of defined airport roles and determinations.
- Facility needs based on systemwide coverage and individual airport functions.
- Recommended airport improvements intended to create a more efficient airport network, both at the system and individual airport level.
- Costs of the recommended improvements, along with expected long-term maintenance and improvements at individual airports.
- The means and timing of implementing the recommended airport improvements.

RECOMMENDED AVIATION SYSTEM (2030)



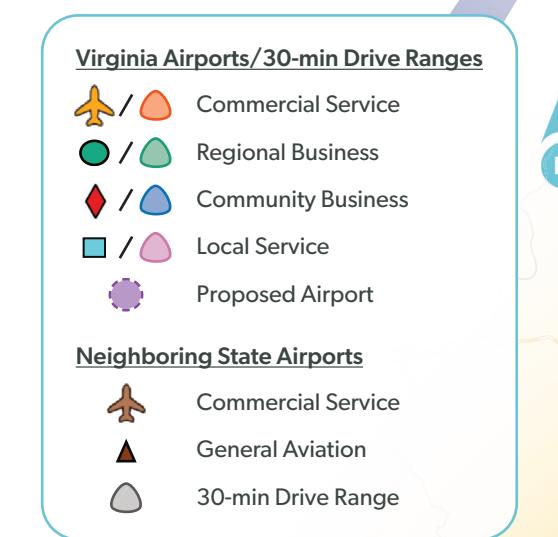
AVIATION SYSTEM RECOMMENDATIONS

Through prudent planning, including frequent system planning efforts, DOAV has tracked the growth of the aviation system and concentrated development in areas deemed important to the state. DOAV has focused its efforts on ways the aviation system can support economic development, such as better serving business-class aircraft, operators, and supporting air ambulance operations.

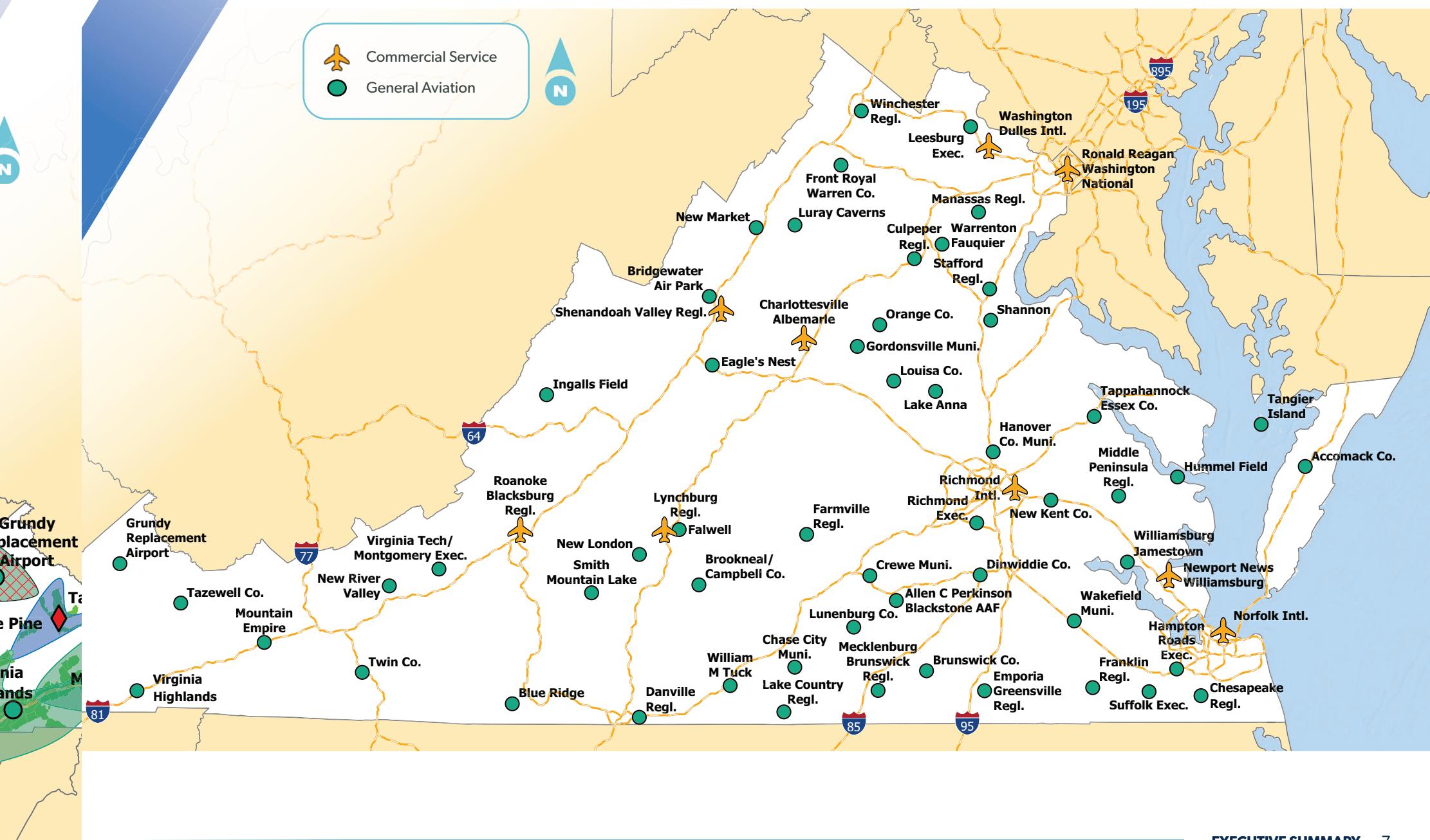
The recommended system is expected to provide easy access for **93 percent** of Virginians in 2030. Overall, more than 1,000 system improvements are recommended to maintain and improve how the system functions. These recommendations will allow the Virginia aviation system to continue operating efficiently and focus on business development.

Recommended improvements for the VATSP include:

- A replacement airport in the Grundy region.
- Three proposed new airports.
- 10 runway extensions.
- More than 1,000 other system improvements.



CURRENT AIR TRANSPORTATION SYSTEM





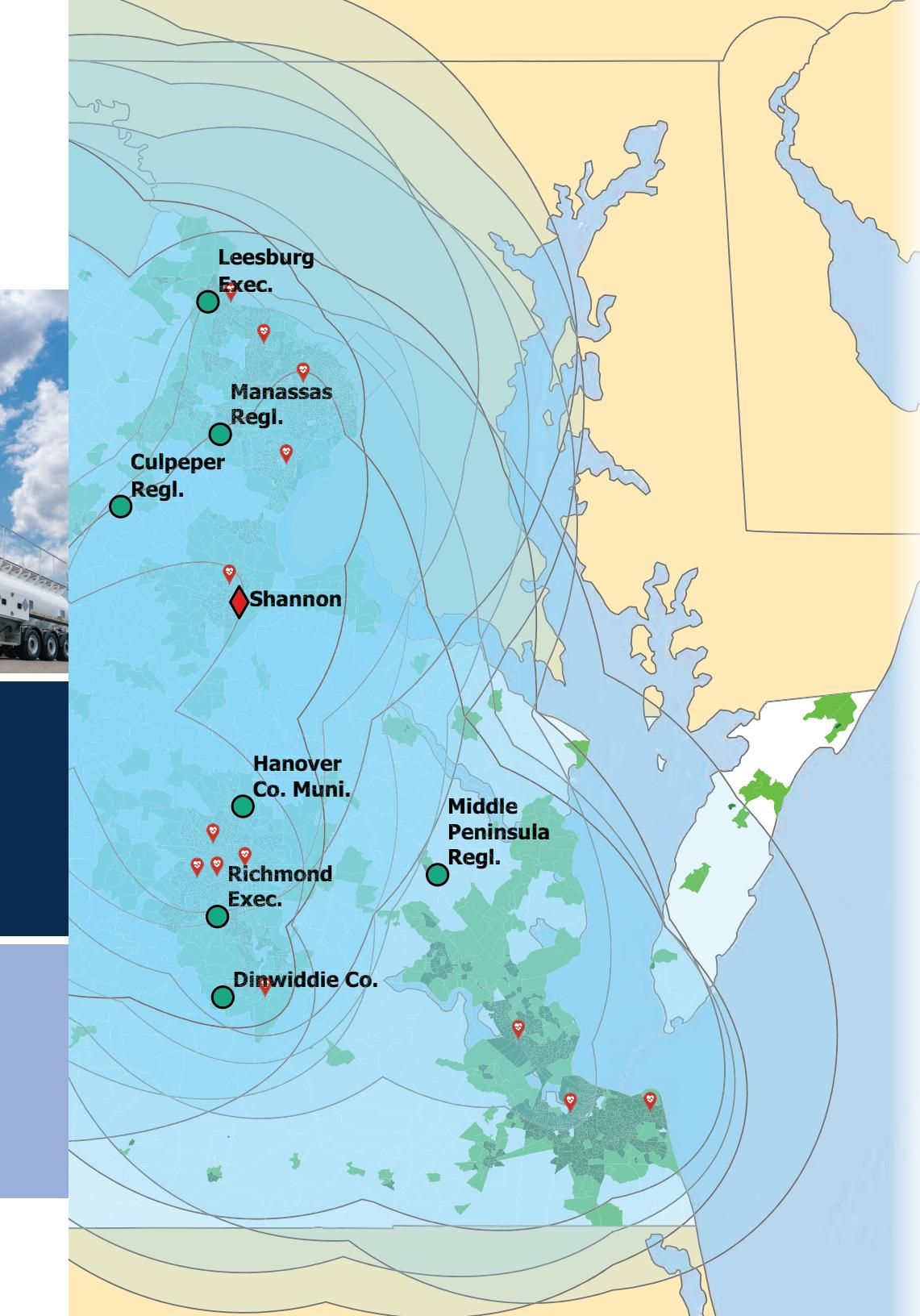
TECHNOLOGY & EMERGING TRENDS

Virginia is at the leading edge of several emerging aviation technologies.

Jet aviation is working towards more environmentally friendly fuel options, including sustainable aviation fuels (SAF). As the commercial aviation market and demand grows, SAFs are seen as a critical enabler for decoupling emissions and carbon growth from market growth. **DOAV has supported SAF research efforts by the University of Virginia's Center for Risk Management of Engineering Systems as far back as 2011.** That research has highlighted waste products of Virginia's timber industry as an excellent feedstock for the creation of SAF. Coupled with the Colonial and Plantation pipelines running through the state, Virginia is well positioned to lead the development of the SAF market.

Virginia is also pioneering advances in uncrewed aerial systems (UAS). The Virginia Flight Information Exchange (VA-FIX) pilot program promotes safety and open access to information for UAS stakeholders by providing state and local government information on key safety and policy concerns regarding the integration of UAS operations into the National Airspace System (NAS).

The growth in use of electric aircraft and passenger vehicles will likely require the development of ground infrastructure for power generation and electric vehicle charging capabilities. This will require strategic planning regarding the integration of battery charging stations with the existing airport electrical infrastructure. **23 percent** of Virginia's 66 airports are already planning for the integration of electric aircraft, both in terms of electrical infrastructure as well as hangar and parking spaces dedicated to these aircraft. Eight Virginia airports are currently offering electric charging capabilities throughout their vehicle parking structures.



AIR AMBULANCE COVERAGE

The VATSP Update also assessed how the Virginia aviation system serves various user groups. Some of these analyses include subsets of the system, such as the coverage provided by airports with specific minimum runway lengths. Another example is how well the Virginia aviation system provides emergency medical flights that meet the "Golden Hour" criteria.

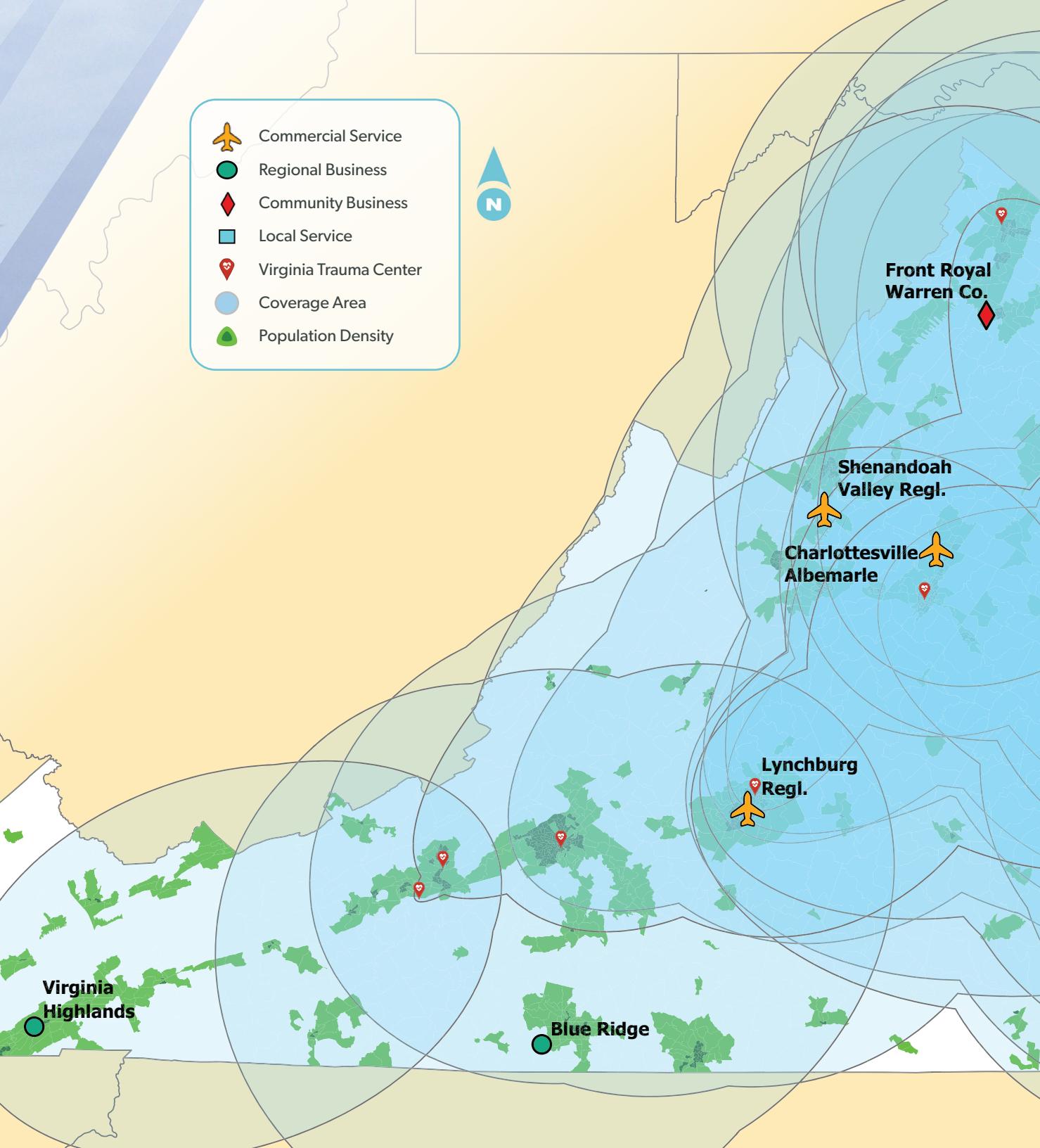
More than 98 percent of the population is within the Golden Hour region.

This was determined by mapping:

- Airports with air ambulance operators.
- Virginia hospitals with trauma centers.
- Areas that could be reached from air ambulance bases while still terminating the flight at a trauma center within 60 minutes.

The areas that could benefit from extended coverage are in western Virginia and parts of Virginia's eastern shore.

98%
of Virginians are within a golden hour region for medical support provided by air ambulance services.



Role Classifications Based on

- Commercial airline service
- NPIAS status and ownership (public or private)
- Runway length
- Fuel availability (jet fuel, avgas, or no fuel)
- Average number of based aircraft

VIRGINIA AIRPORT ROLES

Defining airport roles can aid in prioritizing limited or scarce resources, identifying recommended improvements, characterizing the markets served, and assessing system performance.

The FAA classifies airports in its NPIAS report published every other year. Airports identified in the NPIAS are eligible for federal funding for projects. The NPIAS covers approximately 3,300 airports, of which Virginia has 47. Virginia also has 19 airports that are not part of the NPIAS but are important to the Commonwealth.

Virginia has utilized a state classification system since the 1990s. With the FAA no longer providing preferential funding considerations to reliever airports, as part of this VATSP update, DOAV elected to assess the existing airport roles and the method to determine them within the Commonwealth. DOAV has consolidated the five roles of the 2016 system plan into four roles and has renamed the roles to better reflect each airport's function in the Virginia aviation system. The new classification system is based upon five basic criteria.



AIRPORT ROLES

Previous 2016 Airport Roles

Commercial Service Airports

Reliever Airports

General Aviation Regional Airports

General Aviation Community

Local Service Airports

All airports must meet 5.1-7 of the Code of Virginia and
24 VAC 5-20-140 licensing requirements.

New Airport Roles

Commercial Service Airports

- Provide scheduled airline service.
- Eligible for Air Carrier entitlement and Air Carrier/Reliever discretionary funding from the Commonwealth Aviation Fund.

Regional Business Airports

- Serve a large segment of aviation, catering to higher performance aircraft, or fulfilling significant demand for aviation services.
- Eligible for General Aviation discretionary funding from the Commonwealth Aviation Fund.

Community Business Airports

- Provide general aviation facilities and services to a smaller market segment than Regional Business Airports.
- Eligible for General Aviation discretionary funding from the Commonwealth Aviation Fund.

Local Service Airports

- Generally, have a lower level of operational activity than other general aviation airports.
- Non-NPIAS airports.
- Provide limited facilities and often have constraints on expansion capability.
- Funding limited to safety and preservation projects, eligible for General Aviation discretionary funding from the Commonwealth Aviation Fund.

PHOTOGRAPHER:
DOAV
LOCATION:
REAGAN NATIONAL AIRPORT (DCA)



PHOTOGRAPHER:
HEATHER REAM
LOCATION:
SHENANDOAH VALLEY REGIONAL AIRPORT (SHD)



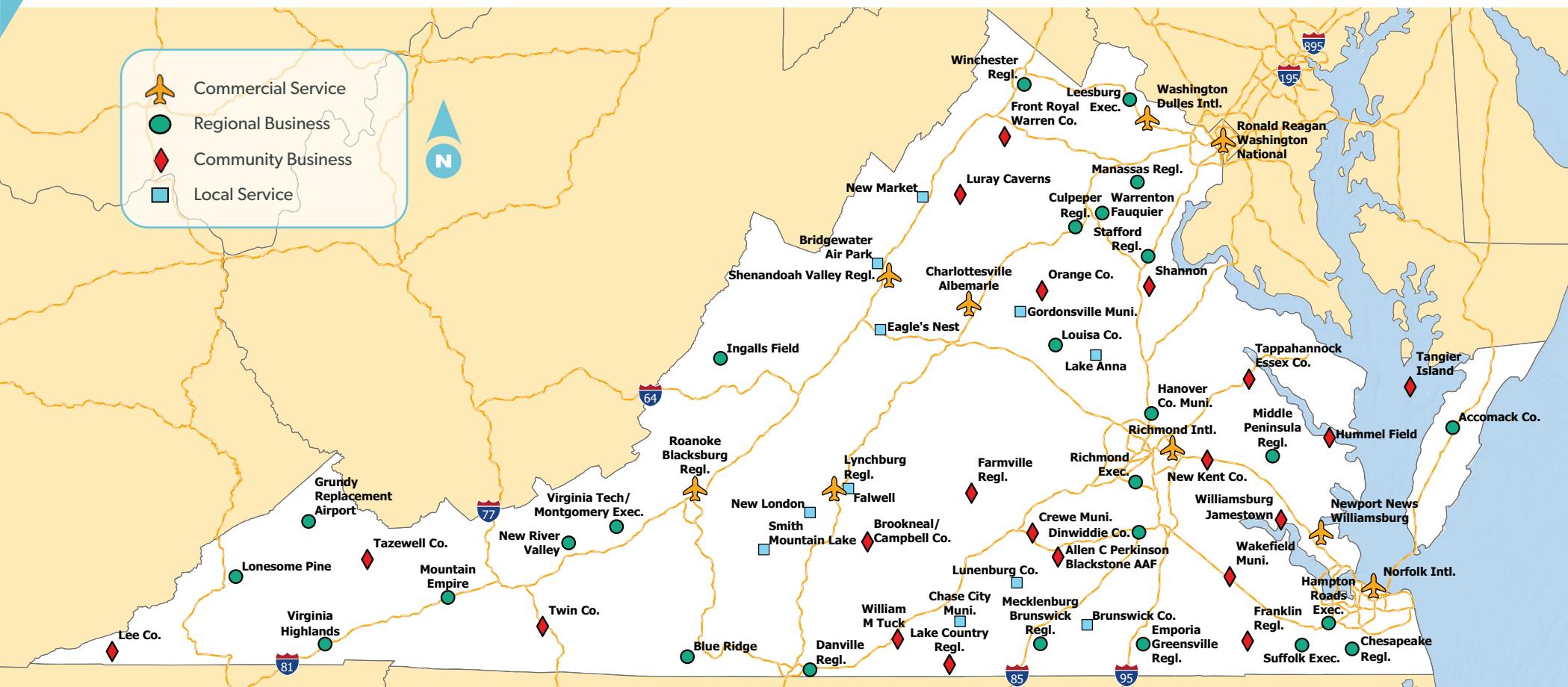
IAP - Instrument Approach Procedure
HIRLs - High Intensity Runway Lights
MIRLs - Medium Intensity Runway Lights
PAPI - Precision Approach Path Indicators
REILs - Runway End Identifier Lights
ASOS - Automated Surface Observation System
AWOS - Automated Weather Observation System
ATCT - Air Traffic Control Tower
PCI - Pavement Condition Index
MALSR - Medium Intensity Approach Light System with Runway Alignment Indicator Lights

FE&S PERFORMANCE MEASURE TARGETS

Virginia's system airports were evaluated for their ability to function in their assigned roles by comparing their current facilities, equipment, and services (FE&S) to a set of recommended FE&S targets based on their assigned roles. An airport can function in its assigned role without all of these recommended FE&S, but having these recommended FE&S makes the airport more efficient in its role.

Performance Measure	Airport Role			
	Commercial Service	Regional Business	Community Business	Local Service
Primary Runway Length	6,000 feet	5,000 feet	3,500 feet	2,000 feet
Primary Runway Width	150 feet	75 feet	50 feet	50 feet
Primary Runway Strength	Dual Wheel = 60,000 lbs	Single Wheel = 30,000 lbs	Single Wheel = 12,500 lbs	Preserve existing
Primary Runway Instrumentation	MALSR HIRLs PAPI	REILS (or approach lights) MIRLs PAPI	REILS (or approach lights) MIRLs PAPI	Preserve existing
Taxiway System	Full parallel	Full parallel	Partial parallel	Stub
Automated Weather Reporting	ASOS or AWOS III on field, 24/7	ASOS or AWOS III on field, 24/7	ASOS or AWOS on field, 24/7	No target
Visual Guidance	Rotating beacon, lighted windcone	Rotating beacon, lighted windcone	Rotating beacon, lighted windcone	Rotating beacon, windcone
IAP Minimums on Primary Runway	200 feet 1/2 statute mile	250 feet 1 statute mile	500 feet 1 statute mile	1,100 feet 3 statute miles
Remote Towers	Any airport without ATCT	Any airport without ATCT and 3 or more based jets	Not applicable	Not applicable
Terminal Facilities	Per Master Plan	Per DOAV terminal building objectives	Per DOAV terminal building objectives	1,236 square feet of public use space
Hangar Space	100% of based aircraft	100% of based aircraft	100% of based aircraft	Preserve existing
Maintenance Equipment	Snow removal equipment, mower, tractor, vehicle attachments, front end loader, truck, debris sweeper	Snow removal equipment, mower, tractor, vehicle attachments, front end loader, truck, debris sweeper	Mower, tractor, vehicle attachments, front end loader, truck, debris sweeper	Preserve existing
Airport Parking (non-revenue)	1 space per 3 airport/tenant employees (assumes 3 shifts)	1 space per airport/tenant employee + 1.5 spaces per 50% of based aircraft	1 space per airport/tenant employee + 1.5 spaces per 50% of based aircraft	1 space per airport/tenant employee + 1.5 spaces per 50% of based aircraft
Airport Parking (revenue)	100 parking spaces per 100,000 enplanements	Not applicable	Not applicable	Not applicable
Pavement Maintenance	PCI \geq 70	PCI \geq 70	PCI \geq 70	PCI \geq 70
Utilities	Electricity, water, sewer, communications	Electricity, water, sewer, communications	Electricity, water, sewer, communications	Electricity, communications

VATSP AIRPORT ROLES



ID	Airport Name	City	2016 VATSP Roles	New VATSP Roles	2018 VATSP Roles
CHO	Charlottesville-Albemarle	Charlottesville	Commercial Service	Commercial Service	Commercial Service
LYH	Lynchburg Regional/Preston Glenn Field	Lynchburg	Commercial Service	Commercial Service	Commercial Service
PHF	Newport News-Williamsburg	Newport News	Commercial Service	Commercial Service	Commercial Service
ORF	Norfolk International	Norfolk	Commercial Service	Commercial Service	Commercial Service
RIC	Richmond International	Richmond	Commercial Service	Commercial Service	Commercial Service
ROA	Roanoke-Blacksburg Regional/Woodrum Field	Roanoke	Commercial Service	Commercial Service	Commercial Service
DCA	Ronald Reagan Washington National	Washington	Commercial Service	Commercial Service	Commercial Service
SHD	Shenandoah Valley Regional	Staunton/Waynesboro/Harrisonburg	Commercial Service	Commercial Service	Commercial Service
IAD	Washington Dulles International	Washington	Commercial Service	Commercial Service	Commercial Service

VATSP AIRPORT ROLES

ID	Airport Name	City	2016 VATSP Roles	New VATSP Roles	2023 NPIAS Roles
MFV	Accomack County	Melfa	GA Regional	Regional Business	Local
MTV	Blue Ridge	Martinsville	GA Regional	Regional Business	Regional
CPK	Chesapeake Regional	Norfolk	Reliever	Regional Business	Regional
CJR	Culpeper Regional	Culpeper	GA Regional	Regional Business	Regional
DAN	Danville Regional	Danville	GA Regional	Regional Business	Regional
PTB	Dinwiddie County	Petersburg	GA Regional	Regional Business	Local
EMV	Emporia-Greensville Regional	Emporia	GA Regional	Regional Business	Basic
GDY	Grundy Replacement Airport	Grundy	Local Service	Regional Business	Not in NPIAS
PVG	Hampton Roads Executive	Norfolk	Reliever	Regional Business	Regional
OPF	Hanover County Municipal	Richmond/Ashland	Reliever	Regional Business	Regional
HSP	Ingalls Field	Hot Springs	GA Regional	Regional Business	Basic
JYO	Leesburg Executive	Leesburg	Reliever	Regional Business	National
LNP	Lonesome Pine	Wise	GA Regional	Regional Business	Basic
LKU	Louisa County/Freeman Field	Louisa	GA Community	Regional Business	Local
HEF	Manassas Regional/Harry P Davis Field	Washington	Reliever	Regional Business	National
AVC	Mecklenburg-Brunswick Regional	South Hill	GA Regional	Regional Business	Local
FYJ	Middle Peninsula Regional	West Point	GA Regional	Regional Business	Local
MKJ	Mountain Empire	Marion/Wytheville	GA Regional	Regional Business	Basic
PSK	New River Valley	Dublin	GA Regional	Regional Business	Local
FCI	Richmond Executive-Chesterfield County	Richmond	Reliever	Regional Business	Regional
RMN	Stafford Regional	Stafford	Reliever	Regional Business	Local
SFQ	Suffolk Executive	Suffolk	GA Regional	Regional Business	Local
VJI	Virginia Highlands	Abingdon	GA Regional	Regional Business	Regional
BCB	Virginia Tech/Montgomery Executive	Blacksburg	GA Community	Regional Business	Regional
HWY	Warrenton-Fauquier	Warrenton	Reliever	Regional Business	Regional
OKV	Winchester Regional	Winchester	GA Regional	Regional Business	Regional
BKT	Allen C Perkinson Blackstone AAF	Blackstone	GA Community	Community Business	Not in NPIAS
OV4	Brookneal/Campbell County	Brookneal	GA Community	Community Business	Unclassified
W81	Crewe Municipal	Crewe	Local Service	Community Business	Not in NPIAS

Numerous analyses of system coverage were part of the VATSP Update, including accessibility in 2030 based on expected population growth in Virginia. Areas that have room for improvement, such as airports that can be served by air ambulance aircraft, are addressed by various recommended improvements.

The Recommended System will provide...

 70% Based Flight Training  75% Business Aircraft Capable

airport access to Virginians.

Virginians with
Airport Access... 2030

 76% | Commercial Service
within a 45-minute drive

 89% | General Aviation
within a 30-minute drive

 93% | Any Airport
within either a 30- to 45-minute drive

SAMPLE OF VARIOUS ACCESSIBILITY ASSESSMENTS		
Accessibility to Virginia System	Percentage of Virginia's Population	
	2021	2030
Commercial Service Airport Access - within a 45-minute drive	74.5%	76.3%
General Aviation Airport Access - within a 30-minute drive	87.7%	89.1%
Combined System Airport Access (within 45 minutes of a commercial service airport and 30 minutes of a GA airport)	92.0%	93.4%

30-Minute Drive Assessments	2021	2030
6,000-Foot Runway Access	67.3%	69.4%
5,500-Foot Runway Access	73.5%	75.6%
5,000-Foot Runway Access	81.1%	83.0%
4,000-Foot Runway Access	84.1%	85.4%
Based Flight Training Access	68.5%	70.0%
Business Aircraft Access	73.1%	75.2%
Based Air Ambulance Operator Access	38.6%	40.8%
Air Ambulance Aircraft Access	58.6%	60.0%
Air Ambulance Golden Hour Access	98.2%	98.5%

NOTE: Airports with business aircraft access have runways of at least 5,500 feet, an approach with vertical guidance, and on-site weather reporting.

The Grundy Replacement Airport will help to increase accessibility for Virginians in southwest Virginia.

Example of Potential Improvements

AVIATION SYSTEM PERFORMANCE

The VATSP assessed how the Virginia aviation system serves its users, both systemwide and individually.

The system itself was evaluated for:

- How accessible it makes aviation services to Virginians.
- How well it supports flight operations across Virginia.
- How well individual airports function in their respective roles.

Accessibility was measured by the percentage of the population that fell within a specified drive time of the system airports under different scenarios, for example, how many Virginians reside **within a 45-minute drive** from each of Virginia's commercial service airports or how many Virginians reside **within a 30-minute drive** from a GA airport.

Consideration was also given to commercial service and GA airports in neighboring states that may provide service for Virginians. Additionally, for some calculations, the combined total may be less than the total of the individual segments to account for overlap in coverage.

Much of Virginia's population has access to specific facilities and services offered by Virginia's aviation system.

Virginians with
Airport Access... 2021



75% | Commercial Service

within a 45-minute drive



88% | General Aviation

within a 30-minute drive



92% | Any Airport

within either a 30- to 45-minute drive

ID	Airport Name	City	2016 VATSP Roles	New VATSP Roles	2023 IPAS Roles
FVX	Farmville Regional	Farmville	GA Regional	Community Business	Basic
FKN	Franklin Regional	Franklin	GA Community	Community Business	Basic
FRR	Front Royal-Warren County	Front Royal	GA Community	Community Business	Local
W75	Hummel Field	Saluda	Local Service	Community Business	Not in IPAS
W63	Lake Country Regional	Clarksville	GA Community	Community Business	Not in IPAS
OVG	Lee County	Jonesville	GA Community	Community Business	Unclassified
LUA	Luray Caverns	Luray	GA Community	Community Business	Local
W96	New Kent County	Quinton	GA Community	Community Business	Local
OMH	Orange County	Orange	GA Community	Community Business	Local
EZF	Shannon	Fredericksburg	GA Community	Community Business	Not in IPAS
TGI	Tangier Island	Tangier	GA Community	Community Business	Basic
XSA	Tappahannock-Essex County	Tappahannock	GA Regional	Community Business	Local
JFZ	Tazewell County	Richlands	GA Regional	Community Business	Basic
HLX	Twin County	Galax Hillsville	GA Community	Community Business	Local
AKQ	Wakefield Municipal	Wakefield	GA Community	Community Business	Not in IPAS
W78	William M Tuck	South Boston	GA Regional	Community Business	Local
JGG	Williamsburg-Jamestown	Williamsburg	GA Community	Community Business	Not in IPAS
VBW	Bridgewater Air Park	Bridgewater	Local Service	Local Service	Not in IPAS
LVL	Brunswick County	Lawrenceville	Local Service	Local Service	Not in IPAS
CXE	Chase City Municipal	Chase City	Local Service	Local Service	Not in IPAS
W13	Eagle's Nest	Waynesboro	Local Service	Local Service	Not in IPAS
W24	Falwell	Lynchburg	Local Service	Local Service	Not in IPAS
GVE	Gordonsville Municipal	Gordonsville	Local Service	Local Service	Not in IPAS
7W4	Lake Anna	Bumpass	Local Service	Local Service	Not in IPAS
W31	Lunenburg County	Kenbridge	Local Service	Local Service	Not in IPAS
W90	New London	Forest	Local Service	Local Service	Not in IPAS
8W2	New Market	New Market	Local Service	Local Service	Not in IPAS
W91	Smith Mountain Lake	Moneta	Local Service	Local Service	Not in IPAS

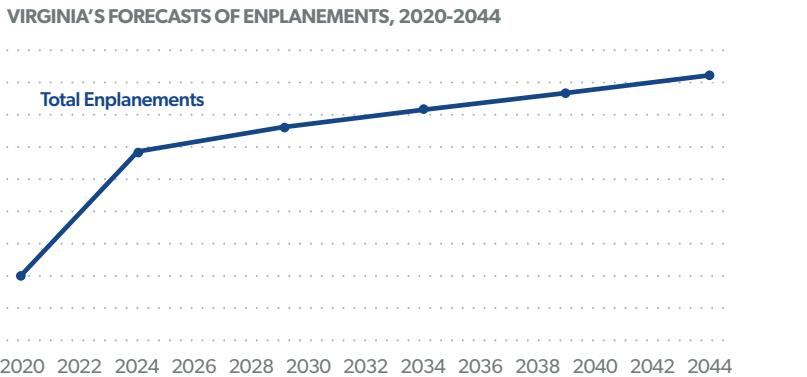
AVIATION SYSTEM ACTIVITY FORECASTS

Aviation activity forecasts evaluate future demand at airports. While forecasting, by nature, is not an exact science, it does establish general estimates for future aviation activity levels and provides a defined rationale for necessary airport facility changes as demands increase. Projecting the aviation activity forecasts is an essential step in updating the VATSP.

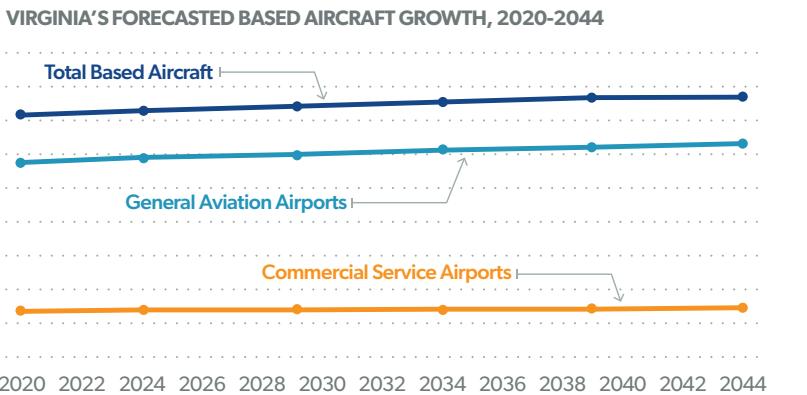
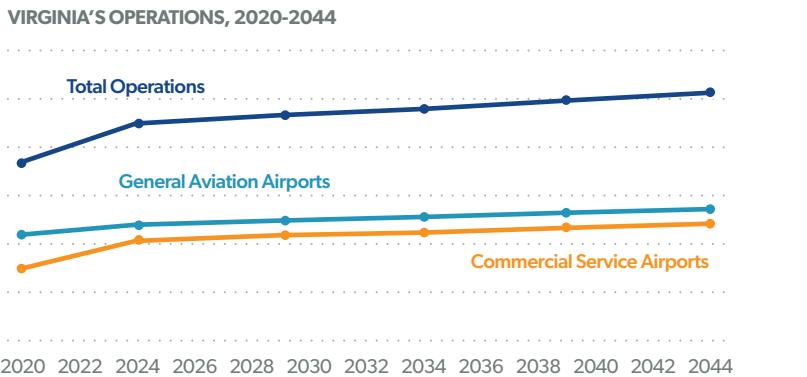
These forecasts are unique due to COVID-19 impacts on the aviation system in Virginia and across the world. COVID-19 significantly impacted passenger volumes in markets such as Los Angeles, San Francisco, New York, Boston, and Washington D.C. Passenger traffic began to rebound in June and July of 2020 even though international travel restrictions were in place and business travel was curtailed. Throughout the first half of 2021, domestic leisure travel led the recovery. Business sector travel is only beginning to show signs of a growing return. Recovery by 2024 is expected for Virginia's airports. The sharp recovery contributes to the overall growth rate of enplanements of **6.1 percent** over the planning period shown in the table.

TOTAL VIRGINIA AIRPORT SYSTEM ACTIVITY FORECASTS, 2020-2044

Activity	2020	2024	2029	2034	2039	2044	Compound Annual Growth Rate, 2020 to 2044
Enplanements	10,002,222	29,469,198	33,295,614	36,028,361	38,776,079	41,463,995	6.1%
Operations	1,851,753	2,241,950	2,331,091	2,401,821	2,487,669	2,569,017	1.4%
Commercial Service Airports	751,912	1,045,705	1,095,263	1,125,554	1,170,108	1,209,306	2.0%
General Aviation Airports	1,099,841	1,196,245	1,235,828	1,276,267	1,317,561	1,359,711	0.9%
Based Aircraft	3,588	3,646	3,710	3,773	3,836	3,900	0.3%
Commercial Service Airports	689	697	707	716	725	734	0.3%
General Aviation Airports	2,899	2,949	3,003	3,057	3,111	3,166	0.4%



By 2044, Virginia's commercial service airports are expected to enplane **41.5 million passengers**.



COVID-19 also affected Virginia's general aviation (GA) airports, but to a much lesser extent than the commercial service operations, resulting in lower growth rates over the planning period. Operations at GA airports are anticipated to grow at **0.9 percent** annually out to 2044. The lower rate shows that GA in Virginia is well developed and mature, which tends to result in low, but steady, growth. The projected based aircraft growth at Virginia's airports, which is **0.3 percent** annually, reflects this same tendency. Overall, Virginia is expected to experience modest but steady growth at both the commercial service and GA airports due to Virginia's strong fundamentals with a strong and growing economy and a varied and well-developed system of 66 airports.

