



**Virginia's**

**Department of Aviation  
(DOAV)**

**For**

**VEDP**

*Randall P Burdette  
Director*

*Virginia Department of Aviation  
November 6, 2012*

# My Role

- **Director, Virginia Department of Aviation (DOAV) 8yrs**
- **National Association of State Aviation Officials (NASAO)**
  - **Past Chairman**
  - **POC for FAA/NASAO MOU on NextGen**
- **Airports Executive Working Group – JPDO**
- **Pilot for over 38 years**
  - **Live in an Air Park Community**



# Virginia Aviation Facts

Total Pilots in Virginia: 17,490

FAA Registered Aircraft in Virginia: 6,200

State Registered Aircraft 3,068

Single Engine Airplanes: 2290

Multi Engine Airplanes: 423

Rotorcraft: 75

Other (Sailplanes, Ultra lights, Balloons) 280

Public Use Airports 66

Private Use Airports 214

(136 closed or 39% )



# Private Owned/Private Use Airports

- Created the **Virginia Airstrip Owners Association (VAOA)**
  - 1<sup>st</sup> of its kind in the nation
  - Jack Rouzie - President
- Purpose: Communication, Security & Networking
  - Security Training - training sessions started early CY '10
  - Participating Legislatively
  - Included in 2011/2012 Directory
  - Included in local COOP and Emergency Planning



# Virginia Volunteer Pilots Group (VVPG)

- To provide ability to use volunteer pilots/aircraft during an emergency
- Partnering with VDEM
- Coordinating with Civil Air Patrol & Air Care Alliance
- Utilized during Hurricane Sandy
  - Photo reconnaissance
  - Air Transport of Volunteer Labor



# Airports Benefit All Virginians Through

1. Airline Service
2. Corporate Travel
3. **Business Access**
4. Just In Time Shipping
5. Search & Rescue
6. Medical Evacuation
7. **Jobs**
8. Public Safety
9. Law Enforcement
10. Agriculture
11. Recreation & Tourism
12. Weather Reporting
13. Education
14. **Revenue**



# VISION

We will be the **standard of excellence** amongst state aviation agencies.

We will make the Virginia Aviation System the **model air transportation system**, providing Virginia communities **economic development opportunities** and convenient **access** to the National air transportation system.





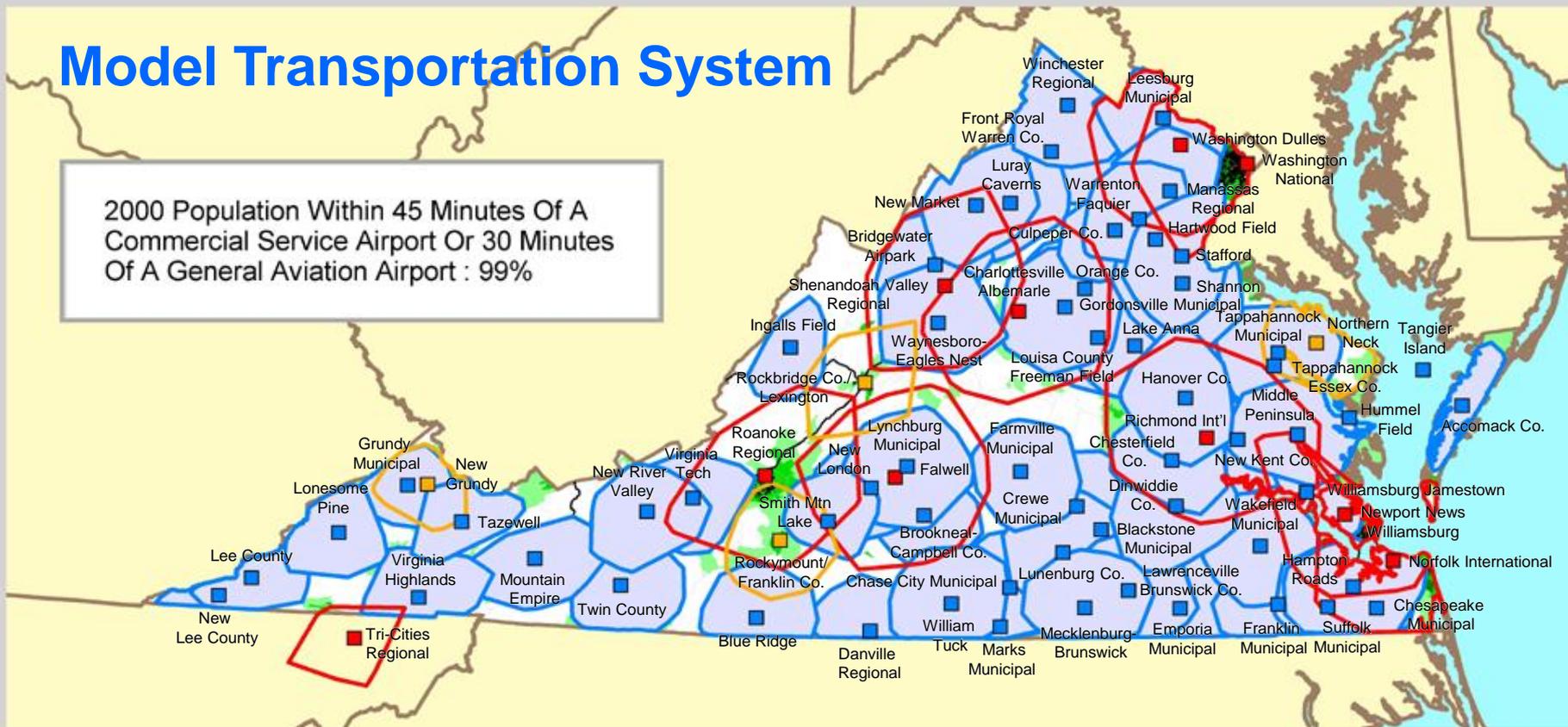
# VIRGINIA AIR TRANSPORTATION SYSTEM PLAN

ALTERNATIVE 2 - EXPANDED SYSTEM

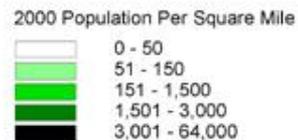
Alt - Exhibit 10

## Model Transportation System

2000 Population Within 45 Minutes Of A Commercial Service Airport Or 30 Minutes Of A General Aviation Airport : 99%



- ▭ 45 Minute Commercial Service Travel Time
- ▭ 30 Minute General Aviation Travel Time
- ▭ 30 Minute Proposed General Aviation Travel Time
- Commercial Service Airport
- General Aviation Airport
- Proposed General Aviation Airport



DRAFT

Source: HNTB Analysis

# Economic Engines, Technology Magnets, Tourism Gateways

- **Virginia Airport System Economic Impact Study 2010**
  - **\$28.8 Billion in Economic Activity**
  - **\$11 Billion in Wages**
  - **259,000 Jobs**
- **Technology Magnets**
  - **Virginia Airports attract high technology businesses**
- **Tourism Gateways**
  - **Over 8 million annual visitors through our airports**
    - **Visitor Spending \$11.2 Billion annually**
    - **23,000 daily visitors**



# Small Agency – Small Budget

FTE 34

Part Time  
Pilots 4  
Tech 1

DOAV  
Director

FY 2012  
approx  
\$30 Million  
-\$10 SF  
-\$20 TTF

Director  
Airport Services  
11

Director  
Communication &  
Education  
7

Director  
Flight Operations &  
Safety  
9 (4&1)

Director  
Finance & Admin  
6



**Want To Be The Best?**

**Choose The Highest Standard**

**And Then Surpass It!**



# IS-BAO Standard

- **Safety Management System**
- **Organization and personnel & training**
- **Flight operations, international operations**
- **Equipment & Aircraft maintenance**
- **Company manual & Emergency response plan**
- **OSHA, Environmental & Dangerous goods**
- **Security**



# Standard of Excellence

- **IS-BAO Certification for Flight Department**
  - **1<sup>st</sup> State Avn Department in the Nation to achieve**
  - **120<sup>th</sup> in the world**
    - *Risk Management Focused*
    - *Safety First*
    - *Standardization*
    - *Maintenance*
    - *Flight Training*



# ISO 9000

- **International Standard**
- **Recognized throughout the world**
- **Business Management System**
- **Focus on**
  - **Customer Satisfaction**
  - **Process Management**
  - **System Performance**
  - **Ongoing Improvement**



# ISO 9000

- **Customer Satisfaction Surveys**
- **Mapped Processes**
- **Efficiency Opportunities Identified & Implemented**
- **Document Control**
- **Deskbooks**
- **Quality Manual**
- **Third Party Audit to ensure continued improvement**



# FAA 2012 Forecast – Air Carriers

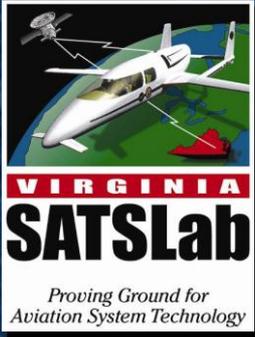
- **US Airlines have returned to profitability.**
  - **2<sup>nd</sup> year in a row**
  - **Forecast of sustainable profits**
  - **Capacity restraint key factor**
  - **Billion Passengers annually by 2024**
    - *Three years later than projected last year*
  - **International 3.1% Annual Growth through 2032**
  - **Domestic 2.5% Annual Growth through 2032**
  - **Total Cargo 4.9% Annual Growth through 2032**
    - *1.8% Domestic*



# FAA 2012 Forecast – General Aviation

- **The general aviation aircraft fleet will grow by 2031:**
  - **Business growth at faster rate**
  - **30,685 additional airplanes (from 222,520 to 253,205) 14% growth (decrease of 12,000 from last year's forecast)**
    - *Jets will grow at 4% per year*
    - *Fixed-wing turbine aircraft and rotorcraft will grow by 3.0% per year*
    - *Piston rotorcraft 2.1%*
    - *Single engine fixed-wing piston aircraft will decline at 0.1% per year*
    - *Multi engine fixed wing decline 0.5% per year (up from a 0.9% decline from last year's projection)*





TRAVELERS

AIR TAXI ASSOCIATION  
Fly from Virginia to Anywhere.

One-way  Round-trip

Passengers:

From: VA To:

Leave: 09/19/2007 Time:

Return: 09/19/2007 Time:

New  
RESERVATION  
System



AIR TAXI

ALL AIRPORTS

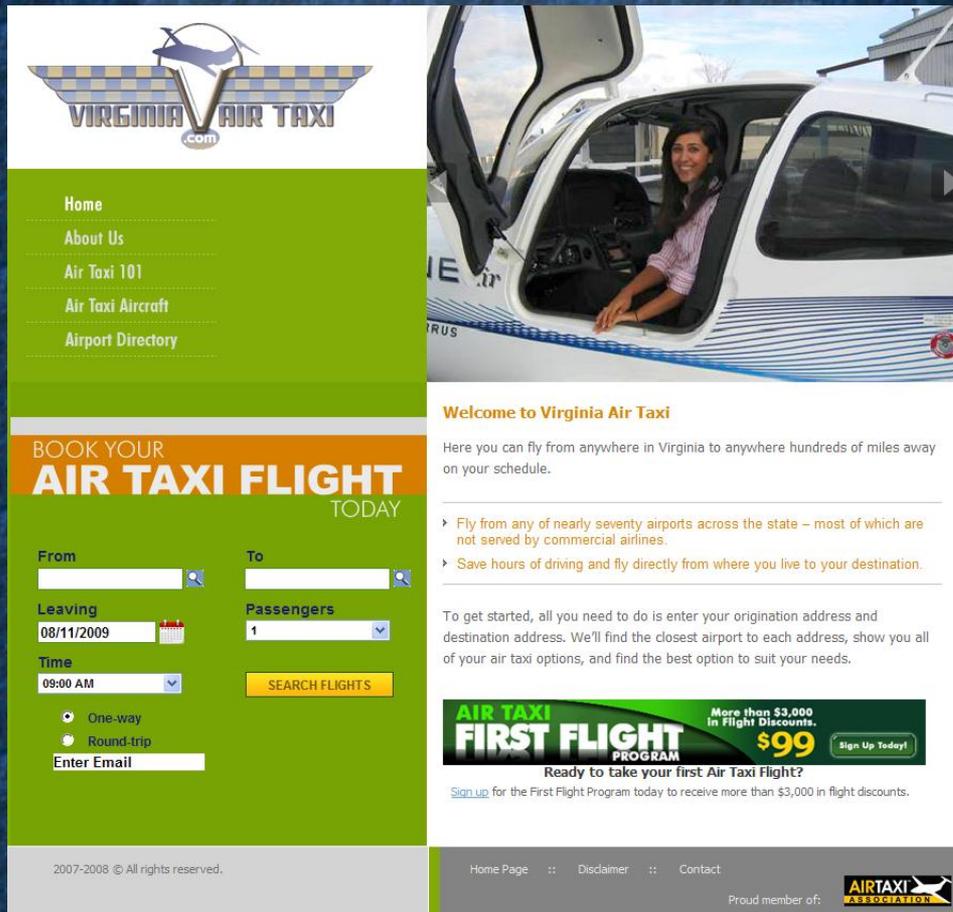
&

AIR CHARTER

[www.virginiaairtaxi.com](http://www.virginiaairtaxi.com)



# VirginiaAirTaxi.com Update



The screenshot shows the Virginia Air Taxi website. At the top left is the logo with a stylized 'V' and 'AIR TAXI .com'. Below it is a green navigation menu with links: Home, About Us, Air Taxi 101, Air Taxi Aircraft, and Airport Directory. The main content area features a large photo of a woman in a white taxi aircraft. Below the photo is a 'Welcome to Virginia Air Taxi' section with a paragraph and two bullet points: 'Fly from any of nearly seventy airports across the state - most of which are not served by commercial airlines.' and 'Save hours of driving and fly directly from where you live to your destination.' Below this is a 'BOOK YOUR AIR TAXI FLIGHT TODAY' section with a search form. The form includes fields for 'From', 'To', 'Leaving' (08/11/2009), 'Time' (09:00 AM), 'Passengers' (1), and 'Enter Email'. There are radio buttons for 'One-way' and 'Round-trip', and a 'SEARCH FLIGHTS' button. At the bottom of the search form is a copyright notice: '2007-2008 © All rights reserved.' To the right of the search form is a 'FIRST FLIGHT PROGRAM' banner with the text 'More than \$3,000 in Flight Discounts. \$99 Sign Up Today!' and a link to 'Sign Up for the First Flight Program today to receive more than \$3,000 in flight discounts.' At the bottom right of the page is the 'AIR TAXI ASSOCIATION' logo and the text 'Proud member of:'.

## ■ To Date

- 14,755 quotes
- 2,215 unique IP addresses (offices)
- 278 bookings correlated to quotes
- Excellent attach rate
- Industry norm is for 98% of customers that complete purchase to research on web and book by phone



# Air Taxi Conference

- **Goal to improve:**
  - **Business access**
  - **Communications**
  - **Input and support from the 135 community**
- **Tuesday March 26th**



# MISSION

DOAV will;

Cultivate an **advanced** aviation system that is **safe, secure** and provides for **economic development**;

Promote **aviation awareness** and **education**; and

Provide the **safest** and **most efficient** flight services for the Commonwealth Leadership and State Agencies

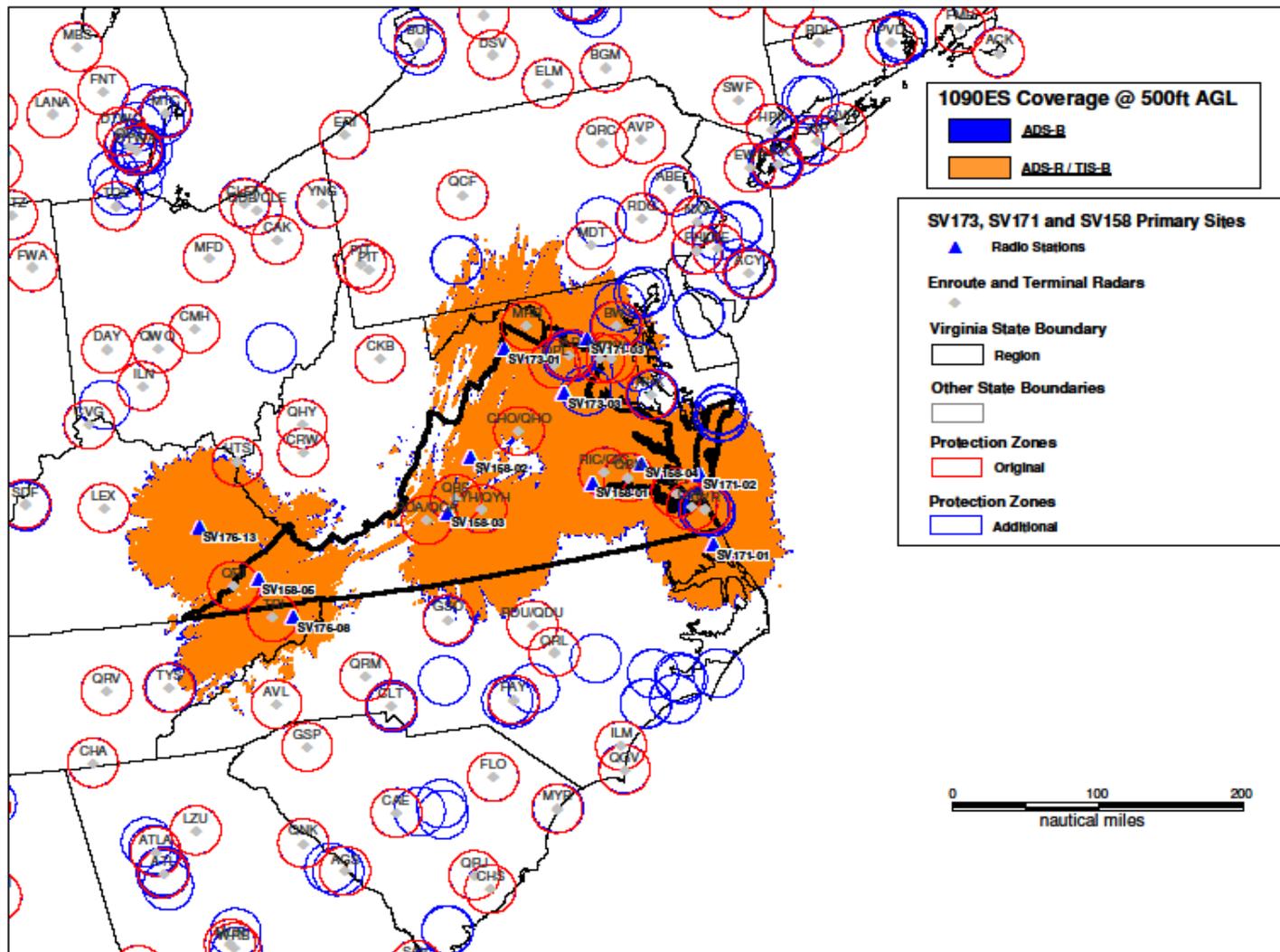


# Advanced Aviation System

- **Statewide NAVAIDS Study**
  - \$75 Million in improvements
  
- **ADS-B**
  - Phase 1 - 8 stations installed and operational
  - Phase 2
    - 3 additional at/near Dulles
    - 4 additional being worked in vicinity of:
      - Roanoke
      - Lynchburg
      - Charlottesville
      - Norfolk
  - Phase 3 – State purchased systems to close gaps



# 500 Ft Coverage



# Small Community Airport Access Program (SCAAP)

- **To Improve Safety and Access at GA Airports**
- **Weather Reporting Information at every airport**
  - **Altimeter Setting**
  - **Ceiling**
  - **Visibility**
  - **Winds**
  - **Recorded Information**
- **Approach to every airport**
  - **GPS to minimums or**
  - **GPS to 1000 ft with 3 miles visibility**
- **\$3.4 Million identified and set aside**



# SCAAP

## ■ Weather Reporting Systems

1. Blackstone
2. Brookneal
3. Front Royal
4. New Kent
5. Tangier
6. William Tuck
7. Bridgewater
8. Chase City
9. Falwell
10. Hummel
11. Lawrenceville
12. Smith Mountain Lake
13. Marks
14. Crewe
15. Gordonsville
16. Lake Anna
17. Lunenburg
18. New London
19. New Market
20. Waynesboro

## ■ Approaches Day Only 1000ft & 3 miles

1. Bridgewater **Published**
2. Shannon **Published**
3. Smith Mtn Lake **Published**
4. Chase City **Published**
5. Hummel **Published**
6. Lawrenceville **Published**
7. Tangier **Published**
8. Williamsburg **Published**
9. Crewe **Published**
10. Lunenburg **Published**
11. Waynesboro **Published**
12. Gordonsville **Published**
13. Lake Anna **Published**
14. New London **Published**
15. New Market **Published**

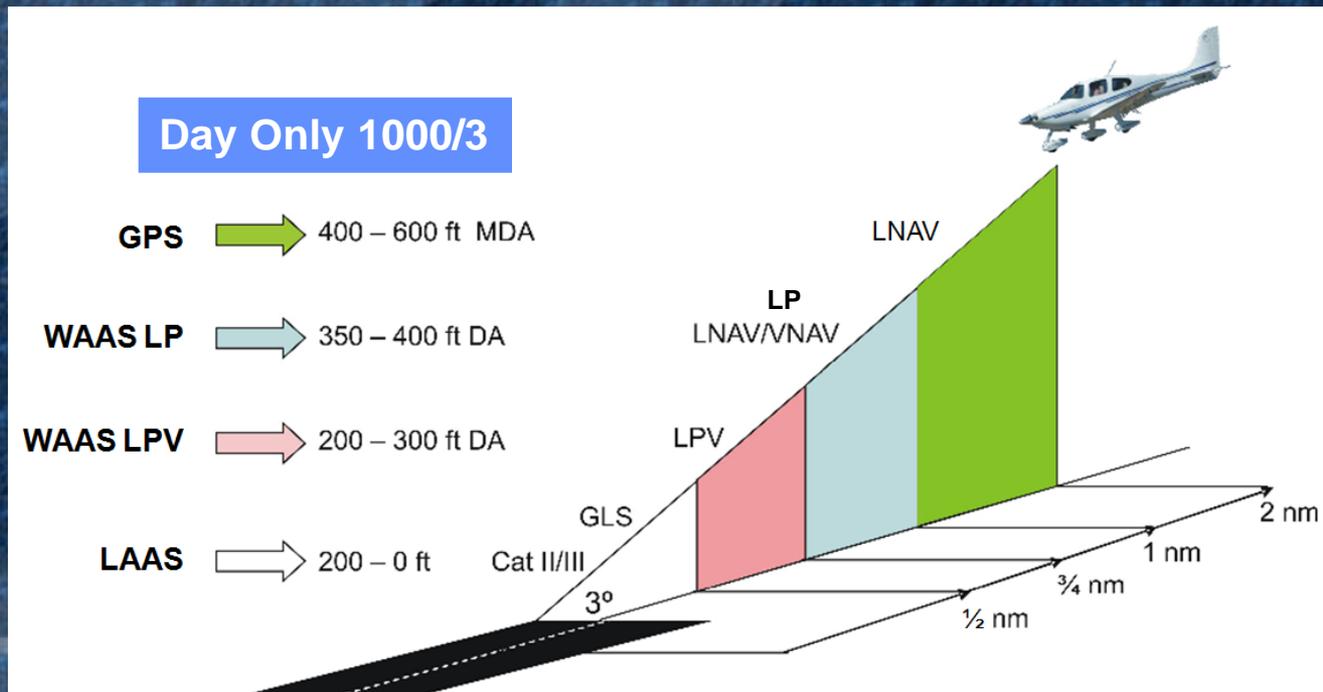
**12 Airports getting both!**



# Approaches to Every Runway

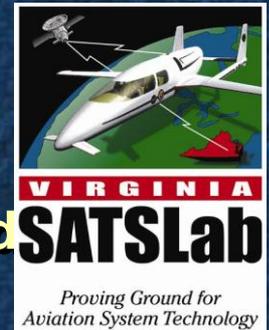
Lowest possible approaches to every runway end

- LPV provides near precision approach minimums
- LP approaches to be used in obstacle-constrained environments
- Increases access during IMC, increases safety, reduces diversions and related fuel consumption



# Promote Aviation Awareness & Education

- **Work Force Development**
  - **Technology Identification**
  - **Aviation and Aerospace Professional Needs**
    - *Pilots*
    - *Engineers*
    - *Mechanics*
    - *Technicians*
  - **Match with Education System**
- **Teaming with the Civil Air Patrol**
  - **Education**
  - **Emergency Response**



# Employer Survey

- **276 Virginia Aviation/Aerospace Employers Surveyed**
- **123 Responded for 45%**
- **Two Top needs for employers**
  - **83% looking for work experience/skills**
  - **75% basic work ethic**
- **Over 30% having problems now filling positions**
  - **Most difficult were Mechanics and Technicians**
  - **59% of those having problems cited inadequate candidate pool**
  - **53% cited lack of education**
- **30% have programs to develop/promote aviation professions**
  - **90% of these programs are conducted in Virginia**
  - **43% partnered with educational institutions**



# Provide the Safest and Most Efficient Flight Services for the Commonwealth Leadership and State Agencies

- **IS-BAO Certification**
  - **Safety, Security, Maintenance, & Training**
  
- **Business Tool**
  - **Saving time and money**
  - **Improving Productivity**
  
- **DOAV Aircraft**
  - **Two 2007 King Air 350s**
    - *11 Passenger*
    - *365 mph cruise*
    - *1500 Statute Mile Range*
    - *Short Field Capability about 3300 ft*



# Studies

## ■ Completed

- **NextGen Vision 2025**
- **Virginia Navaid Study**
- **Aviation Economic Impact Study**
- **Aviation Competitive Analysis**
- **Aviation/Aerospace Workforce Development Study**

## ■ Needed

- **Workforce Implementation Plan**
- **VATS Update**



# Workforce Analysis

- Boeing estimated a *global* need of 460,000 new commercial airline pilots, and 650,000 commercial airline maintenance technicians.
- *FAA Aerospace Forecast*: estimated U.S. need for 12,595 air carrier pilots in U.S. over next 20 years.
- The Virginia aviation and space industry is expected to need at least 12,283 new workers over the next 10 years.
  - *10,399 workers will be needed to replace retirees*
  - *2,000 workers will be needed for industry expansion*



# Competitive Analysis of Virginia's Aviation Industry

## Methodology for Determining Key States:

**TABLE 1: STATES INCLUDED IN THE COMPETITIVE ANALYSIS**

Contiguous States	Comparable States	Competitor States
<p>Aviation is an especially mobile industry. Aircraft owners and operators relocate aircraft across county and state borders to take advantage of more aviation-friendly tax and legislative policies.</p> <ul style="list-style-type: none"><li>• Kentucky</li><li>• Maryland</li><li>• North Carolina</li><li>• Tennessee</li><li>• West Virginia</li></ul>	<p>Comparable states encompass a similar number of public-use air carrier/reliever and GA airports, as well as have a dedicated airport revenue fund similar to Virginia's.</p> <ul style="list-style-type: none"><li>• Arizona</li><li>• Colorado</li><li>• Louisiana</li><li>• Missouri</li></ul>	<p>Competitor states are those with which Virginia often competes for aviation-related economic development initiatives.</p> <ul style="list-style-type: none"><li>• Alabama</li><li>• Georgia</li><li>• South Carolina</li></ul>



# Findings

- **Virginia holds a competitive advantage in the percentage of public use airports with:**
  - **Flight Safety Infrastructure (WX, Approaches, Nav aids, etc)**
  - **General Aviation Terminal Buildings**
  - **Paved Aircraft Aprons**
- **Areas in which the opportunity exists to further develop infrastructure to better compete with key states:**
  - **Fueling facilities at all appropriate public use airports**
  - **Higher percentage of public use airports with 5,000 foot runways**
  - **Hangar facilities**



# Aviation Opportunities

- **UAS Test Range**
  - Wallops
  - Dahlgreen
  - PAX
  - MD & NJ partners
- **Leesburg ADS-B Flight Procedures**
  - Follow on Airports
- **BIO Fuels**
  - Commercial Carriers



# Navy Turboprop Practice Field

- **Wallops Island Flight Facility**
- **Emporia Municipal is the Non Federal submission**
- **A lot of issues between now and contract award with the Navy**
  - *Environmental Analysis*
  - *Design and Construction Schedule*



# Virginia Next Generation Focus

- **Leap Ahead Technologies that will improve access to Virginia communities and provide economic development opportunities**
- **Technologies in**
  - **Airspace Control**
  - **Aircraft Capabilities**
  - **Airport Capacity**

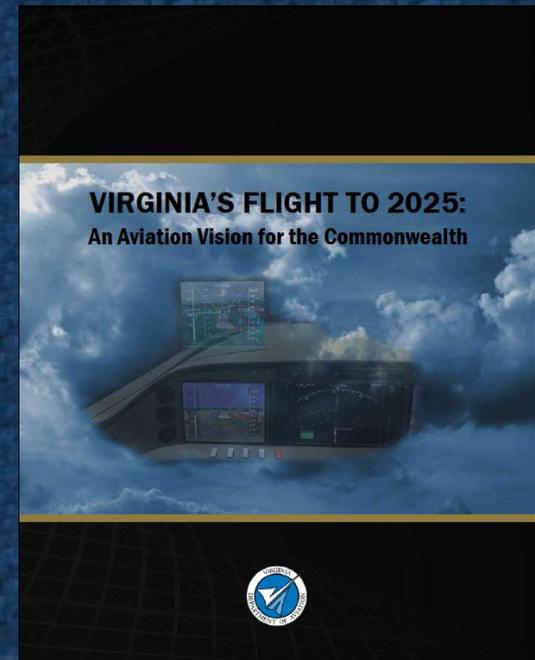


# Virginia NextGen Focus

## Jobs

- **Early Implementation**
  - **Mature Technologies**
- **Test Bed**
  - **Maturing Technologies**
- **Research Center**
  - **Emerging Technologies**

## Revenue



# Virginia NextGen Potential

The VA NextGen potential can only be met through a comprehensive approach that accounts for the technology, process, and people parts of the puzzle.

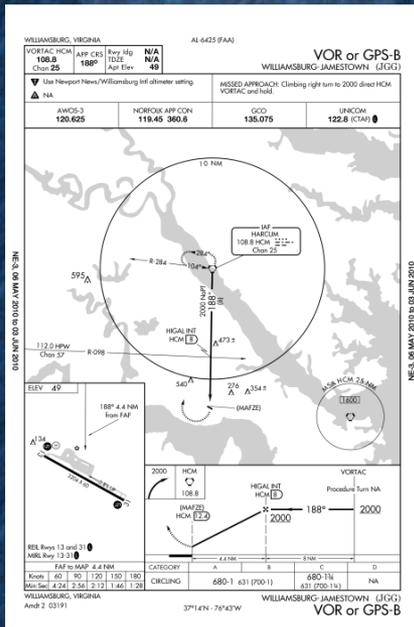


# Enhanced Airport Capabilities



## Enhanced Terminal Procedures - RNP

- Curved approaches (i.e., to alleviate community issues, circle-to-land)
- Improves situation awareness, obstacle clearance, and reduces fuel burn, flight time, and emissions



Sensitive Residential & Golf Area Limits Straight-In Option

RNP Options for RWY31 App and Missed?



# Enhanced Airport Capabilities



Enhanced Terminal Procedures - Continuous climb out and descent ops

- Standard Terminal Arrival Route Optimal Profile Descents (STAR OPDs)
- RNAV/RNP Standard Instrument Departures (SIDs)
- **Opportunity to mitigate significant lateral and vertical deviations off optimum trajectory through NextGen equipage**
- Reduces fuel burn, flight time, and emissions



Typical STAR Approach



STAR OPD Approach



# Enhanced Airport Capabilities



## Evaluate future technologies: Low Cost Ground Surveillance (LCGS)

- Reduces the number and severity of runway incursion incidents at small-to medium-sized airports where current airport surface detection equipment (ASDE-X) is too expensive to deploy
- Increases safety, improves situation awareness, and eliminates one-in and one-out procedures

Sample ASDE-X Display



# Enhanced Airport Capabilities



## Evaluate future technologies: Remote Tower

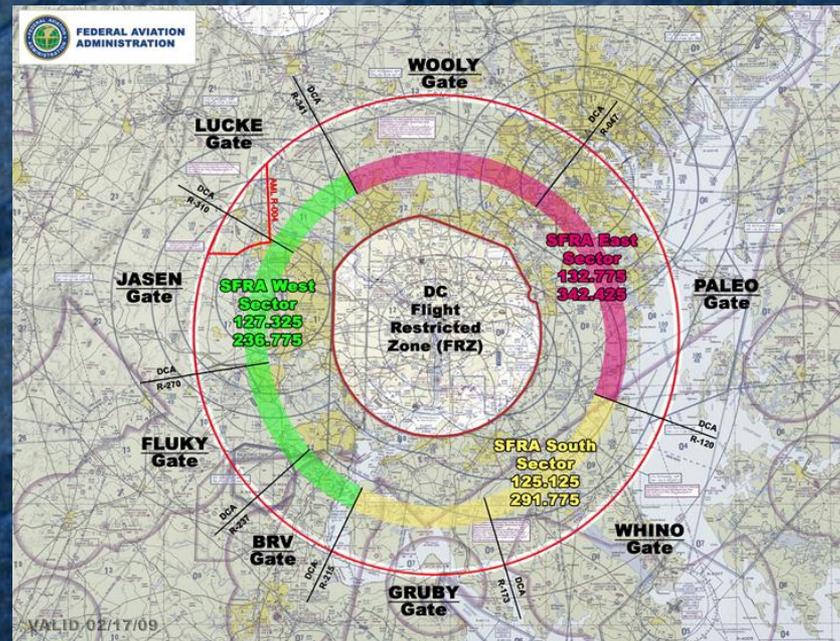
- For non-towered, single-runway airports and possibly very low density multiple runway airports
- Provides sequencing services and basic airport information without the use of personnel at an enhanced level
- Enhances separation and simultaneous operations in IMC; increases reliable access, efficient Air Taxi operations, avoidance of major airports; and increases transportation services to rural communities



# Related Airspace Improvements

Evaluate DC SFRA procedures for “Best Equipped, Best Served” access

- Current SFRA access procedures do not account for aircraft equipage
- Revamping the SFRA procedures will reduce flight time, fuel burn, and emissions



Changing SFRA procedures will be complex and require FAA involvement and support.

# Virginia's Model "NextGen Airport"



- **Enhanced Airport Capabilities**
  - Best available weather information
  - Lowest possible approach minimums to every runway end
  - Enhanced terminal procedures
  - Improved traffic situation awareness and separation services
  - Increased Throughput
    - Less IFR wait time on ground
    - Less Holding to and from airport
  
- **Passenger Friendly Facilities**
  - Covered passenger terminal facilities
  - Passenger amenities
  - Ground transportation
  
- **Community Outreach Program**
  - NextGen benefits outreach to communities and operators
  - Air Taxi, Charter and Business Aircraft marketing



**Balance Part 121 initiatives around the nation with a Part 135/91 NextGen application**



# NextGen Challenges

- **Projects to date are aimed at airlines**
- **FAA 2009 data – GA is:**
  - **95% of US fleet**
  - **57% of flight hours**
  - **64% of Towered-airport Ops (100% non-towered)**
  - **Even 51% of IAD Ops**
- **GA is an important part of implementing NextGen**
- **VA wants to help deliver GA support for NextGen**



# Coordinate R&D Assets

- **Virginia Aviation & Aerospace Research Consortium**
  - **Dr. Bob Ash, ODU, Lead**
  - **Coordinate Virginia's research facilities**
  - **Compete for Federal opportunities**
  - **Manage and coordinate projects**
    - *Data Comm*
    - *Staffed NexGen Towers*
    - *GA Safety technologies*
      - *Low-cost Enhanced Vision*
      - *Dynamic Special Use Airspace*





# Why Virginia?

- **Location**
  - Terrain, Airspace, & near DC
  
- **Research Partners**
  - NASA, MITRE, Universities, & Industry
  
- **DOAV**
  - Progressive
  - Business Focused



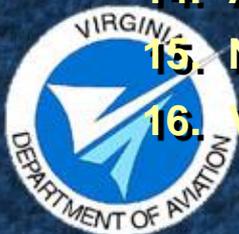
# Economic Engines

- **Sea – Virginia Port Authority**
- **Air – Dulles International**
- **Space – Mid Atlantic Regional Spaceport**



# How Can I Help?

1. **National Association of State Aviation Officials (NASAO) – Board of Directors**
2. **Virginia Resources Authority (VRA) – Board of Directors**
3. **Virginia Aeronautical Historical Society (VAHS) – Board of Directors**
4. **Washington Airports Task Force (WATF) – Board of Directors**
5. **Virginia Aviation Business Association (VABA) – Board of Directors**
6. **Virginia Helicopter Association (VHA) – Board of Directors**
7. **Governor’s Aerospace Council – Board Member**
8. **Virginia Airport Operators Council (VAOC) – Corporate Member**
9. **Joint Planning and Devel Office (JPDO) – Airports WG Exec Member**
10. **Aeronautical States Association (ASA) – Virginia Representative with Billy Reed**
11. **National Business Aviation Association (NBAA) – Agency Member and Partner**
12. **Aircraft Owners & Pilots Association (AOPA) – Member and Partner**
13. **Experimental Aircraft Association (EAA) – Member and Partner**
14. **American Association of Airport Executives (AAAE) – Member**
15. **National Air Transportation Association (NATA) – Member**
16. **Virginia Airstrip Owners Association (VAOA) – Member**



# Key to Success

# Teamwork

VHA

VAC

VAB

Angel Flight

NASA

DOAV

VEDP

FAA

Airport  
Management

EAA &  
Young Eagles

Schools &  
Universities

NASAO

VTC

VDEM

JPDO/NGATS

Local  
Governments

VSA

Community  
Citizens

VABA

CAP

VAF

99s

Pilots

AOPA

NBAA

The Flying Circus

VAOC

Aviation Museums



# Virginia Department of Aviation

**In many cases, our airports are the first and  
last impression of Virginia**

**Let's make that impression count!**



# Virginia Department of Aviation

Virginia   
is for   
flying lovers



[www.doav.virginia.gov](http://www.doav.virginia.gov)

(804) 236-3624

