Flying Virginia’s Economy:
Virginia’s Aviation System

Randall P Burdette
Executive Director
Virginia Department of Aviation
November 12, 2014
Airports Benefit All Virginians Through

1. Economic Development
2. Airline Service
3. Corporate Travel
4. Business Access
5. Just In Time Shipping
6. Search & Rescue
7. Medical Evacuation
8. Public Safety
9. Emergency Operations
10. Agriculture
11. Recreation & Tourism
12. Weather Reporting
13. Education
14. Revenue
15. Jobs
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
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.
IS-BAO Certification for Flight Department

- Rigorous Comprehensive Program
  - Risk Management Focused
  - Safety First
  - Standardization
  - Maintenance
  - Flight Training

- 1st State Avn Department in the Nation to achieve

- 120th Organization in the world

- 6th Year of Certification
Standard of Excellence

- ISO 9001-2008 Certification for DOAV

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

- 1st State Avn Department in the Nation to achieve
  - Just finished 5th year
Model Transportation System

2000 Population Within 45 Minutes Of A Commercial Service Airport Or 30 Minutes Of A General Aviation Airport: 99%
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
ADS-B 500 Ft Coverage

1090ES Coverage @ 500ft AGL

- ADS-R
- ADS-R / TIS-B

SV173, SV171 and SV158 Primary Sites
- Radio Stations
- Enroute and Terminal Radars
- Virginia State Boundary
- Other State Boundaries
- Protection Zones
- Original
- Additional
Small Community Airport Access Program (SCAAP)

- To Improve Safety and Access at GA Airports
- Weather Reporting Information at every airport (AWOS III)
  - Altimeter Setting
  - Ceiling
  - Visibility
  - Winds
  - Recorded Information
- Approach to every airport
  - GPS to minimums or
  - GPS to 1000 ft with 3 miles visibility
## Weather Reporting Systems

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

## Approaches Day Only 1000ft & 3 miles

1. Chase City  100% Completed
2. Crewe  
3. Gordonsville  
4. Hummel  
5. Lawrenceville  
6. Lunenburg  
7. Tangier  
8. Bridgewater  
9. Lake Anna  
10. New London  
11. New Market  
12. Shannon  
13. Smith Mtn Lake  
14. Williamsburg  
15. Waynesboro  

**ONLY STATE WITH 100% Completed**

Oct 2014
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

**Day Only 1000/3**

- **GPS**: 400 – 600 ft MDA
- **WAAS LP**: 350 – 400 ft DA
- **WAAS LPV**: 200 – 300 ft DA
- **LAAS**: 200 – 0 ft
- **GLS**: Cat II/III
- **3°**: ½ nm
- **LNAV**: ¾ nm
- **LP**: 1 nm
- **LNAV/VNAV**: 2 nm
Examples of Airport Projects

- Stafford Regional Airport Terminal
- Culpeper Regional Airport Site Preparation for Hangars
- Winchester Regional Airport South Apron Rehabilitation
- Middle Peninsula Regional Airport Eastern Development Access Road
- Leesburg Executive Airport Perimeter Fencing

Capital Development Investment FY14

Federal Funding $80,246,044
State Funding $20,030,624
Local Funding $14,600,000
Total $114,876,668
Projected Capital Development
Six Year Plan (FY15-20)

Examples of Airport Projects

- Virginia Tech-Montgomery Executive Airport Runway Extension
- Warrenton-Fauquier Airport Terminal Building
- Virginia Highlands Airport Runway Extension
- Norfolk International Airport New Runway EIS

Source: Airport ACIPs 2015-2020
Projected Capital Development
FAA Five Year Plan (FY15-19)

- **Washington Dulles International**
  - Entitlements $27,520,000
  - Discretionary $147,240,000
  - Total $174,760,000

- **Ronald Reagan Washington National**
  - Entitlements $12,600,000
  - Discretionary $36,000,000
  - Total $48,600,000

- Source: FAA 2015-2020
Facilities and Equipment Investment

FY14: $3,049,352

Examples of Completed F&E Projects
- Design and construction of 15 Automated Weather Observing Stations (AWOS)
- Upgraded 4 AWOS
- Navigational Aid maintenance

FY15-20: $8,914,631

Examples of Upcoming F&E Projects
- Localizer & Distance Measuring Equipment installations
- ILS installation at Hampton Roads Executive Airport
- Navigational Aid maintenance
Virginia NextGen Focus

Jobs

- Early Implementation
  - Mature Technologies

- Test Bed
  - Maturing Technologies

- Research Center
  - Emerging Technologies

Revenue
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

Trajectory Based Operations
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
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**
  - Updated passenger terminal facilities
  - Passenger amenities including conf rooms & wireless
  - 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
Virginia Aviation Education Facts

Total Pilots in Virginia: 15,354

Down from over 19,000 in 2004!

Total Mechanics in Virginia (2008) 4,864

Compared to PA 8,864
NY 12,080
TX 31,497
CA 34,908

BIG EDUCATION CHALLENGE & OPPORTUNITY
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
- *Does not consider leakage*

**Workforce Implementation Plan – Consortium Working**
Promote Aviation Awareness & Education

- Work Force Development
  - Technology Identification
  - Aviation and Aerospace Professional Needs
    - Pilots
    - Engineers
    - Technicians
  - Match with Education System
    - Aviation & Space Awareness by elementary school
    - STEM emphasis by early middle school
    - Specialty School options
    - Community Colleges and workforce certificates
    - 4year Colleges
Promote Aviation Awareness & Education

- Teaming with:
  - Department of Education
  - NASA
  - Virginia Space Grant Consortium
  - Virginia Aviation Business Association
  - Blue Ridge Community College
  - Liberty University
  - Aerospace Industries Association

- Reviewing Contract Proposals Now

- Contract Award Projected for December

- Will be seeking Administration endorsement upon completion
Provide the Safest and Most Efficient Flight Services for the Commonwealth Leadership and State Agencies

- IS-BAO Certification
- Business Tool
  - Saving time and money
  - Improving Productivity
- DOAV Flight Missions
  - Governor
  - Economic Development Partnership
  - State Colleges and Universities
  - State Agencies such as:
    - VDOT
    - Department of Corrections
    - State Hospitals

205 Flights since we last met

Approximately 1/3 to 1/2 the cost of Commercial Services
Ongoing Efforts

- **Studies**
  - **Airport Security Study**
  - **Pavement Management/Marking Study**
  - **Airport Sustainability Study**
  - **Virginia Air Transportation System Plan Update**
  - **Aviation & Space Workforce Implementation Plan**
  - **Air Service Study**

- **Business Applications:**
  - **Aircraft Licensing on-line application/payment**
  - **Airport IQ on-line reimbursement request**
  - **Web Site redesign**
Aviation Opportunities

1. Develop and Promote the Front Doors to our Communities – Our Airports

2. UAS Test Range & Business Development

3. Next Gen Technology

4. Aviation & Space Education
   – Needed for both our Aviation & Space Operations

5. Virginia Aviation & Aerospace Research Consortium
Teamwork

- Virginia Airport Operators Council (VAOC)
- Virginia Aviation Business Association (VABA)
- Virginia Airstrip Owners Association (VAOA)
- Virginia Helicopters Association (VHA)
- Virginia Soaring Association (VSA)
- Virginia Volunteer Pilots Group (VVPG)
- Virginia Seaplane Association (VSPA)
- Virginia Warbird Association (VWBA)
- Virginia AeroSpace Business Association (VASBA)
- Virginia Aviation & Space Education Forum (VASEF) *resurrected*
- Virginia Parachuting Association (VPA)
Why Virginia?

- Location, Location, Location
  - Best State for Business

- Commonwealth of Virginia & DOAV
  - Progressive
  - Business Focused

- Research Partners
  - NASA, MITRE, Universities, & Industry
In many cases, our airports are the first and last impression of Virginia.

Let’s make that impression count!