NASA Langley AAM Research

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AUVSI – HR AAM Symposium
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OVERALL ECONOMIC IMPACT (VA)

National Aeronautics and Space Administration

$2.5 BILLION
LABOR INCOME

$6.8 BILLION
ECONOMIC IMPACT

32,739 JOBS

NASA activities in Virginia generated

272.7 MILLION

in tax revenues for Virginia state and local governments

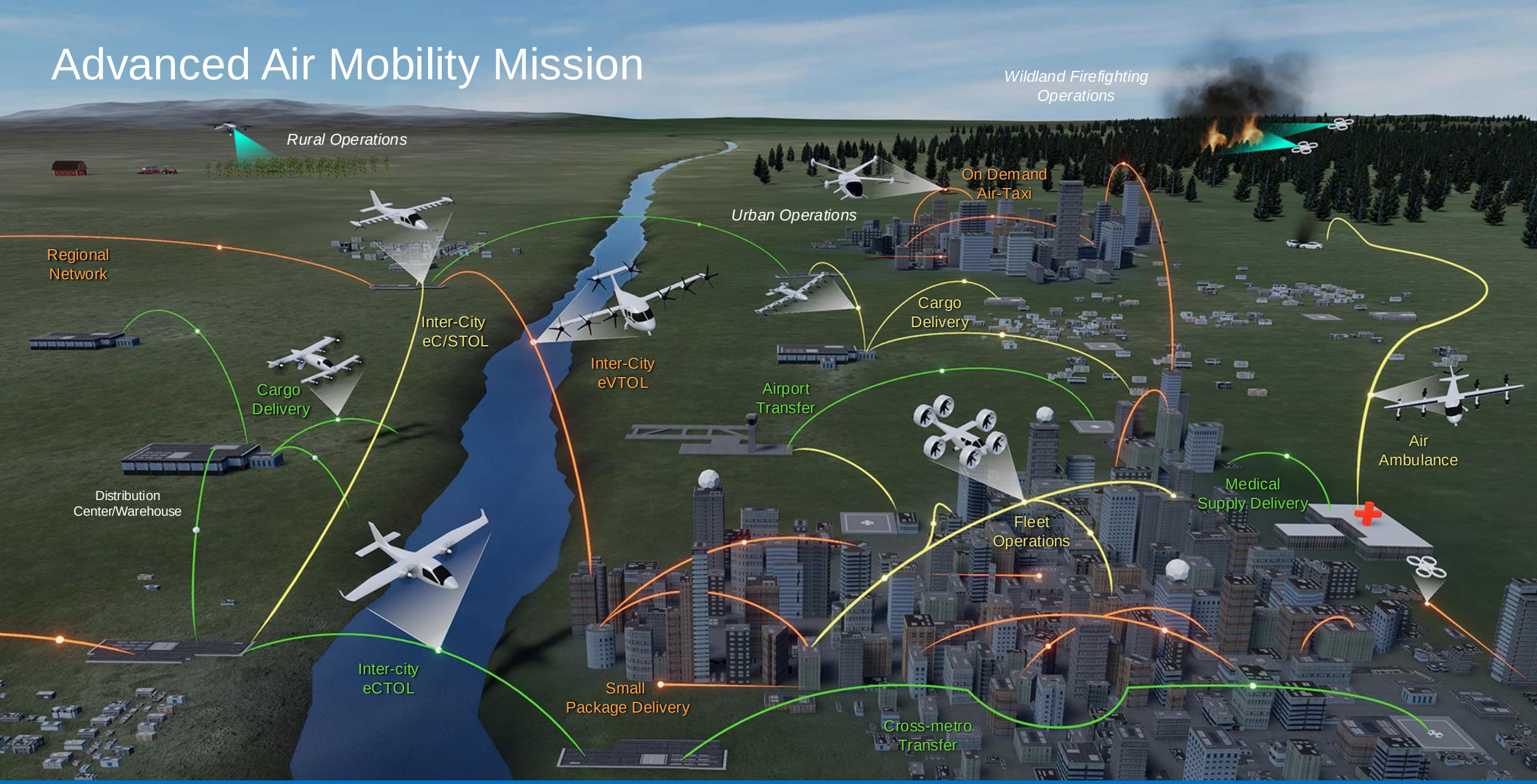
NASA contracts sourced in Virginia totaled

$2.1 BILLION

*As calculated by an agencywide study conducted by the University of Illinois Chicago's Nathalie P. Voorhees Center for Neighborhood and Community Improvement, based on fiscal 2021 numbers.

Four Transformations for Sustainability, Greater Mobility, and Economic Growth

Advanced Air Mobility Mission



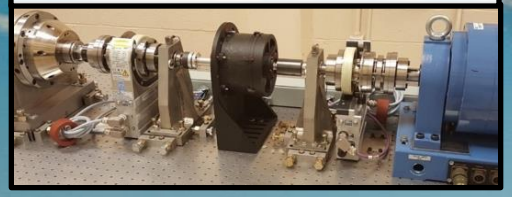
Safe, sustainable, affordable, and accessible aviation for transformational local and intraregional missions

NASA Projects Supporting AAM

- Revolutionary Vertical Lift Technology
- Transformational Tools and Technologies
  - Convergent Aeronautics Solutions
- System-Wide Safety
- Air Mobility Pathfinders
  - Airspace Traffic Management Exploration
  - Advanced Capabilities Emergency Response Operations

Vehicle Safety and Noise Research Supporting AAM

Reliable Electric Propulsion

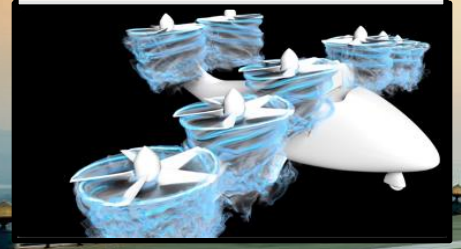


Piloted Handling Qualities Simulation

Performance and Acoustic Testing

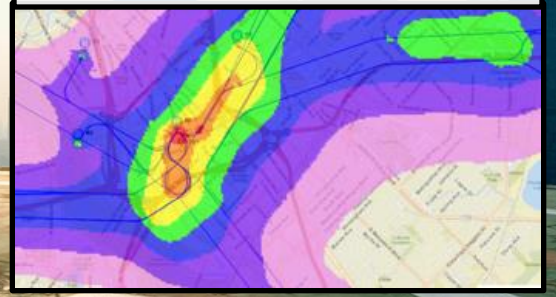
Passenger Ride Quality

High-Fidelity Simulation



Conceptual Design Tools

Noise and Annoyance Modeling



Crash Safety Testing and Modeling

Investing in the future of advanced vertical flight

DATA COLLECTION & AGGREGATION

FUSION OF BIG DATA SETS

RISK MITIGATION

Monitor – Assess – Mitigate – Assure

Operational Safety Enablers

CONTINUOUS DATA EXCHANGE

MACHINE LEARNING

AUTOMATED MONITORING

PROGNOSTIC RISK MODELING

ALERTING AND RESPONSE

ICN

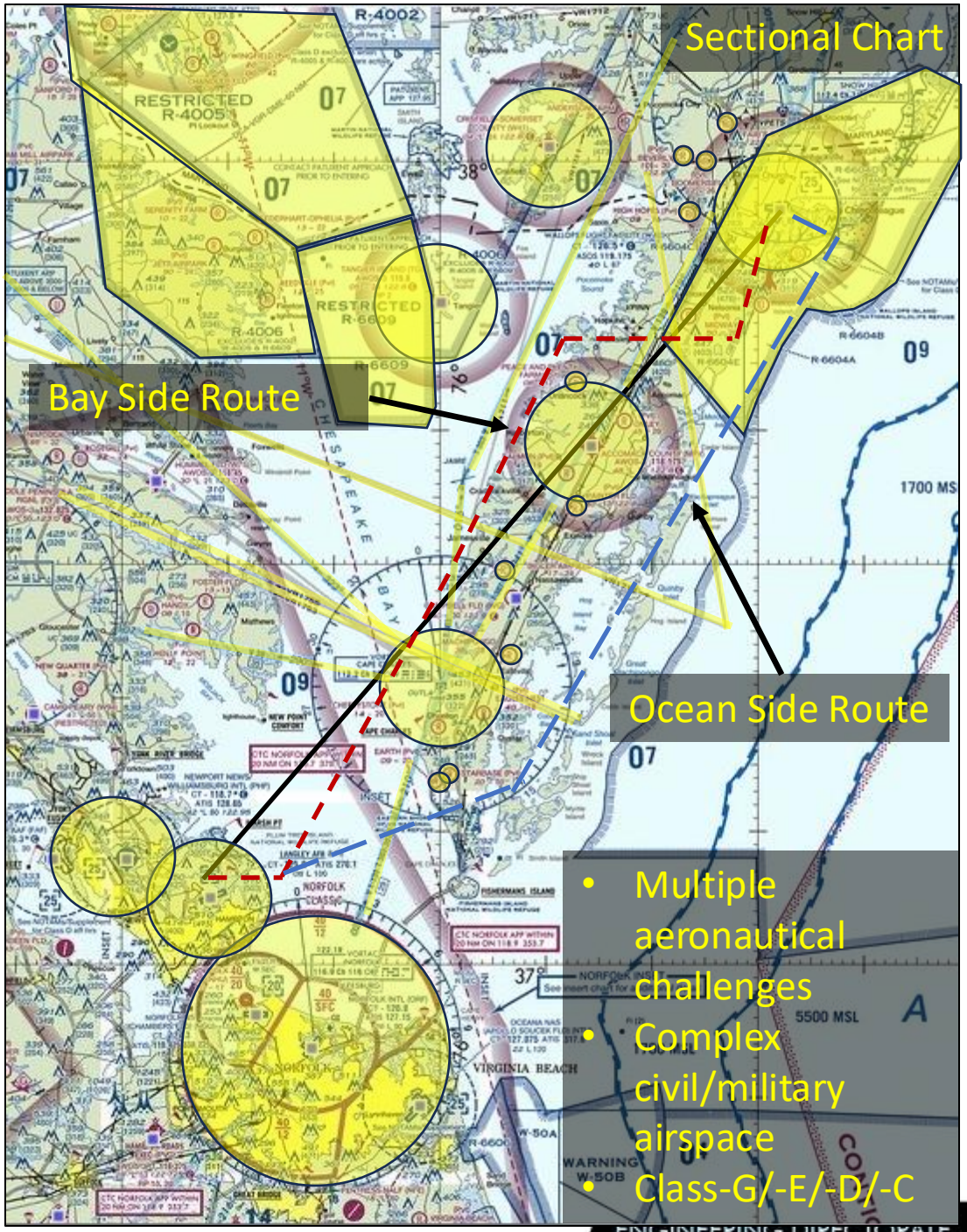
Verification & Validation

Assurance of Autonomy

Design Safety Enablers

Accelerating the future

- The future of Unmanned Aerial Systems (UAS) is paced by our ability to prototype and test those future applications and generate comprehensive test results
- While a corridor between two locations has tangible value, the inherent overarching value lies within the results generated from the development, integration, safety risk analysis and subsequent usage
- Application of NASA and/or Industry technologies will accelerate their implementation for other relevant use cases
  - For NASA the value resides within Technology Transfer
- NASA has the ability and relevance to develop and execute advanced UAS missions
- The envisioned LaRC WFF Corridor is an example of an advanced UAS mission prototype that will accelerate the future



Multi-Aircraft *m:N* Operations

small number of humans (m) supervising many autonomous aircraft (N)

National Aeronautics and Space Administration

Addressing Barriers to Scaling Emerging Aviation Operations

m:N operations enables Advanced Air Mobility

- Enables a viable Advanced Air Mobility (AAM) market
- Makes AAM accessible for the general pubic and underserved areas
- Provides effective ways to deploy aircraft for public good missions

Join our *m:N* Working Group

A collaboration with government, industry, and academia to:

- Identify and address m:N operations barriers
- Unite on common operating models for collective R&D
- Develop a roadmap to operational approval

Scan to learn more and check out our research, tools, and data

www.nasa.gov

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NASA's Advanced Air Mobility (AAM) research will transform our communities by bringing the movement of people and goods off the ground, on demand, and into the sky.