Introduction to Unmanned Aircraft Systems in North Carolina

House Committee on Unmanned Aircraft Systems
January 21, 2014

Agenda

- What is UAS?
- Federal Aviation Administration and State CIO Roles
- Current North Carolina Efforts
- Privacy and Data
- Potential Use Cases
- NC Status and Next Steps

What is UAS?

- UAV = Unmanned Aerial Vehicle (the aircraft itself)
- UAS = Unmanned Aircraft System (aircraft, controller, data collector, pilot, etc.)
- Drone = a common misnomer for UAS/UAV…drone in the military is a target used in missile testing
- UAVs entered public consciousness through military use
- Publicly available now
  - Parrot AR drone
  - $369.99 at Amazon

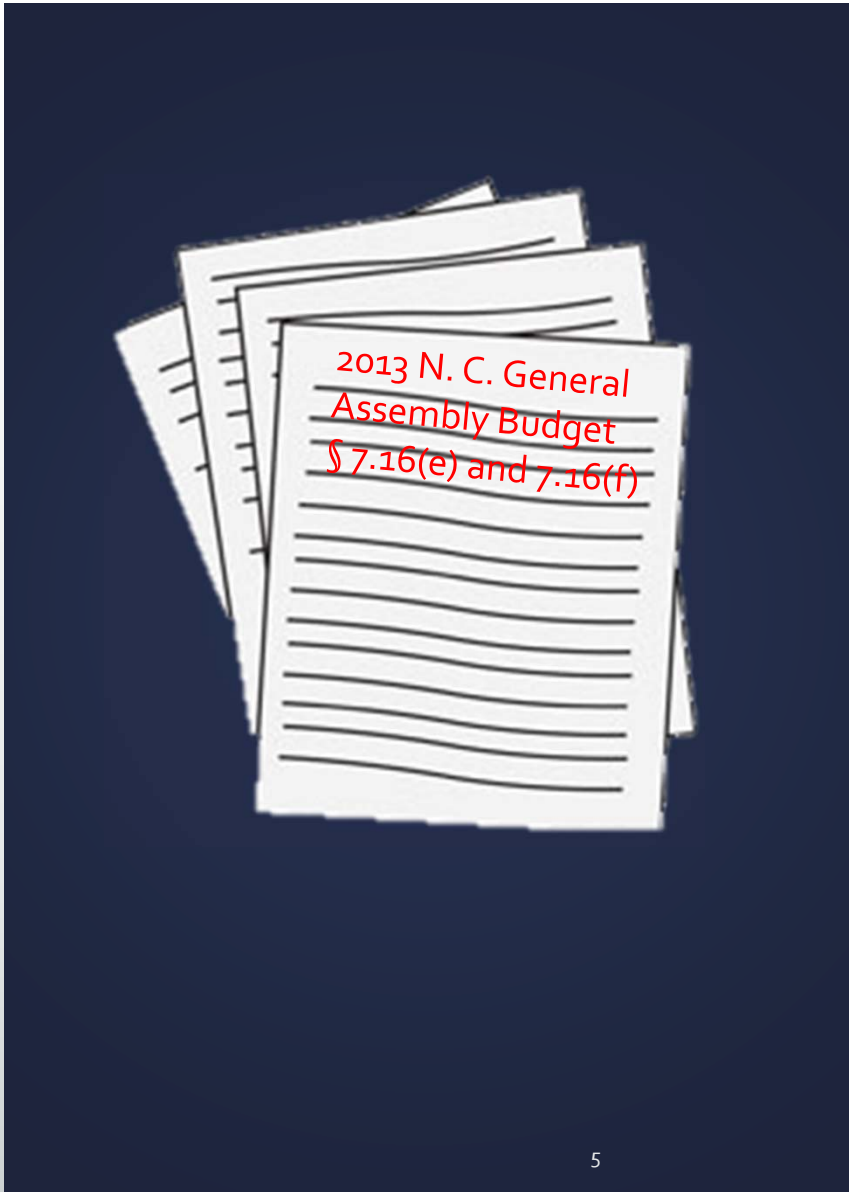
Federal Aviation Administration Role

- FAA strictly regulates UAS through its authority over U.S. airspace
- All flight operations must have Certificate of Authorization (COA) from FAA
  - Exception is hobbyist flying
- Operations currently limited to government use and research
  - No commercial use until after July 2015
  - Hobbyists continue to push the limits as technology improves
    - Several YouTube videos show use in North Carolina
- FAA recently announced six test sites to research integration of UAS into national airspace
  - Alaska, Nevada, New York, Texas, Virginia, and North Dakota
- Other states not restricted from flying
  - Subject to applicable FAA and state regulations

Amazon delivery concept currently not allowed

State Chief Information Officer role

- 2013 Legislation gave State CIO oversight of UAS in state and local government
  - State CIO approval required for procurement or operation before July 1, 2015
  - Authorizes State CIO to study need for UAS by state and local agencies
- Report due to IT Oversight, Transportation Oversight and Fiscal Research by March 1, 2014



Governance

Operations

Flight Equipment

Servers

Asset Management

Data Analysis

Policies

Storage

State CIO role is logical

UAS is what you see…

…UAS is really hardware, software and data

Current NC Efforts

- Cross-functional workgroup established to research issues and prepare legislative report
  - NCSU
  - State CIO
  - DOT
  - DENR
  - NC Military Foundation
  - Duke University
  - Governor's Policy and Legal offices
  - NC Innovation Center (iCenter)
  - NC National Guard
  - NC Department of Commerce
  - Research Triangle Institute

CIO Governance Report

Due Date: 03-01-2013

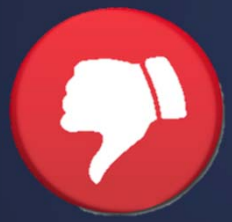
- ☑ Governance structure to include the appropriate use at each level of government.
- ☑ Guidelines for program implementation to include limitations on unmanned aircraft system use.
- ☑ Potential participants.
- ☑ Costs associated with establishing a program.
- ☑ Potential sources of funding.
- ☑ Issues associated with establishing a program to include limitations on entities that may already have purchased UAVs
- ☑ Recommendations for legislative proposals.

Privacy and Data

- FAA concerned with regulating **airspace,** but public concerns center around **privacy** and **data protection**
- Safety, privacy, and protection are highest priority of state's efforts
- Working group will cover data protection in detail in legislative report
- Recommended governance for law enforcement also covers privacy issues

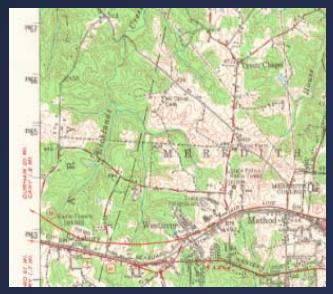
Public Polling

52%% support hostage situation use
62% support immigration control use
83% support search-and-rescue use



76% believe warrant should be required for law enforcement
72% against UAS for speeding tickets

Source: Monmouth University Poll – August 2013



Hundreds of Potential Use Cases

- Emergency Management
- Mapping
- Homeland Security
- Civil Air Patrol
- Highway Patrol
- Agriculture
- Forestry
- Wildlife Resources
- Transportation
- Investigation
- Drug Enforcement
- Anti-terrorism
- Law Enforcement
- First Responder Support
- Emergency Management
- Disaster Analysis
- Airport Planning
- Others

Economic Benefits – The North Carolina Connection

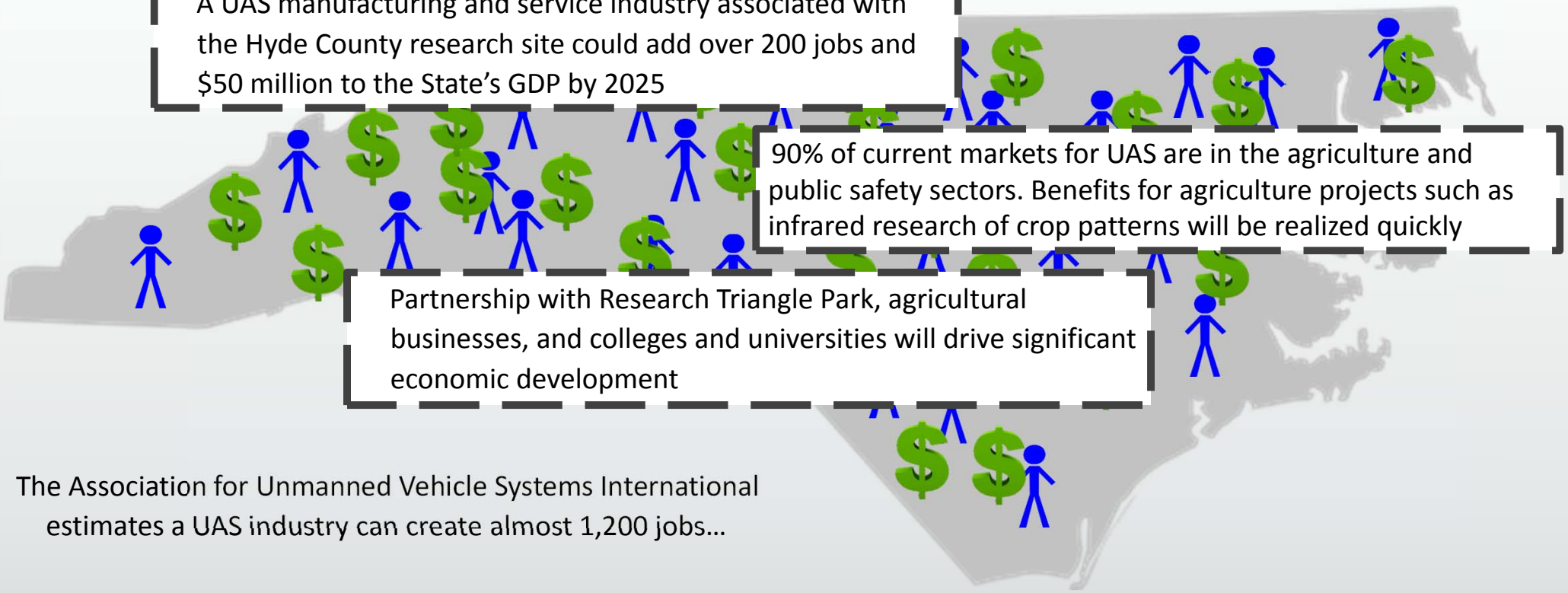
The state is poised to support an emerging private industry that would bring new jobs and related economic development

FAA estimates that 7,500 commercial UAS will be viable within 5 years and as many as 30,000 by 2020

A UAS manufacturing and service industry associated with the Hyde County research site could add over 200 jobs and $50 million to the State's GDP by 2025

90% of current markets for UAS are in the agriculture and public safety sectors. Benefits for agriculture projects such as infrared research of crop patterns will be realized quickly

Partnership with Research Triangle Park, agricultural businesses, and colleges and universities will drive significant economic development



The Association for Unmanned Vehicle Systems International estimates a UAS industry can create almost 1,200 jobs…

…and $600 million in economic activity in NC by 2025

Statistics prepared by Department of Commerce as part of the Hyde County Test Site Proposal

Current NC UAS Status

- NCSU's Next Generation Air Transportation (NGAT) division has led the state's flight operations to date
- Received Certificate of Authorization from FAA and subsequent CIO approval for research at 3 remote sites:
  - Hyde County (submitted as FAA test site)
  - NCSU Butner Beef Cattle Farm
  - Moyock
- FAA test site decision does not impact NC program and future plans
- Program will focus on jobs, education, and assessing the capabilities of UAS technologies for integration with state and local governmental agencies.

Next Steps

- NGAT will launch an education/training assessment initiative in early 2014
- Teams formed to address governance issues across agencies and use cases
- Complete report to the Legislature
- Public outreach efforts being discussed with Department of Commerce
- Working group is evaluating examples from other states (about 30 have considered UAS-related laws this year) to identify best practices

Questions?