

Division of Intermodal, Aviation Programs



# Uncrewed Aircraft Systems (UAS) FY 2024 Annual Report

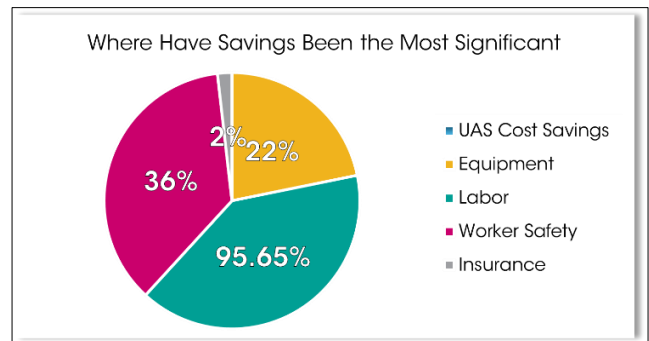
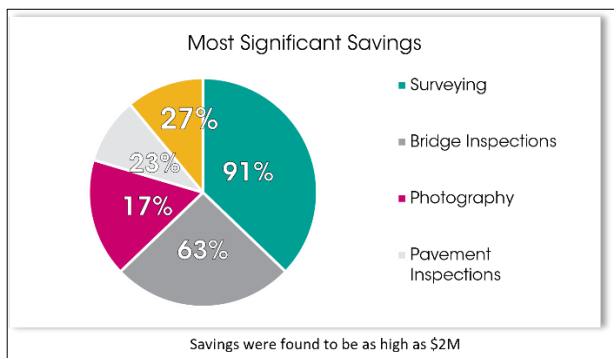
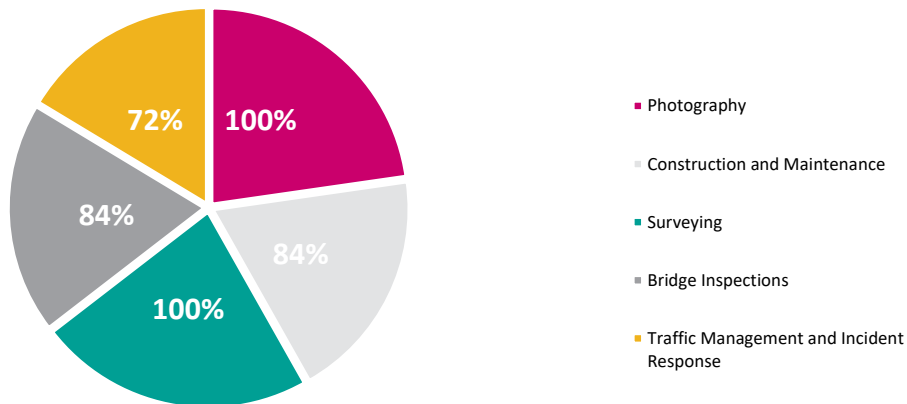


# The State of UAS

In FY 24, state transportation departments experienced a notable rise in the use of drones. Many state DOTs initially experimented with drones in pilot projects for specific tasks such as bridge inspections, traffic monitoring, and disaster response. The success of these pilot projects has been shared throughout the industry, leading other state DOTs to recognize the potential benefits and incorporate drones into their operations.

The recent 2024 Quick Snapshot survey published by the American Association of State Highway and Transportation Officials (AASHTO) UAS/AAM committee working group provides valuable insights into state departments' priorities and focus areas. The chart below shows that 100% of survey respondents use drones for aerial photography and surveying.

Top 5 Operational Areas Conducted Using Drones



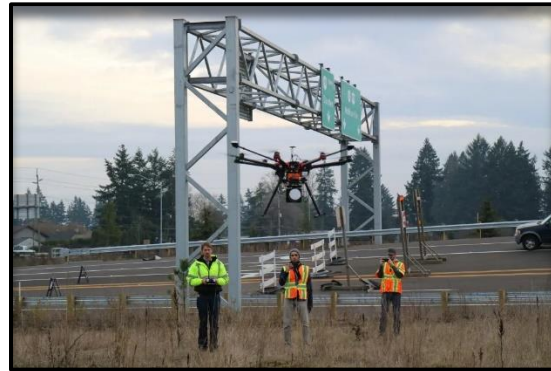
## UAS Remote Pilot Training

The Georgia Department of Transportation (GDOT) now offers remote pilot certification training online in the Enterprise Learning Management System (ELMS). This self-paced training focuses on preparing individuals for the FAA Part 107 exam, which is necessary to operate

drones commercially. The certification is crucial for using drones in various applications such as infrastructure inspection, aerial photography, and other purposes.

The UAS Remote Pilot Certificate Training builds upon the introductory UAS Awareness Course. It is a 4-module series for anyone interested in studying for and completing the FAA Exam.

- Module 1: FAA Regulations
- Module 2: Aviation Fundamentals
- Module 3: UAS Operations
- Module 4: Remote Pilot Resources



The UAS Program team plans to develop robust hands-on training to enable staff to handle more complex missions. The FAA plans to introduce Part 108 regulations to address specialized aspects of drone use, which could require advanced skills and knowledge of advanced technologies such as detect-and-avoid systems, advanced flight planning, and automated mission management, necessitating hands-on training.

[\(UAS BVLOS Aviation Rulemaking Committee Proposed New 14 CFR Part 108 pg. 161\)](#)

### **FY 2024 UAS Program Report**

Georgia DOT's UAS Program has two current initiatives:

1. Acquire the UAS resources essential for the inspection of critical infrastructure.
2. Raise UAS awareness by educating potential stakeholders and developing future use cases and pilots.

The Georgia DOT UAS Program is now in its ninth year. The number of federally certified pilots in the UAS Program declined from 30 to 28 last year.

Leadership's support of UAS technology contributes to the program's overall success and ensures divisions and offices are in sync regarding equipment, policies, procedures, and insurance coverage. In FY 24, the Department formed a UAS high level committee to steer and energize the program. The committee has just begun its work and more will come in next year's annual report.

### **Georgia DOT Policy Summary**

The FAA issued 14 CFR Part 107 on August 29, 2016. It set forth safety regulations for small UAS weighing less than 55 pounds for non-hobbyist operations. The purpose of this policy and its application to Georgia DOT is twofold:

1. To ensure Georgia DOT and its employees comply with 14 CFR Part 107 and all applicable state and federal laws.
2. To establish internal Georgia DOT procedural and operational requirements to ensure the safety and efficiency of all UAS flight operations conducted by Georgia DOT personnel.

This policy was enacted in 2017 as Georgia DOT Policy 3545-1. The UAS Program Management team will update this policy within the next year.

### Equipment Registration

Historically, the purchasing Georgia DOT district or office registered the equipment in accordance with FAA rules and regulations. Beginning in FY23 the UAS Program Manager assumed responsibility for registration to ensure seamless compliance with FAA regulations.

### UAS Pilot-In-Command

Georgia DOT personnel must obtain an FAA Remote Pilot Certificate with a small UAS rating prior to flying a Georgia DOT-owned UAS.

### Visual Observer

UAS flights must utilize a “two-person rule” as the minimum. The UAS Pilot-In-Command designates a Visual Observer (VO) for UAS flights. The VO provides an additional set of eyes for the pilot and watches for air traffic obstacles or objects aloft or on the ground. Visual Observer Training is now available to all Georgia DOT employees online through the ELMS Training Portal.

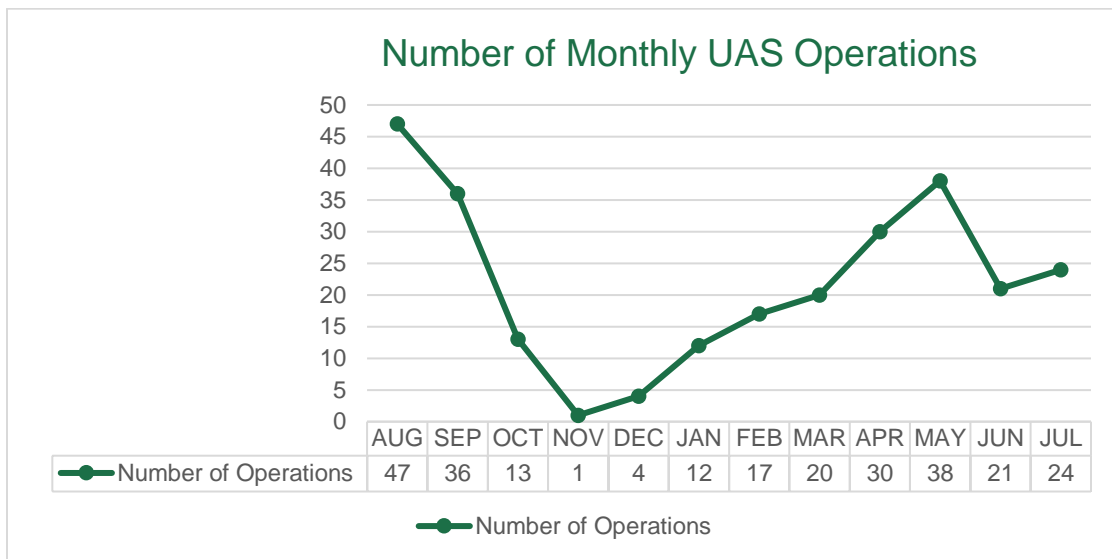
**Distribution of Department UAS Pilots**

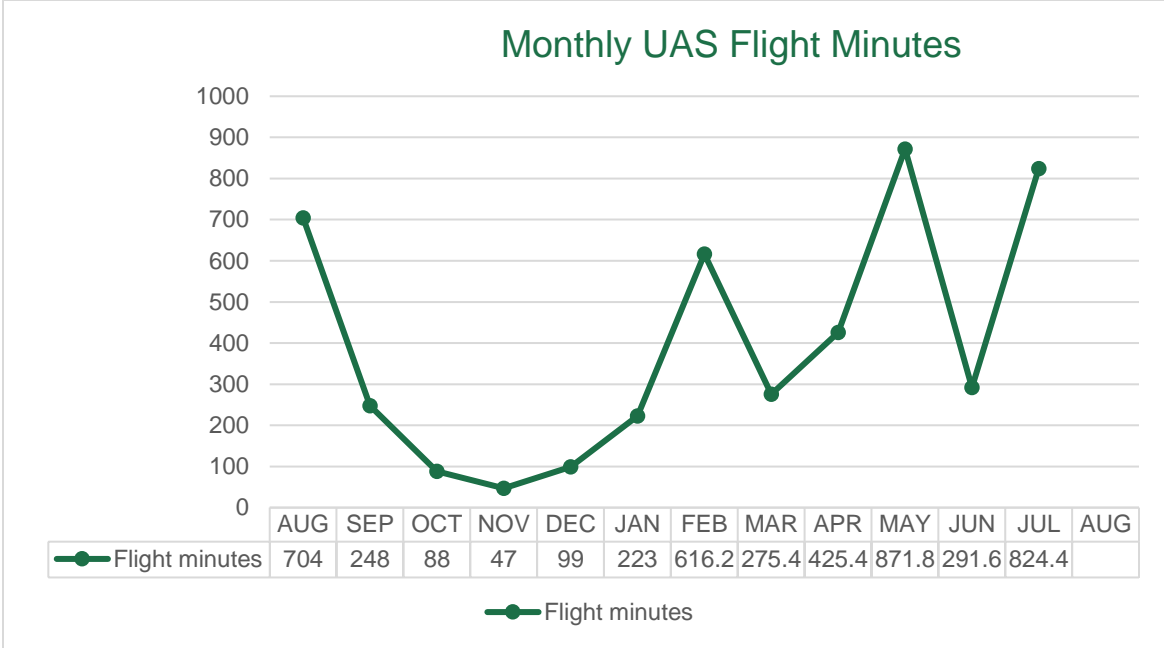
Department	UAS Pilots	Trainees		Department	UAS Pilots	Trainees
Traffic Ops, H.E.R.O. Unit:	1	0		Traffic Ops/TMC:	0	0
Division of Intermodal:	4	0		District 1:	1	1
District 2:	1	1		District 3:	0	0
District 4:	2	0		District 5:	5	1
District 6:	0	2		District 7:	2	0
Bridge Design:	2	0		Maintenance:	1	0
Bridge Inspection:	4	2		Communications:	0	1
State Location (ODPS):	2	0		TIA:	0	0
Office of Legal:	1	0				

In FY24, the UAS Program conducted 286 operations and accumulated over 80 flight hours, a 55% increase in the Georgia DOT's UAS utilization rate. Several factors contribute to increased drone utilization rates across divisions and offices.

The Department acquired ESRI Site Scan, a robust cloud-based drone mapping and analytics platform that helps transportation agencies streamline drone operations. It enhances flight planning, data analysis, and automation, allowing for more complex missions and seamless integration into existing workflows.

The Department complies with the FAA’s Remote ID rule, which officially took effect on September 16, 2023. This compliance positions the agency to operate drones more efficiently and safely within regulated airspace while also enabling participation in more advanced drone operations, such as beyond-visual-line-of-sight (BVLOS) missions. More training programs and certifications are available, equipping operators with the skills to use drones effectively.





**Industry Collaboration**

In FY24, the Georgia DOT UAS management attended the AUVSI Xponential Conference and FAA Drone Symposium.

The 2024 AUVSI Xponential conference showcased cutting-edge innovations in autonomy, robotics, and uncrewed systems. The event brought together 7,500 global industry leaders, vendors, and defense officials.

The 2024 FAA Done symposium highlighted regulatory advancements, industry collaboration, and the need for continued innovation and safety in UAS operations.

Other Industry Collaborations:

- Represented Georgia DOT for the National Cooperative Highway Research Program (NCHRP) Project 23-20: Guidebook for Implementation of Uncrewed Aircraft Systems (UAS) and Advanced Air Mobility (AAM) Operational Capabilities
- Participated in the Advanced Air Mobility Workshop with the National Association of State Aviation Officials (NASAO)
- Represented the UAS Program in ongoing UAS research project update meetings through the Georgia DOT Office of Research.

**Future of UAS at Georgia DOT**

The Georgia DOT UAS Program Manager will continue identifying new opportunities to expand collaboration and information sharing to move the program forward. The UAS Program



Management team will continue to improve and expand the use of UAS for emergency operations, bridge inspections, traffic operations, project mapping, and the conversion of collected data into 2D and 3D plans and models.

### **Gaining Exposure for the UAS Program**

The UAS Program staff has begun several initiatives to increase exposure for the Georgia DOT UAS Program both internally and externally. These efforts include submitting articles on UAS operations to Georgia DOT's Office of Strategic Communications for inclusion in the Milepost magazine, The Extra Mile blog, and the Georgia DOT podcast Ahead of the Curve. Additionally, UAS Program Management team members routinely serve on industry panels and working groups relating to UAS and AAM



# UAS Operations

The Department’s UAS Program continues to demonstrate the value of innovative technology in enhancing project delivery and operational efficiency. Throughout FY 2024, UAS flights were conducted across various projects to capture high-resolution imagery. These efforts supported initiatives ranging from construction monitoring to bridge inspections and emergency response. The images presented here highlight the diverse applications of UAS technology and showcase its role in driving data-driven decision-making and improving statewide infrastructure management.



PI 0013942 – SR 1(US 27) over Long Cane Creek – Troup Co  
PI 0016804 – Lowery Firehouse Road over Ochwalkee Creek – Laurens Co  
PI 0017311 – Piney Grove Road over Colemans Creek – Appling Co  
Images taken by UAS Pilot Robert “Greg” Ellison

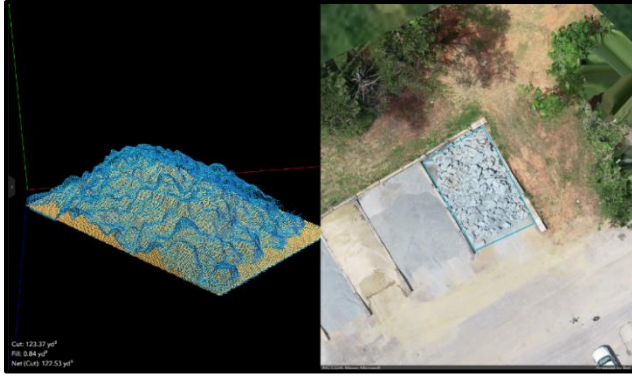




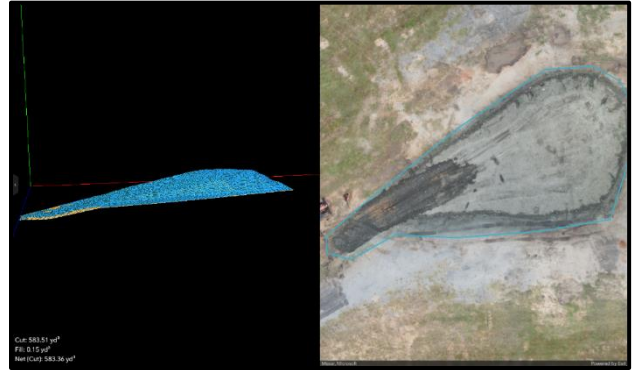
1.278 miles of pedestrian upgrades and realignment US 441/SR 15 beginning at I-85/SR 403 and extending to Faulkner Road (CR 18); also includes median construction beginning at the Jackson County line and extending south of I-85/SR 403  
Images taken by UAS Pilot Donny "Mitch" Garmon



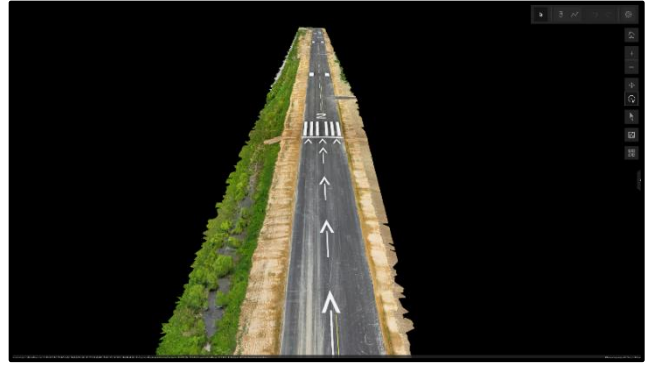
PI 21440 - SR 89 SR 31 (US 441) widening and reconstruction 'project  
Images taken by UAS Pilot Basil Dahman



District 1 Area 4 Stockpile measurement  
UAS mission flown by Donny "Mitch" Garmon



District 2 Stockpile Measurement  
UAS mission flown by Josh Woodward



Barwick-LaFayette Airport Runway Reconstruction Project to increase its separation from a railroad in the Runway Object Free Area (ROFA) by 15 feet.  
UAS Mission flown by Demario Hall



QR Project S015821, SR 316 at Williams Farm Road, RCUT. The project aims to reduce potential crash points and improve traffic flow on major roads. UAS Mission flown by Demario Hall. Visual Observer, Lewis Brooker





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**GDOT Policy 3541-1: Policy and Operational Guidelines for Small Unmanned Aircraft  
Systems**