Missouri DOT UAV Survey

Conducted by MoDOT Construction & Materials Division Research Section (inquiry sent to Montana DOT UAV Forum May 2018)

State DOTs Responding: IL, ME, MT, PA, RI, TX, VA, WA

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How are UAV/Drone Services performed at your DOT?

- Internal forces/own your own drones
- Contracted out
- Combination of the two

Texas: Contracted out

Illinois: Currently, the majority of UAS work is done in-house. There have been several instances of consultants/contractors using UAS in support of various projects, but we do not have a UAS service provider on contract, so to speak.

Pennsylvania: Combination of the two

Rhode Island: We are just starting our program but we have partnered with the University of Rhode Island to work with a professor and graduate students to develop a plan for inspecting bridges with drones. One bridge inspector has a UAS pilot license. We have decided to use FHWA research funds at this stage.

Washington: Combination of the two

Maine: Combination of the two

Virginia: To date, VDOT has only used contracted services (and only for demonstrations or “one-offs”). We are in the process of integrating UAS into our standard practices where it makes sense to do so on a widespread basis. We believe that going forward we will use contracted services for the majority of our applications but may own some UAS for time-critical applications. Regardless of whether the services are in-house or contracted, we believe it will be important to have a program coordinator who has the full picture of how UAS are being used by VDOT and who keeps track of changes in the technology that might enable additional applications. We have not yet designated a home for that program coordinator in our Org structure but are considering placing it within our survey group.

Montana: Combination of the two.
If your DOT uses internal forces ...

- Do you have a separate division or is it part of an existing division?
- Do you have dedicated staff that only flies the UAVs/Drones or is it part of their other duties?
  - If part of other duties, do you know if they are they paid differently when they “pilot”?

Texas: We are expecting to use a hybrid approach with contractors flying UAV missions. We are defining this approach as the possible need for TXDOT personnel on site for ad hoc information associated with an inspection of survey.

Illinois: IDOT UAS are being flown by staff located within IDOT’s Division of Aeronautics. All of which currently hold a Part 61 manned Pilot Certificate as well. We are in the process of developing a staffing structure for the UAS Program. We also formed an internal Strategic Working Group (SWG) comprised of internal subject matter experts from a variety of locations within IDOT to assist in how best to implement this technology throughout the department. UAS operation is currently part of the staff’s other duties, but we expect that to change. We are looking into the most appropriate long-term operating structure – whether UAS will be flown by dedicated crews/staff or other staff will be trained to use UAS to supplement their current duties. Current staff operate UAS as an “other duties as assigned” – meaning this activity is in addition to their typical ‘day job’ as their schedule and the priorities of the Department determine. No different/additional pay is received while acting as part of the UAS crew vs their standard rate of pay.

Pennsylvania: Part of an existing division. PennDOT currently owns one drone (Dragon Flyer X-4), with one operator trained to employ the device. This drone is maintained in our Geotechnical Section. It has been used to inspect (photograph, video) slide areas and sink holes where direct visual inspection is hazardous. and no dedicated staff it is an additional duty. Staff is not paid differently when piloting UAVs.

Rhode Island: Part of our existing Bridges section in coordination with the Planning Division and it is part of their bridge inspection duties. Staff are not paid differently when piloting UAVs.

Washington: It is not a separated Division and no dedicated staff it is additional duties. Staff is not paid differently when piloting UAVs.

Maine: not a separated Division and no dedicated staff. Staff is not paid differently when piloting UAVs.

Virginia: N/A

Montana: Currently it is part of existing sections within the Department. However, the policy might change as technology (expensive technology) and FAA regs change. Currently other duties as assigned and no additional pay, however all pilots must have FAA Part 107 license to operate UAV.
- Do internal employees go through the Part 107 licensing process or self certify as a public agency?
- Does your DOT operate under a public COA (Certificate of Authorization)?

Texas: N/A

Illinois: All staff currently authorized to operate UAS under Part 107 (or act as a Visual Observer) hold a Part 107 Remote Pilot Certificate which they obtained themselves. As mentioned, they are also all Part 61 certificated manned pilots as well at this time. Moving forward, the Department may change this requirement depending on the outcome/recommendations of the SWG. Yes, we also hold a Public COA and require all UAS Crew to hold a Part 107 and a Part 61 certificate while operating under that. The majority of our operations are Part 107.

Pennsylvania: Only one operator - self-certified under ‘pre-Part 107’ COA. YES… but future ops will move towards multiple operators operating under Part 107.

Rhode Island: PART 107 and no COA.

Washington: Employees go through the Part 107 licensing process. We then have them go through a separate agency certification process. We have not flown in controlled airspace. We are waiting for LAANC.

Maine: So far individual employees have licenses but it was done on their own time and dime. Currently don’t operate under a public COA. We’re looking to change this, as it would likely make operating UAVs within DOT a lot more efficient.

Virginia: We have no internal employees flying currently but are likely to require Part 107 licensing, based on what we’ve heard from other states.

Montana: Part 107 license required. MT DOT does not operate under a public COA.
If you contract out some or all services, would you be willing to share your contracting documents?

Texas: All TXDOT documentation can be found [here](#). We currently have one contract associated with flying UAV which was approved after Hurricane Harvey. Due to the high costs, our districts are not utilizing it. We are currently contracting the implementation of our UAV research project, responsible for all documents in the link above. This implementation is a knowledge transfer for districts and divisions to understand and set standards of using UAV for data acquisitions with vendors providing UAV services.

Illinois: N/A.

Pennsylvania: Currently our Department is staffing a formal policy for contracting third party UAS operators. Can share when approved. Key components of policy will include:

- Requirement for Signed third party agreement
- Requirement to operate under Part 107
- Third party insurance and PennDOT indemnification requirements
- Vetting of remote pilot training and proficiency
- Pre-flight planning and coordination expectations
- Completing mission Risk Assessments – with PennDOT review/ approval
- Post-flight documentation expectations
- Ownership and control of data

Rhode Island: N/A.

Washington:

Maine: I’m aware of a few projects that were done with contractors. I try to chase down the documents

Virginia: To date, we’ve only done demonstrations so those contracts are not likely to be useful. We’d be happy to share once we have a “production” contract ready to go.

Montana: Confidential at this time.
How often do you utilize drones at the DOT?

Texas: This will be available once our UAS program begins; expected to be stood up at the end of the implementation project. Flight schedules in the state will be dependent on renegotiation of our UAV vendor contract or its cancelation/ a state wide RFP being released.

Illinois: We operate approximately weekly, more when the weather is conducive and during construction season. As the program expands, we expect daily operations will become commonplace.

Pennsylvania: Currently, only periodically. PennDOT is also participating with a Joint UAS Working Group to establish common operating standards, expectations, and training for all Pennsylvania State Agency UAS operations.

Rhode Island: Program is new so it is sporadic.

Washington: Too soon to tell

Maine: monthly? – Maybe less but there’s enormous interest. We set up a UAV Technical Users Group just recently to start grappling with some of the issues that are in this survey. MaineDOT does not own any drones but likely will be purchasing some soon. Numerous staff have license. One staff member has a little side business.

Virginia: At this time, use is sporadic but we expect that to change in the coming months.

Montana: Currently once or twice a month for 2 individuals, but this is expected to rise to four individuals in the near future and possibly a dozen within two years.