

Developing a UAS Program: From Startup to Additional Tasking

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Presenter:

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New Jersey Department of Transportation (NJDOT)



NJDOT Keys to Success



New Jersey DOT UAS Program

Remote Pilots

- 2- UAS Program Mgr and an Assistant
- 3- Aeronautics pilots
- 2- Traffic Operations
- 1- Construction Mgmt
- 1- Emergency Mgmt
- 1- Maritime Resources

Funding

- FHWA T2 Grant for a UAS Peer Exchange
- FHWA State Transportation Innovation Council (STIC) for Equipment & Training
- FHWA State Planning & Research Grant for Best Practices, Policies and Procedures

Equipment

- Matrice 210 with Z30 zoom
- Inspire 2 with X4S/X5S/zoom
- Phantom 4 Pro+ & Phantom 4 Pro V2
- Mavic Pro



How does NJDOT select UAS Projects?

Projects must have the potential to meet one or more of the following criteria to be considered for support:

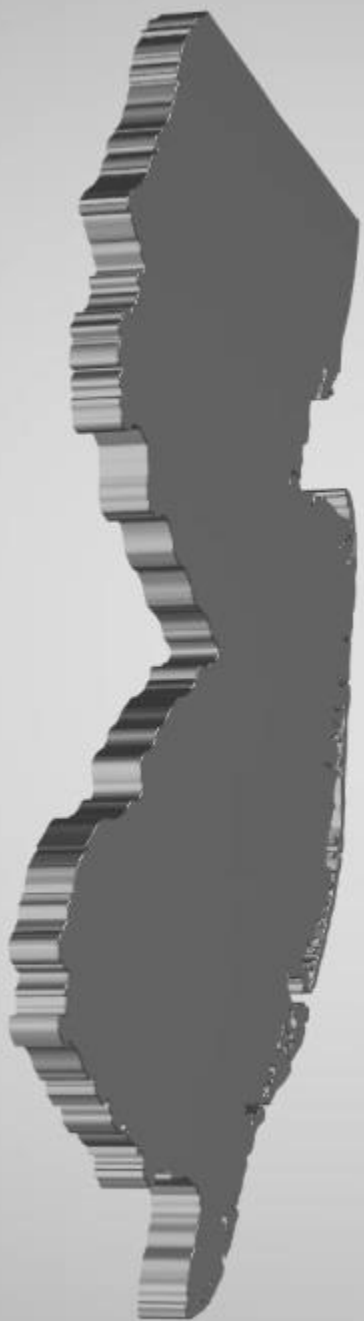
- ▶ Increased Safety
- ▶ Increased Efficiency
- ▶ Save Time
- ▶ Save Money



A photograph of three workers in safety vests and hard hats reviewing plans outdoors in a snowy, wooded area. One worker on the left is looking up, while the other two are looking down at the plans they are holding together.

- [illegible]












I - 495 TRAFFIC

BUREAU OF AERONAUTICS, JULY 1, 2019

Return on Investment - High Mast Inspections

WHAT ARE THE BENEFITS/COSTS?			
CRITERIA	TRADITIONAL	UAS	BUCKET TRUCKS (All Initial Inspections)
 Time (labor hours)	1,264 – 1,552	1,476	3,312
 Cost	\$167,600 – \$177,667	\$186,025	\$477,022
 Safety	\$2,162 per pole requiring a lane closures	\$0	\$2,162 per pole requiring a lane closures
 Efficiency	\$1,736 per pole requiring a lane closures	\$0	\$1,736 per pole requiring a lane closures
 Total Cost	\$190,988 – \$201,055	\$186,025	\$500,410

Note: Assumes 10% of poles have a potential defect.

ADDITIONAL BENEFITS

The UAS approach offers additional benefits that could not be quantified, such as:

- HIGHER QUALITY PHOTOGRAPHS for analysis and documentation
- Fewer SAFETY RISKS, lower VEHICLE EMISSIONS, and less TIME – no driving to secondary inspections
- Eliminate safety and traffic impacts of a SHOULDER CLOSURE – no secondary inspections
- Reduced INJURY EXPOSURE to workers (both in work zones and in bucket trucks)





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