massDOT
Massachusetts Department of Transportation
Aeronautics Division

# Board Report:
## Implementation of Aurigo IT Project Management System, Airport Security Camera Program Update, and Drone Program Activities

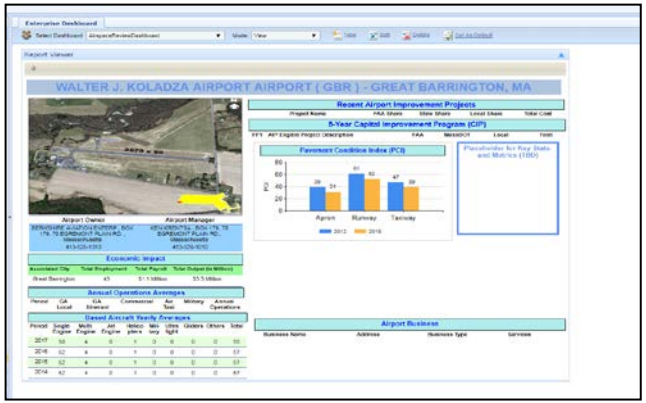
Monday July 16, 2018

*Presented to:*
- Board of Directors

*Presented by:*
- Aeronautics Division
  - Dr. Jeff DeCarlo

# Aurigo Masterworks Project Management System

- Milestone: Live as of June 29, 2018
  - continued support & maintenance from Aurigo through July 31, 2018
- Masterworks is a web-based application that will automate processes, integrate data from other systems and provide business benefits:
  - reduced manual data entry
  - provide consistently high accuracy data
- Registrations module proven to be a tremendous upgrade from previous method
- Projects module being extensively reviewed
- Training plan for airports/consultants being created
  - training schedule - late summer/early fall




Example of a Masterworks Dashboard

# 2018 Statewide Security Camera Upgrades

In 2014, the Statewide Security Camera Upgrade program was established to improve security and safety at airport Traffic Control Towers, MassDOT Aeronautics has partnered with the MBTA's to contract to procure cameras, saving MassDOT both time and money, while improving safety more rapidly.

- The camera program has been expanded to cover non-towered airports
- To date, 19 (of 36) public use airports have been outfitted with cameras
- Total expenditures to date are $ 2.3 million, budget for FY19 is $1.25 million

Cameras have already having an impact:

- provided the proof necessary to make the arrest after breaking and entering
- exposed vulnerabilities in fencing and access controls, which led to new and stronger security measures being put into place

# Drone Pilot Program:
# Update on Activities

# Evaluating Utility: New Fixed Wing Drones

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**EVALUATING UTILITY AND GAINING OPERATIONAL EXPERIENCE BY SUPPORTING MASSDOT MISSIONS**

- Long-endurance, fixed-wing drone for new uses
  - Airport pavement evaluation; Rail and right of way inspection
- Hardware and sensors will also be evaluated

Note 1: Sensor Optimized for Drone Ops – RGB Broad Color Array
Note 2: Real Time Kinetic; Post-Processed Kinetic

| | SenseFly ebee | Delair UX11 |
|---|---|---|
| Sensors | S.O.D.A. RGB Sensor[1] | Hi Res, Low/No Distortion |
| Features | RTK/PPK Accuracy[2] | PPK Accuracy[2] |
| Flight Time | 50 min | 59 min |
| Max Range / Cruise Speed | 20 mi / 25 – 56 mph | 33 mi / 34 mph |

# Drone Support Across MassDOT

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Highway District 1
Roof Inspection

LENOX

NORTHAMPTON

Highway District 3
Headquarters Construction

WORCESTER

STURBRIDGE

MBTA
Wellington Station

MEDFORD

QUINCY

COHASSET

MBTA OCC
Quincy Nor'easter

Highway District 2
Roof Inspection

TAUNTON

Highway District 3
Sturbridge BMP

Highway District 5
I-495 Lobes

Highway District 5
Cohasset Bridge

Centralized

Distributed

# Documenting Large Projects by Drone
# Bridge Construction – Cohasset, MA

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- Drone used to document implementation of new bridge/beam construction practices
- Subsequent request for documenting deck steel placement, deck pour, final paving


*"We were very happy with the drone footage...[it will] give us progress photos from a vantage point we never had before. This is especially useful...to convey information to local officials, or District staff, and the Boston Office. I would expect all Districts to be eager to take advantage of this tool."*

*– Gerald Bernard, District Construction Engineer, District 5*