

## Board Report:

**Nantucket Airport Project, Turners Falls Airport News,  
Aviation Education Update, MassAutonomy Advanced  
Air Mobility (AAM) Integration Task Force (ITF) Kickoff,  
NASA Selects MassDOT Aeronautics' Team**

May 24, 2021

*Presented to:*

■ **Board of Directors**

*Presented by:*

■ **Aeronautics Division**

➤ **Dr. Jeff DeCarlo**

# Nantucket Memorial Airport Taxiway E Reconstruction Project

- The Nantucket Memorial Airport Taxiway E reconstruction project is approximately 50% complete
- Taxiway E is the main taxi route for the primary runway
- The project is slated for construction in four seasons over a three-year period which started in the fall of 2020
- When the current phase is completed, it will eliminate the safety concern for back taxiing on the primary runway
- The Pavement Condition Index of Taxiway E is 50; 20 points below the standard for pavements in good condition
- Project cost is \$19.1M. 90% was funded by the FAA Airport Improvement Program and 10% by the FAA CARES Act
- The existing pavement design does not support the current mix of aircraft operating at the airport; but the newly installed pavement will be able to sustain the heavier aircraft



Nantucket Memorial Airport – 2<sup>nd</sup> Busiest Airport in Massachusetts



Paving Crew begins placement of Airfield Bituminous Pavement



Overflow Aircraft parked on Runway 15-33 due to ramp congestion during peak tourist season

# Turners Falls Municipal Airport Purchases Pioneer Aviation and Additional Properties



- In April 2021, using FAA funding, Turners Falls Airport, acquired 10+ acres of aviation and commercial property located on the airport, adding new revenue sources and opportunities to secure the airport's financial future
- Properties acquired include an industrial warehouse, aviation maintenance shop, flight school and aircraft hangar, aviation fueling systems and outdoor aircraft tie-down spaces
- Benefits to the airport include the control of aircraft fueling, facilities to support maintenance services and flight training, and approximately \$190,000/yr in continued airport revenues
- Future planned upgrades include taxilane re-alignment, reconstruction of the fuel apron to meet current FAA/DOT design and safety standards, and upgrades for a self-service fueling system that pilots can access after hours



Pioneer Aviation Aircraft Hangar

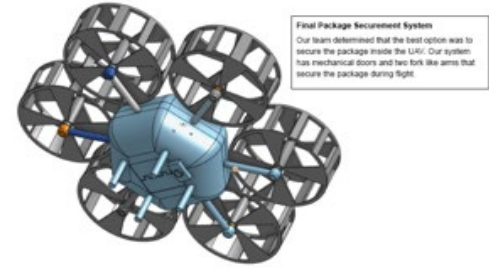


Turners Falls Municipal Airport Property Acquisitions

# Aviation Education Update: 2021 Real World Design Challenge (RWDC) and Aviation Art Contest



- Aeronautics was the lead state agency in the 2021 Real World Design Challenge. High schools from across the state were tasked to design a drone system using real world engineering tools
- The Real World Design Challenge is an annual STEM Aviation competition that provides high school students in grades 9-12, the opportunity to work on real world engineering challenges. Newburyport High School was selected as the 2021 RWDC State Winner and went on to compete at the national level
- Aeronautics Division staff also coordinated the Massachusetts state youth Aviation Art Contest, sponsored by the National Association of State Aviation Officials (NASAO). This year's theme is "A Friendlier World with Air Sports".
- The winner's artwork from each state is forwarded to Washington DC and goes on to compete nationally and internationally



Newburyport High School Drone Design



Aviation Art Contest, Junior Category:  
MA 1st Place: Regina You – Amherst (Age 8)

# Advanced Air Mobility Integration Task Force (ITF) Kick-off Meeting



- Industry demand signals are increasing with respect to goods delivery and passenger transportation
- MassAutonomy is an industry-created non-profit focused on harnessing disruptive technologies to advance the Massachusetts mobility system.
  - MassDOT Aeronautics has joined the MassAutonomy Advanced Air Mobility Integration Task Force
  - ITF Kick-Off meeting held on May 6, 21 with tremendous attendance from innovators, academia, and government
- Partnered with UK-based drone delivery company Skyports, to demonstrate emergency medical supply delivery using small unmanned aircraft systems (UAS)
  - Planning summertime demonstration flight
  - Skyports just established U.S. office in Boston



MassAutonomy: An Industry-Created Non-Profit



Skyports experienced drone delivery company



# NASA Announcement – Selection

## *Advanced Air Mobility (AAM) Community Planning and Integration Partnership Opportunity*



- MassDOT Aeronautics team selected to work with NASA to consider how emerging green technology, cargo-carrying drones, and passenger-carrying air taxi services can best be included in their civic transportation plans.
- Kickoff on Jun 16, 2021, with activities through summer of 2022. Workshops focused on updating local plans and creating new plans to enable AAM.
- Four other locations: OH, MN, North Central TX, Orlando FL
- NASA Space Act Agreement, no direct funding, no additional costs. Effort follows our MassAutonomy Advanced Air Mobility Integration Task Force.
- Allows MA access to R&D resources from NASA; Award expected to attract interest from other industry, academia, and government participants.
- ***MassDOT Aeronautics Team – Boston Consulting Group (BCG), Beta Technologies, MassAutonomy, Massport, the MIT International Center for Air Transportation (ICAT), the Northeastern University Kostas Research Institute (KRI), Regent Craft, Shoreline Aviation of Marshfield Airport, UMass Amherst Center for Collaborative Adaptive Sensing of the Atmosphere (CASA), and US Air Realty.***



	<b>Safety</b> New forms of air transport must achieve levels of safety performance consistent with conventional aviation operations
	<b>Sustainability</b> UAM must improve environmental outcomes and embrace innovation to achieve more sustainable behaviors
	<b>Low noise</b> Noise disturbances should be measured and mitigated by a community-first approach
	<b>Local workforce development</b> UAM is expected to increase jobs on the ground and in the air
	<b>Equity of access</b> There should be equitable access to mobility for disadvantaged communities
	<b>Multimodal connectivity</b> UAM should connect to existing, high-quality transport options, offering seamless travel
	<b>Purpose-driven data sharing</b> Data sharing should help providers quickly respond to passenger need and market demand

*Principles of the Urban Sky, Seven UAM Principles, World Economic Forum*