

Aeronautics Division

Report to the MassDOT Board

September 20, 2023

Presented to:

■ **Board of Directors**

Presented by:

■ **Aeronautics Division**

➤ **Dr. Jeff DeCarlo**

Aeronautics Division Highlights:



- Westfield-Barnes Airport (BAF) completes vegetation transplant project prior to construction of new Taxiway.
- Cape Cod Gateway Airport Runway 6-24 project in Hyannis is 95% complete.
- Aeronautics supports STEM Education Outreach Programs for the FY2024 International Aviation Art Contest and the Real-World Design Challenge.
- Aeronautics conducted a drone demonstration event in Lynn in partnership with Girls, Inc.
- FAA announces “Innovate28” – an FAA initiative to introduce Advanced Air Mobility (AAM) into U.S. airspace and safely enable AAM operations in the near term.

Westfield-Barnes Airport (BAF) - Vegetation Transplant Project



- Westfield-Barnes Airport will construct a new Taxiway (TW-B5 south) to provide critical pavement infrastructure for economic development at the airport which is located within a protected habitat. Existing species must be transplanted prior to construction.
- The consultant submitted a work plan to MA Fish & Wildlife (MassWildlife) to obtain permit approval to remove host plants of threatened and endangered species and transplant them into an area of the Airport where larger colonies of the plants exist.
- Aeronautics reviewed the consultant's scope of work for the project and believed the proposed tasks and fee estimate were excessive based on the permit requirements.
- Aeronautics met with the Airport and their consultant to share their concerns, and with MassWildlife to confirm their expectation on the scope and required oversight.
- Following the MassWildlife meeting, Aeronautics requested that multiple layers of oversight and unnecessary tasks be removed from the scope of work.
- It was determined that the airport could remove the host plants, and the wetland scientist could oversee the removal eliminating the need to hire additional consultants.
- The revisions to the scope suggested by Aeronautics, led to the project being completed in just one day rather than the initially proposed 10-day schedule reducing the initial proposed estimate of \$50,000 to a total project cost of \$7,500.



Wild Lupine removal



Loader removing New Jersey Tea

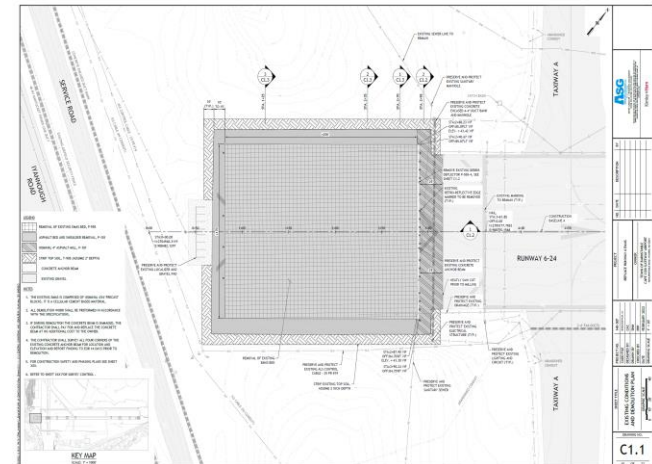


New Jersey Tea Transplant area

Cape Cod Gateway Airport: Runway 6-24 Reconstruction and Runway 24 EMAS Project



- The Cape Cod Gateway Airport has completed 95% of the Runway 6-24 reconstruction and 10% of the Runway 24 Engineered Materials Arresting System (EMAS)project.
- The EMAS system (designed to stop an aircraft that overruns the runway in an emergency) has exceeded its useful service life and needs to be replaced.
- Runway 6-24 is scheduled to reopen in the fall after a five-month shutdown for construction that began in April.
- Total cost for both projects from all funding sources is \$25.25M:
 - 90% FAA – \$22.73M
 - 5% MassDOT – \$1.26M
 - 5% Airport – \$1.26M
- The project will incorporate an increased pavement thickness to accommodate the new JetBlue A220 aircraft, LED lighting and signage, pavement markings, and new drainage.



Education Outreach FY2024 Kickoff



- The aviation industry is facing a world-wide shortage of pilots and mechanics. Education outreach is a critical tool that can help engage students at an early age to help in fulfilling that need.
- The National Association of State Aviation Officials (NASAO) International Aviation Art Contest demonstrates the impact of aeronautics through the interactive medium of art, motivating youth between the ages of 6 and 17 to learn about aeronautics.
- The Real World Design Challenge is an annual competition that provides high school students the opportunity to work on real world engineering challenges in a competitive team environment.
- The competitions kickoff annually at the start of the new school year. The Aeronautics Division serves as State Coordinator for both competitions and engages in outreach to school districts.
- For more information, please contact Joseph O'Malley, State Aviation Education Coordinator at joseph.p.o'malley@dot.state.ma.us or at 857-208-1778.



MassDOT Drone Operations Program Drone Demonstration With Girls Inc. in Lynn, MA

- Recently, the MassDOT's Drone Operations team provided a Drone Demonstration to Girls Inc. to support the Project Accelerate Program, which prepares disadvantaged teens for future career paths.
- This demonstration provided awareness and interest in STEM opportunities in transportation career fields.
- Acting Transportation Secretary and CEO Monica Tibbits-Nutt spoke to the girls providing a motivating introduction to MassDOT with a focus on data and its importance in transportation decision-making.
- MassDOT Aeronautics sUAS (small Uncrewed Aircraft System) pilots performed a drone flight at the event and gave the girls an opportunity to fly the UAS simulator and interact with the drones.
- Aeronautics personnel provided the girls with a perspective on potential career paths in aviation and transportation.

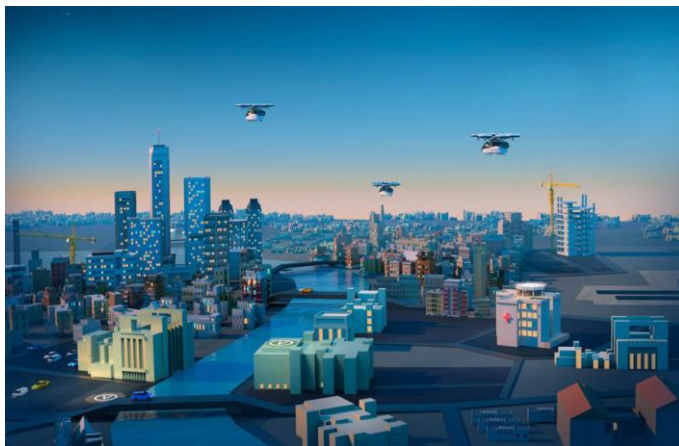


FAA Announces Innovate28

- Innovate28 (I28) implementation plan provides steps for FAA and others to safely enable advanced air mobility (AAM) operations in the near term.
- The Plan includes various components and the sequence they will occur in for scaled operations at one or more sites by 2028.
- FAA is utilizing a thoughtful approach to introducing AAM aircraft into U.S. airspace; **2028 Olympics in Los Angeles will serve as a showcase.**
- AAM leverages new aircraft and an array of innovative technologies to provide the opportunity for more efficient, more sustainable, and more equitable options for transportation.
- I28 AAM implementation plan is limited to those engaging in passenger-carrying or cargo operations with a pilot on board.

<https://www.faa.gov/air-taxis/implementation-plan>

<https://aviationweek.com/shownews/nbaa/faa-easa-leaders-describe-approaches-aam>



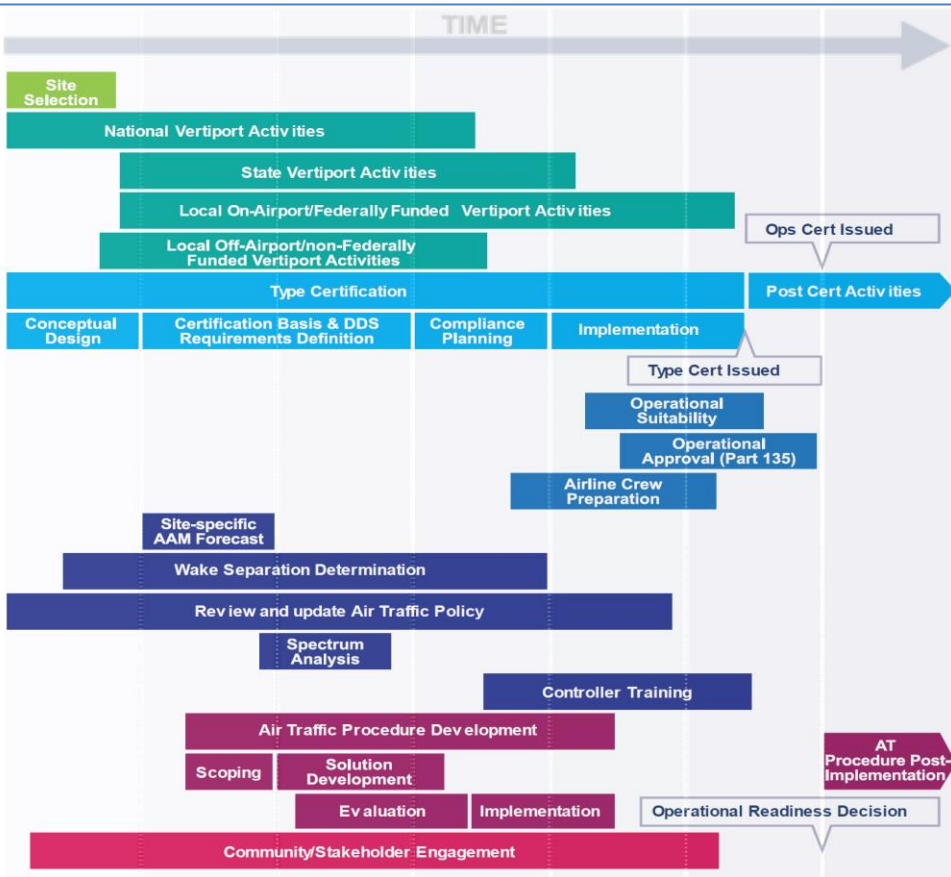
FAA Announces Innovate28



- Innovate28 (I28) Initial Integration of AAM Operations at One or More Key Sites.
- Will culminate in integrated AAM operations between multiple origins and destinations at one or more locations in the U.S. by 2028.
- I28 marks one milestone on the AAM evolutionary continuum.
- I28 will leverage public-private partnerships to identify key locations and use cases of interest to AAM industry stakeholders.

Note: The IMS is a depiction of the activities that may be required. Not all activities may be required for every implementation; the duration of a step may vary by project as well. Some companies have already completed some of these activities.

<https://www.faa.gov/air-taxis/implementation-plan>



Integrated Master Schedule Version 1.0