

# Board Report:

## Aeronautics Program Updates, Airport Pavement Management System Update & Unmanned Aircraft Systems (UAS)

Monday September 16, 2019

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*Presented to:*

■ Board of Directors

*Presented by:*

■ Aeronautics Division

➤ Dr. Jeff DeCarlo

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# Aeronautics Update: STEM Education Real World Design Challenge (RWDC)



- The Real World Design Challenge is a public-private partnership aimed at increasing the Science, Technology, Engineering and Mathematics (STEM) workforce of the future. MassDOT has been an RWDC state sponsor since 2008
- RWDC provides high school students with the opportunity to work on real world engineering challenges in a collaborative environment applying the lessons of the classroom to the technical problems of the workforce
- The RWDC industry challenge for 2020 is to design a Small Unmanned Aircraft System to support small package delivery in an urban environment
- Students will spend several months generating solutions to the industry challenge and are required to produce an engineering notebook for their team's design
- The winning team from each state will compete in the National event held in Washington D.C. in April 2020. The top national winners will receive scholarships, awards and recognition from leaders in government, industry and higher education

# Aeronautics Update: Capital Program Capital Improvement Plan (CIP)



- MassDOT is working with the FAA to better align the state's CIP process with the FAA's Airport Capital Improvement Program
- By completing airport CIP meetings earlier, we can better identify state and local priorities that enhance safety, performance, and innovation
- Timely and effective project selection will allow for additional leveraging of federal funds for airport development priorities

## State CIP Meeting Schedule SFY 2020

Airport	CIP Date
Norwood	Aug 22
New Bedford	Aug 23
Martha's Vineyard	Aug 27
Northampton	Aug 30
Chatham	Sep 04
Plymouth	Sep 05
Barnstable	Sep 06
Provincetown	Sep 09

Airport	CIP Date
Nantucket	Sep 11
Beverly	Sep 13
Fitchburg	Sep 13
Southbridge	Sep 16
Gardner	Sep 18
Turner's Falls	Sep 20
North Adams	Sep 24
Orange	Sep 25

Airport	CIP Date
Taunton	Sep 25
Westfield	Sep 26
Marshfield	Sep 26
Lawrence	Sep 26
Pittsfield	Sep 27
Mansfield	Oct 02
Westover	Oct 02

# Aeronautics Update: Vegetation Management Tree Cutting at Norwood Airport



- MassDOT cleared approximately 4 acres of trees that were obstructing the control tower's view of arriving and departing aircraft on Runway 35
- The project was completed in 10 days during the airport's peak operational period in July
- Timely response allowed the airport to keep the Runway open increasing the safety of flight operations
- MassDOT conducted a safety inspection of the cleared area with airport management and tower personnel
- Aeronautics staff received a letter of appreciation from the Town of Norwood for their diligent construction monitoring efforts during the tree clearing process

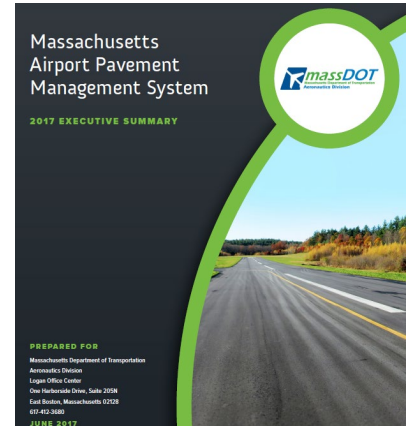


Trees obstructing view of Runway 35

# Airport Pavement Management System (APMS) Update



- The Aeronautics Division will conduct an update to the 2016 Airport Pavement Management System (APMS) Study
- The APMS Study will use statistical analysis to model pavement degradation over time at Massachusetts public use airports
- The analysis is required every three years by the FAA
- Results from the Study will drive future funding decisions for pavement maintenance and major capital projects
- The RFP has been sent out for Solicitation
- Responses are due by mid-September
- Pavement Condition Index surveys will begin in October
- Project completion is scheduled for early Spring 2020





# Unmanned Aerial Systems (UAS)



- MassDOT's operating divisions continue to identify areas where UAS can cost-effectively and safely delivery core mission elements
- Aeronautics continues to facilitate this initiative
  - Expand use-cases, customers, locations, and technologies
  - Advise, assist, and share UAS policy, procedures and best practices with other Commonwealth Agencies

## District Support



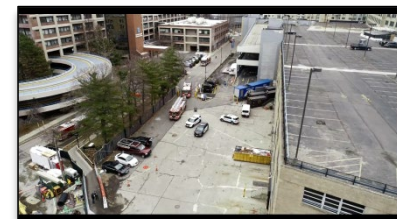
D2 Agawam Bridge  
Aerial Imagery



D3 HQ  
Construction  
Monitoring



Statehouse Dome  
Structure  
Assessment



MBTA Drill  
Security Exercise



FEMA/MEMA  
Emergency Service