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Board Report:

Unmanned Aircraft Systems Support for MEMA Post-storm Damage Assessment, Statewide Pavement Condition Index Update and Airspace Reviews Completed in CY21

March 16, 2022

Presented to:

■ Board of Directors

Presented by:

■ Aeronautics Division

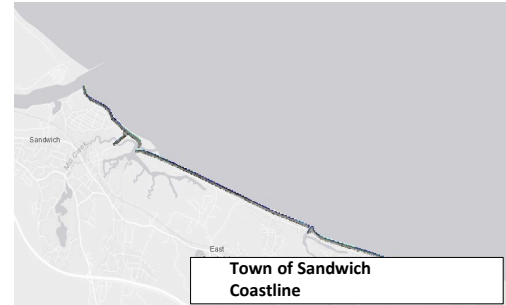
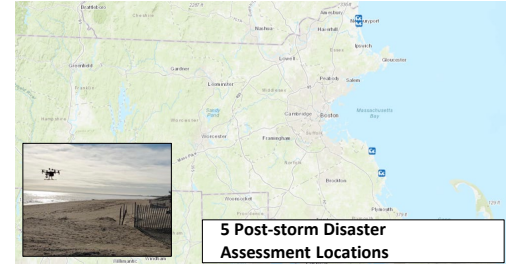
➤ Dr. Jeff DeCarlo

Unmanned Aircraft Systems Support for MEMA

Post-storm Damage Assessment



- Provided high-resolution aerial data (photo, video & geo-rectified orthomosaic maps) of 5 post-storm damage assessment areas along north and south shores after snowstorm on February 2, 2022
 - Newbury Beach, Plum Island; Plum Island Seawall; Marshfield Seawall; Scituate Seawall; Town of Sandwich Coastline
- Documented approximately 10 miles of coastline 1-2 days after weather event
- Data allowed MEMA and other officials to assess post-storm coastline and seawall conditions for:
 - Overall scale of emergency
 - Safety, flooding, and overall damage
 - Impact on roadway and utilities under road, and
 - Public relations and community outreach

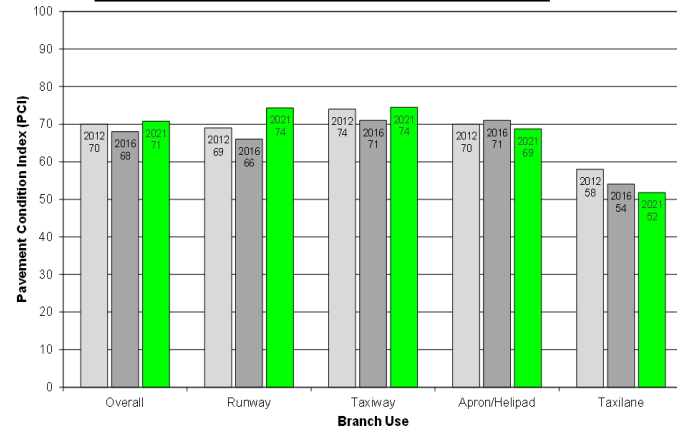


Statewide Pavement Condition Index Update

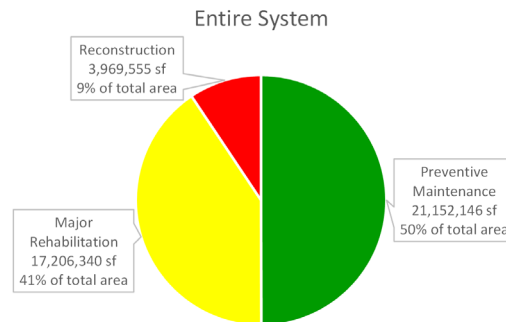


- MassDOT Aeronautics conducts an airport pavement condition evaluation across the Commonwealth every 4 years
- The Pavement Condition Index (PCI) is a numerical evaluation system, rating pavements from 0 (failed) to 100 (excellent)
- During the 2021 PCI evaluation, 42.3 million square feet of total pavement were evaluated:
 - Runways: 16.3 million square feet
 - Taxiways: 10.9 million square feet
 - Aprons: 11.1 million square feet
 - Taxilanes: 4.0 million square feet
- The overall statewide PCI in the 2021 evaluation was 71, which represents an increase of three (3) points from the last evaluation conducted in 2016
- The overall PCI for the Runways increased by eight (8) points and the Taxiways increased by three (3) points as taxiway projects receive the most federal funding from the FAA
- Without preventative maintenance, reconstruction, and/or major rehabilitation, the overall statewide PCI can be expected to decrease over two (2) points per year

Statewide PCI Values by Pavement Use (2012-2021)

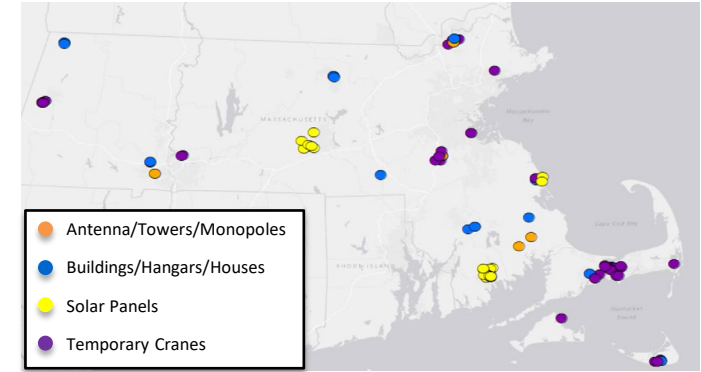


Statewide Pavement Maintenance Recommendations

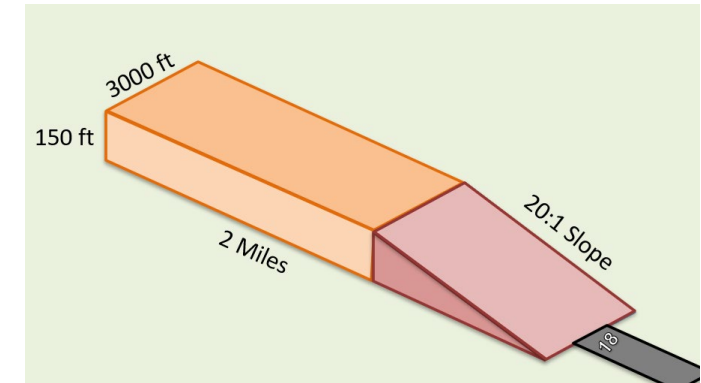


Airspace Reviews Completed in CY2021

- In Calendar Year 2021, MassDOT Aeronautics received and evaluated 127 airspace reviews associated with projects throughout the Commonwealth
- Airspace review requests are submitted by the public through the MassDOT website portal, including submissions by both individual citizens and companies
- CMR Chapter 90 Section 35 outlines the requirements of the airspace reviews and defines the aircraft approach surfaces that are protected around MA airports
- Proposed construction and/or temporary cranes around MA airports are evaluated to ensure that there are no adverse impacts to aircraft
- MassDOT Aeronautics works closely with the FAA and each of the airports throughout the airspace review process to keep the Commonwealth's airspace safe



Airspace review requests by object type in MA (2021)



MA Chapter 90 Section 35B Airspace Surfaces