Subcommittee on Airports' Report to the FAA Research, Engineering, & Development Advisory Committee

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ACI-NA
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Airports Subcommittee Meeting

- Met on September 6-7, 2023 at the FAA Technical Center in Atlantic City
- Reviewed the current Airport Technology Research & Development portfolio and research progress
- Briefed by the Airport Cooperative Research Program, Airport Asphalt Pavement Technology Program, and Airport Concrete Pavement Technology Program on complementary research areas
- Had specific research briefings on:
  - Airport firefighting research
  - Advanced air mobility systems and vertiports
  - Uncrewed aircraft systems, inclusive of detection and mitigation system research
  - Safety projects, including visual guidance, wildlife hazard mitigation, and safety data program areas
  - Airport planning & environmental research and tool development
  - Airfield pavement and material research and tool development

Airport Technology
Research & Development Program Overview

Safety & Planning RPAs		Pavement RPAs		Airport Noise, Environmental, and Innovation RPAs	
S1	Airport Planning & Design	P1	National Airport Pavement Testing Facility	N1	Airport Noise*
S2	Airport Safety Data Mining	P2	National Airport Pavement Materials Research Center	E1	Airport Environmental*
S3	Aircraft Rescue & Fire Fighting	P3	Field Instrumentation & Testing	I1	Airport Innovation
S4	Wildlife Hazard Mitigation	P4	Advanced Materials		
S5	Visual Guidance	P5	Pavement Design & Evaluation		
S6	Runway Surface Safety Technology	P6	Non-destructive Testing Technologies		
S7	Airport Safety & Surveillance Sensors	P7	Software Program Development and Support		
S8	UAS/New Entrants Integration	P8	Extended Pavement Life		

* The FAA Office of Airports and FAA Office of Energy & Environment co-manage the Airport Noise & Environmental RPAs.

RPA: Research Project Area

Observations

1. The Subcommittee was pleased to see that our recommendations regarding the Branch's Strategic Outlook for Research (SOR) chart—specifically expediting research into greener pavement technologies and use of automated ground vehicles on airport airsides—have been incorporated into the Branch's current research plans.
2. The Subcommittee appreciates the efforts of Branch staff to engage airport and other federal government agency stakeholders in its preparation of F3 transition plans through the ARFF Advisory Group established in January 2023.
3. The Subcommittee continues to be impressed by the speed at which research activities associated with uncrewed aircraft systems are proceeding. We look forward to seeing the findings and conclusions of the current phases of UAS detection and mitigation research, which is wrapping up this Fall.
4. We are also impressed by the productivity of researchers working under the Airport Asphalt Pavement Technology Program (AAPTP) and Airport Concrete Pavement Technology Program (ACPTP) which have supplemented the Branch's other pavement research efforts.
5. Finally, we appreciated briefings on several RPAs that haven't been discussed in our recent meetings including those on the topics of wildlife hazard mitigation, visual guidance, and airport safety data mining.

Subcommittee Finding/Recommendation

Finding

Branch staff noted that current FAA software tool for assessing pavement roughness—ProFAA—is constrained by two factors: (1) an assumption that aircraft taxi at constant speed and (2) a very limited library of aircraft types that can be evaluated, most of which are no longer used for scheduled commercial service by airlines. Branch staff would like to address these shortcomings through additional software development.

Recommendation

The Subcommittee concurs and recommends that Branch staff proceed with modifications to ProFAA software to incorporate variable aircraft speed profiles, including takeoff acceleration and landing deceleration profiles, and a broader range of prototypical aircraft types reflecting modern aircraft designs.

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