

FINDINGS & RECOMMENDATIONS: SUBCOMMITTEE ON AIRPORTS SUMMER/FALL 2017 MEETING ATLANTIC CITY, NJ | AUGUST 15-16, 2017

The Research, Engineering, and Development Advisory Committee (REDAC) Subcommittee on Airports met on March August 15-16, 2017, at the FAA's William J. Hughes Technical Center in Atlantic City, New Jersey. The Subcommittee did have the opportunity to discuss the status of the FAA's Airport Technology Research Program and the Program's future plans through 2021.

The Subcommittee was pleased with the FAA's progress across its portfolio of 19 research project areas (RPAs). Eighteen of these RPAs are classified as either "Safety & Planning" or "Pavement" RPAs, as shown below:

Safety & Planning RPAs		Pavement RPAs	
S1	Airport Planning & Design	P1	National Airport Pavement Testing Facility
S2	Airport Safety Data Mining	P2	National Airport Pavement Materials Research Center
S3	Aircraft Rescue & Firefighting	P3	Field Instrumentation & Testing
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
S9	Airport Research Taxiway	P8	Extended Pavement Life
S10	UAS Integration at Airports		
Airport Noise & Environmental RPAs*		New/Enhanced Facilities	
N1	National Noise Survey	Fire Safety Building	
N2	DNL & Metrics Evaluation	Pavement Lab Extension	
N3	Sleep Disturbance	Photo Laboratory	
N4	Noise Mitigation		
N5	Operations		
E1	Environmental Tools and Guidance		
* Airport noise and environmental RPAs are being co-managed by the FAA Offices of Airports and Energy & Environment.			

The Subcommittee remains supportive of the Research Program's ongoing work and future research directions, which continue to emphasize foundational research to support (1) advisory circulars and design guidance promulgated by the FAA Office of Airports, (2) airport infrastructure enhancements currently eligible or prospectively eligible for federal grant funding under the Airport Improvement Program, and (3) U.S leadership in areas of airport safety, planning, and infrastructure.

The Subcommittee also concurred with the Research Program's three-year plan and estimated budget allocations across RPAs over this time period.

Findings and Recommendations

The following findings and recommendations were developed during the Subcommittee's deliberations.

Finding 1: Runway Braking Friction: The Subcommittee was pleased by FAA's reassessment of the Runway Braking Friction project as well as convening a working group of subject matter experts from with a broad range of technical expertise—including aerodynamics, aircraft systems, braking systems, and human factors—to re-scope braking research plans across FAA research programs. While the Subcommittee understands that these reassessment and expert review efforts are not complete, we would like to have a general idea of how the FAA believes needed braking research should proceed.

Recommendation 1: Runway Braking Friction: The Subcommittee encourages the FAA to complete its reassessment of its runway braking friction research projects as soon as possible, with a focus on the objective of providing a reliable, objective method of aircraft runway friction assessment that accurately accounts for the effects of runway contaminants impacts on aircraft performance. Following this reassessment, the Subcommittee would like to receive a revised runway braking friction research plan that addresses issues identified by the aforementioned runway braking friction working group. We also recommend that the runway braking working group report back its recommendations at the next Subcommittee meeting, and possibly to the full REDAC membership, time and resource permitting.

Finding 2: Heated Pavement. The Subcommittee was pleased to learn that use of heated pavements to mitigate frozen contaminants in airfield pavements may be possible at lower costs than originally thought. Given the increased likelihood the economic feasibility of heated pavements, the Subcommittee believes that some consideration should be given to the potential safety and operational issues associated with such pavements, particularly those that use electrical means to heat the pavements.

Recommendation 2: Heated Pavement. The Subcommittee recommends that the FAA consider safety risks associated with electrically heated pavements as well as the potential for electromagnetic interference associated with such systems and any effects the use of ferromagnetic materials in pavement surface layers may physically have on tires, personnel, or the potential for foreign object debris.

Finding 3: LED Lighting Research. Some Subcommittee members expressed concern during FAA presentations on light emitting diode (LED) lighting systems research that LED runway edge lights do not emit light omnidirectionally in the same manner as their incandescent counterparts, potentially making airfields equipped with LED edge lights more difficult for pilots to see at night.

Recommendation 3: LED Lighting Research. The Subcommittee recommends that the FAA expand evaluation of LED runway edge lights to include airfield conspicuity considerations.

Finding 4: Improving Awareness of Other REDAC Research Programs and Opportunities for Cross-Program Collaboration. Based in part on the discussion of research projects that involve other REDAC Subcommittees—including noise research that involves the Environmental & Energy Subcommittee, runway braking and runway incursion mitigation research that involves the Human Factors and Aircraft Safety Subcommittees, and air traffic automation research that involves the NAS Operations Subcommittee—members expressed an interest in increasing its awareness of the research within the purview of the other four Subcommittees.

Recommendation 4: Improving Awareness of Other REDAC Research Programs and Opportunities for Cross-Program Collaboration. The Subcommittee recommends scheduling briefings from either designated members of other Subcommittees or their FAA counterparts on research areas and/or projects that have implications for the Airport Technologies research portfolio during the Airports Subcommittee's meetings and notes that it has already been doing so successfully with the Environmental & Energy Subcommittee for the last 4 to 5 REDAC meeting cycles.

Future Meetings

The Subcommittee will meet next spring at the FAA Technical Center on March 20-21, 2018, followed by our Summer Meeting on August 21-22, 2018.