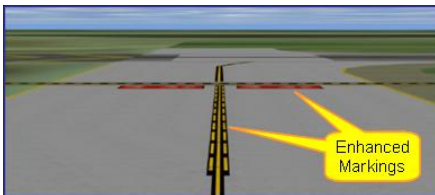




Prevention of Runway Incursions

In response to FAA's Flight Plan Objective 4 and NTSB safety recommendations, The MITRE Corporation's Center for Advanced Aviation System Development (MITRE/CAASD), in cooperation with the Federal Aviation Administration (FAA) and Massachusetts Institute of Technology (MIT) Lincoln Laboratories, is developing operations concepts and a ground movement safety system designed to provide direct warning to pilots on the flight deck that a runway incursion threat exists. The system consists of six components, passive, low technology elements, and active, surveillance-driven elements, which in combination provide pilots with enhanced situation awareness regarding runway proximity and both actual and predicted runway occupancy.

Surface Painted Markings and Modified Centerline Lights: Low



Tech, High Safety, Enhanced Surface Painted Marking System. Enhanced surface painted markings provide runway awareness information to pilots by changing the appearance of the taxiway centerline within 150' of the runway hold short line.

Modified Centerline Lights:

The modified centerline lights provide runway awareness beyond the hold short position, by using alternating amber and green centerline lights when beyond the runway hold line.



Runway Status Lights: Active Warnings Directly to Pilots Runway



Entrance Lights (RELs). RELs protect against incursions taxiway – runway intersections. They illuminate red when the runway is occupied or predicted to be occupied.

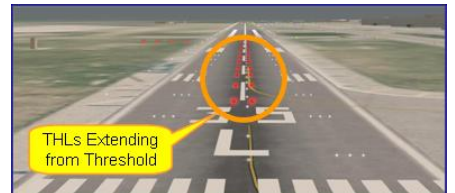
Takeoff Hold Lights (THL).

THLs illuminate when it would be unsafe to initiate a takeoff due to an occupied runway or predicted conflict at a runway intersection.



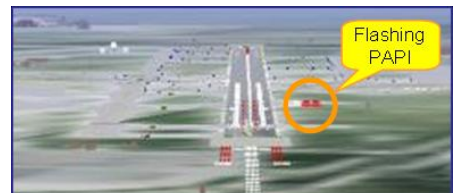
Runway Intersection Lights (RILs).

RILs function similarly to RELs to provide runway status information to aircraft approaching a runway intersection during landing rollout, departures, or using runways for portions of a taxi route.



Final Approach and Runway Occupancy Signal (FAROS).

FAROS provides alerts to pilots on approach that a runway may still be occupied with sufficient time to safely perform a go-around. The system may use lights or a combination of lights and aural messages to the cockpit.



For more information, contact:

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