

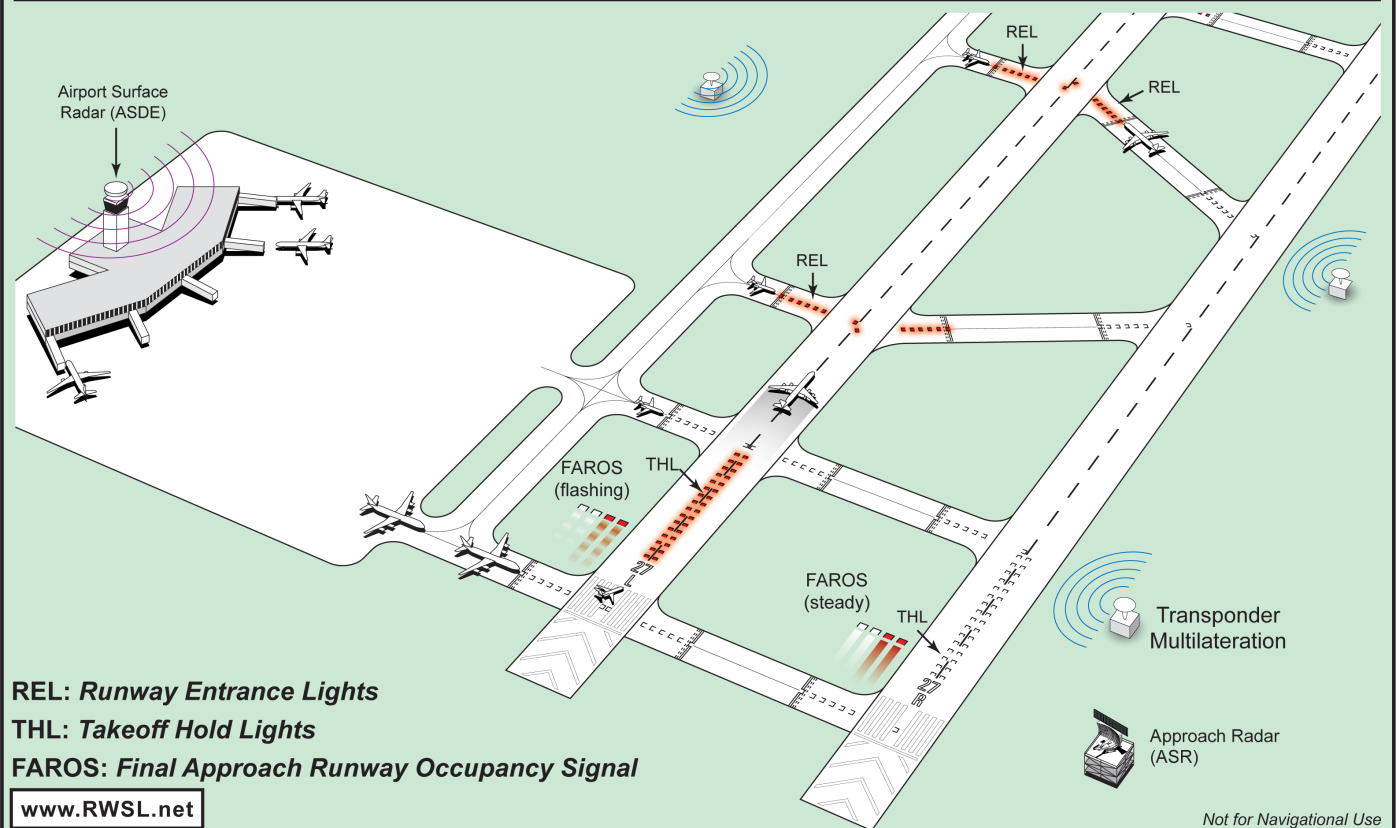
## FAA and MIT begin trials of FAROS system at KDFW

### RWSL & FAROS OPERATIONAL CONCEPT

RELs and THLs turn on and off automatically, driven by multi-sensor surveillance.

RELs turn on when it is unsafe to enter runway; THLs turn on when it is unsafe to depart from the runway.

THLs are visible from takeoff hold position (*and final approach*); RELs are visible from taxi hold position.



The US Federal Aviation Administration (FAA) supported by the Massachusetts Institute of Technology's Lincoln Laboratory (MIT Lincoln Lab) is due to begin trials of MIT's Final Approach Runway Occupancy Signal (FAROS) at Dallas Ft Worth (KDFW) on (or around) September 9, 2011. The trial is expected to continue for an initial three-month period however if the trials prove successful then FAROS operation may be extended indefinitely beyond the trial period.

### Background

FAROS is an experimental system that is designed to reduce the frequency and severity of runway incursions. The intent is to provide a signal to directly alert landing pilots of the runway occupancy, as per US National Transportation Safety Board (NTSB) recommendation. Like the Runway Warning Status Lights (RWSL) and Runway Entry Lights (REL) systems FAROS is autonomously driven using aircraft location data from surveillance radars (ASRs), surface detection radars (ASDE-3 or ASDE-X) and multilateration information from the ASDE-X surveillance system.

At DFW, the system flashes the existing Precision Approach Path Indicator (PAPI) lights to directly indicate to pilots on final approach that the runway is occupied and is unsafe for landing. The FAA's assessment of FAROS at DFW will be conducted on runways: 18R/36L and 18L/36R on the West airfield, 17R/35L and 17C/35C on the East airfield. The existing PAPI lights have been modified to flash if runways 18R/36L, 18L/36R, 17R/35L, and 17C/35C are occupied and/or there is a potential conflict for the arriving traffic.

**Lighting**

FAROS conveys runway occupancy status, indicating when a runway is occupied. Flashing of PAPI lights on DFW runways 18R/36L, 18L/36R, 17R/35L, and 17C/35C indicates that runway is occupied and may be unsafe for landing.

**THE SYSTEM IS NOT, AT ANY TIME, INTENDED TO CONVEY APPROVAL OR CLEARANCE TO LAND ON A RUNWAY.**

Pilot protocol: If the approaching aircraft reaches the acquisition point of approximately 500ft AGL with flashing PAPIs, the pilot should attempt to visually acquire the conflicting traffic on the runway. If the traffic is seen, evaluate the situation and proceed with caution. If the traffic is not seen, prepare to contact ATC at the contact point of approximately 300 ft AGL. If the contact point of approximately 300 ft AGL is reached with flashing PAPIs and the crew sees the traffic on the runway, evaluate the situation and proceed with caution. If traffic is not seen, the pilot should contact ATC to verify landing clearance and prepare for an immediate go-around. If ATC does not verify the landing clearance promptly, or cancels the landing clearance, then the pilot should go-around. If the pilot is not assured that the runway will be clear prior to touchdown, a go-around should be executed according to their best judgment of safety, understanding that flashing PAPIs indicate that the runway is occupied and is unsafe for landing. ATC may disable FAROS at any time, if in their judgment, the system is interfering with normal, safe operations. The disabling will revert the PAPIs to a steady state ON condition.

**Hours of testing**

During the operational evaluation period, flashing PAPIs will be active 24/7 for the FAROS equipped runways except for short maintenance periods. An ATIS message will broadcast current FAROS operational locations.

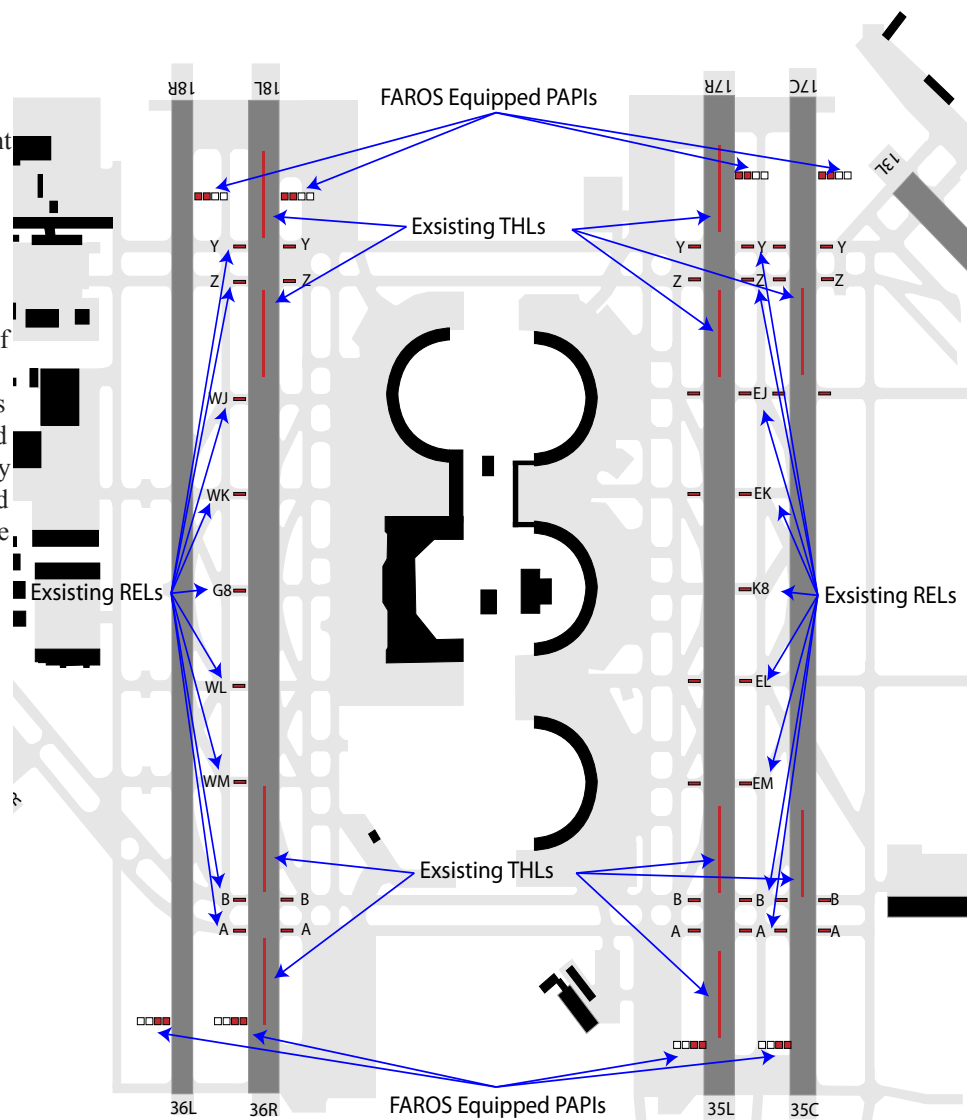
**Pilot evaluation**

Pilot feedback is necessary in order to assess system acceptability of FAROS. It is essential that pilots respond to brief surveys available through various venues including the Runway Status Lights website, in flight operations offices, and domiciles at the DFW airport. Voluntary interviews with pilots will be conducted during the test period. Please participate by taking the FAROS survey via the Internet at [www.RWSL.net](http://www.RWSL.net).

Pilots are also encouraged to respond with comments to Jason Coon: Federal Aviation Administration Project Manager: RWSL, eFAROS, FAROS, ATOP, Advanced Technology Development & Prototyping Group (AJP67) Office: 2022679410 Cell: 5713342928 Email: [jason.coon@faa.gov](mailto:jason.coon@faa.gov)

**Additional Information**

Click [here](#) to access the FAA RWSL training video



Lighting configuration at KDFW during the FAROS trial