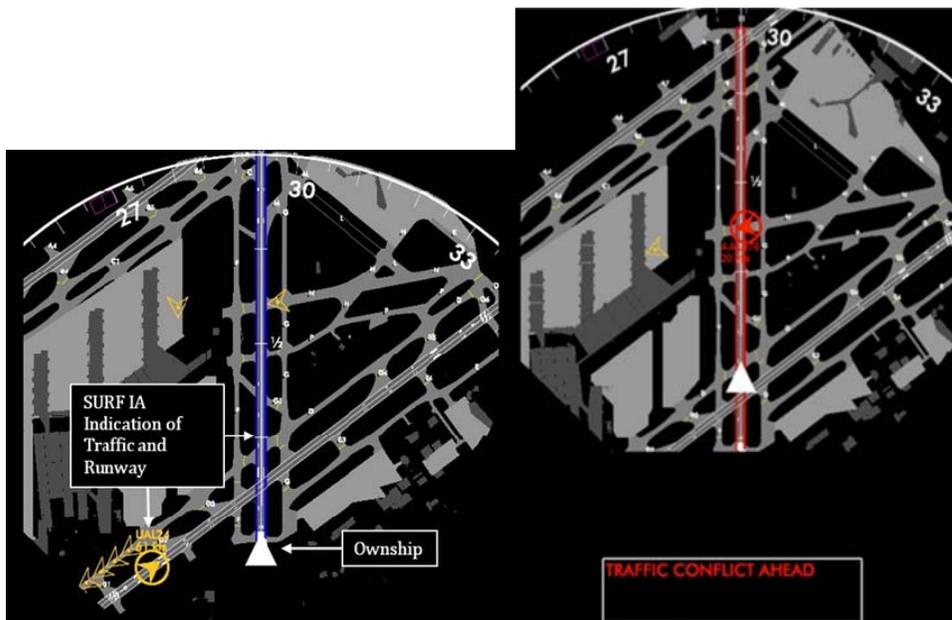


## SURF IA

The Airport Surface with Indications and Alerts (SURF IA) application enhances the ATSA SURF application (as described in RTCA DO-322) to increase its effectiveness in preventing runway incursions. The SURF IA application adds two distinct components to ATSA SURF for that purpose, SURF IA indications and SURF IA alerts. SURF IA indications identify the runway status and traffic status that could represent a safety hazard. SURF IA indications are presented under normal operational conditions, do not require immediate flight crew awareness, and do not include auditory and visual attention getters. Secondly, SURF IA alerts are displayed to attract the flight crews' attention to non-normal surface traffic conditions. SURF IA alerts facilitate a timely response via auditory and visual attention getters. SURF IA alerts are non-directive and do not provide guidance about how to respond to the alert. See figure below for a notional example of displays. SURF IA indications and alerts include the display of off-scale indications for safety relevant traffic that would otherwise not be visible on the display.



**Figure 1: Example for SURF IA Indication (left) and A SURF IA warning alert (right)**

SURF IA is applicable for operations at controlled and uncontrolled airports and designed for installation on airplanes. SURF IA indications and alerts are supplemental to existing means and procedures of maneuvering aircraft on and near an airport.

SURF IA requires ADS-B IN but does not require ground infrastructure such as Traffic Information Service – Broadcast (TIS-B) or Automatic Dependent Surveillance Rebroadcast (ADS-R). However, SURF IA will utilize that surveillance information if available at sufficient quality and integrity. SURF IA is described in RTCA DO-323 that contains the detailed safety, performance, and interoperability requirements for the application.