



# Transport Safety Alert

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## Use of bio-mathematical models of human fatigue - further information on the Fatigue Audit InterDyne Model (FAID)

### Background

The United States Department of Transportation Federal Railroad Administration (FRA) recently published a report titled *Procedures for Validation and Calibration of Human Fatigue Models: The Fatigue Audit InterDyne Tool*.

The FRA report presents an analysis of FAID scores in relation to risk of an accident. The analysis draws on previous work by the FRA, which validated and calibrated the bio-mathematical model Fatigue Avoidance Scheduling Tool. This involved testing model outputs (for example, scores) with railway safety accident data.

The report also refers to the ITSr Transport Safety Alert no. 34 *Use of bio-mathematical models in managing risks of human fatigue in the workplace* that was issued in July 2010.

A conclusion of the FRA report is that the findings in regard to FAID score intervals and safety outcomes are consistent with the ITSr advice: "A FAID score of less than 80 does not mean necessarily that a person is not impaired by fatigue, or that a work schedule is appropriate from a fatigue risk management perspective."

The FRA report, dated November 2010, can be downloaded from:

[http://www.fra.dot.gov/rpd/downloads/TR\\_Procedures\\_or\\_Validation\\_and\\_Calibration\\_final.pdf](http://www.fra.dot.gov/rpd/downloads/TR_Procedures_or_Validation_and_Calibration_final.pdf)

The ITSr Transport Safety Alert no. 34 *Use of bio-mathematical models in managing risks of human fatigue in the workplace* can be downloaded [here](#).

### Actions

Rail transport operators that are using the FAID model should review the findings of the FRA report in conjunction with the previous information provided by ITSr (Transport Safety Alert no. 34) and consider the applicability of the findings for the context in which they are using FAID in their operations.

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**Chief Executive**

This Transport Safety Alert is intended to provide information only and must be read in connection with any other obligations you may have under the *Rail Safety Act 2008*.