



Program Effectiveness – Roadside Intervention Effectiveness Model

The Roadside Intervention Effectiveness Model (RIEM) measures the effectiveness of two of FMCSA's key enforcement tools: roadside inspections and traffic enforcements. The RIEM is based on the premise that interventions, such as roadside inspections and traffic enforcements, correct vehicle and driver violations thereby reducing crashes, injuries, and fatalities.

The RIEM relies on roadside inspection and traffic enforcement data collected by Safety Investigators. The Roadside Inspection Program evaluates roadside inspections, while the Traffic Enforcement Program evaluates traffic stops triggered by a moving violation. The RIEM associates each violation of the Federal Motor Carrier Safety Regulations (FMCSR) with a crash probability. Using these probabilities, analysts can estimate the number of crashes prevented as a result of correcting these violations.

Column/Row Descriptions

Column Name	Description
Total Interventions	Total number of the below intervention measures.
Roadside Inspections	Number of pre-defined evaluations of a driver or vehicle components to ensure compliance with applicable Federal Motor Carrier Safety Regulations (FMCSRs).
Traffic Enforcement	Number of inspections conducted as a result of a traffic enforcement stop where a violation is cited from the SMS Unsafe Driving or Controlled Substances and Alcohol BASIC; where 392.2S (speeding) or 392.2SLLS1 (1-5 MPH over the speed limit) is cited; or where the inspection record has been flagged as a traffic enforcement by the officer.
Crashes Prevented	Estimated number of crashes prevented by roadside inspections and traffic enforcements.
Roadside Inspections	Estimated number of roadside inspections which prevented crashes.
Traffic Enforcement	Estimated number of traffic enforcements which prevented crashes.
Injuries Prevented	Estimated number of injuries prevented by roadside inspections and traffic enforcements.
Roadside Inspections	Estimated number of roadside inspections which prevented injuries.
Traffic Enforcement	Estimated number of traffic enforcements which prevented injuries.



Enforcement Programs

Lives Saved	Estimated number of lives saved by roadside inspections and traffic enforcements.
Roadside Inspections	Estimated number of roadside inspections which saved lives.
Traffic Enforcement	Estimated number of traffic enforcements which saved lives.

A Note on Traffic Enforcement:

As a result of FMCSA refining the list of codes inspectors use to identify violations, the number of traffic enforcement inspections has changed over time as non-moving violations were excluded from the RIEM. In 2009, several violations previously recorded as 392.2 – Local laws (general) were assigned new codes, such as miscellaneous drivers license violation (392.2DL), State vehicle registration or license plate violation (392.2RG), and wheel (mud) flaps missing or defective (392.2WC). These violations and others previously recorded under 392.2 do not meet the description of traffic enforcement being traffic stops triggered by observed driver behavior; therefore, they are not included in the count of traffic enforcement violations. Their exclusion has resulted in a reduction in the number of traffic enforcement inspections considered in the RIEM and, as a result, in an apparent reduction in the safety benefits attributed to traffic enforcement inspections.

A Note on RIEM Methodology:

During 2018 FMCSA has initiated an evaluation of the RIEM technical methodology to consider potential model improvements. Further RIEM results will be released after completion of this evaluation, along with the evaluations findings and any adjustments to be made to the methodology.