

INDUSTRY:
Commercial Trucking**SOLUTION:**
RoadWorthy®

Reducing Crash Likelihood Using Effective Pre-Screening

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THE SITUATION

Motor vehicle accidents are the single largest cause of work-related fatalities, accounting for almost 25% of all job-related fatalitiesⁱ. Numerous research studies, including one by the Federal Motor Carrier Safety Administration (FMCSA) point to driver-related factors as the primary cause for the majority of crashes involving large trucksⁱⁱ. In fact, a recent study showed that 20 percent of drivers account for almost 80 percent of all driving accidentsⁱⁱⁱ.

What are the driver behaviors that relate to accidents? There are a number that come to mind, but most come down to controlling emotions, maintaining focus and attention, and acting responsibly. According to a survey of safety managers, the top three personal factors associated with risk (and therefore accidents) were: 1) aggressiveness/anger; 2) impatience/ impulsivity; and 3) inattentiveness.

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There are good, sound reasons for these. Aggressive/impulsive drivers are more likely to become upset when they are cut off or not allowed to merge at a reasonable pace and therefore have a higher likelihood of being involved in road rage-related accidents.

Impatient or impulsive drivers often have a hard time managing their emotions and tend to make rushed, poorly thought-out decisions, including driving when they are overly fatigued, running red lights, etc.

Inattentive drivers are likely to miss subtle driving cues, fail to pay attention to the road in front of them and the drivers around them, and therefore, pose a serious risk to both themselves and others.

THE SOLUTION

Select International extensively studied the research related to high-risk driver behavior and accident involvement when developing RoadWorthy® – a short and affordable online assessment. This assessment helps trucking firms to quickly and accurately screen high-risk candidates out of the candidate pool.

RoadWorthy focuses on key Risk Factors associated with driver behavior, including:

- Accident & Violation
- Road Rage & Aggression
- Volatility & Impulsivity
- Attitude & Abrasiveness
- Unreliability
- Absenteeism/Tardiness
- Turnover

To see how effective RoadWorthy can be in reducing high-risk behaviors, we conducted a study with a commercial trucking firm. In this study, we administered RoadWorthy to a group of 92 candidates who applied for a long-haul driver position.

RoadWorthy combines these risk factors into an overall recommendation. Candidates fall into one of three categories: a) Not RoadWorthy (high risk); b) Potentially RoadWorthy (some concerns); and c) RoadWorthy (low risk).

OUTCOMES

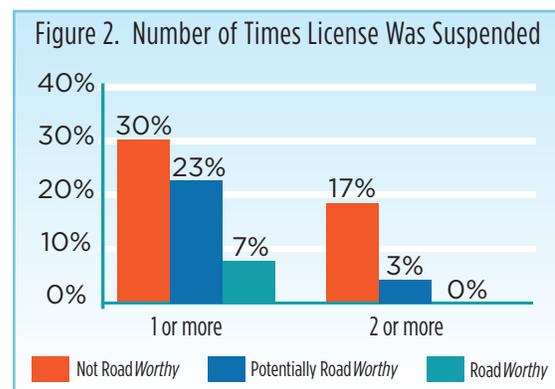
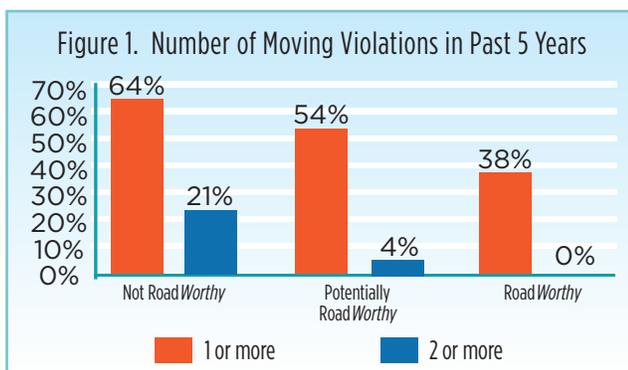
We evaluated how well RoadWorthy's recommendation related to two outcome variables that are related to high-risk behavior: 1) number of traffic violations; and 2) number of times their license had been suspended. The results are shown in Figures 1 and 2.

Perhaps the most interesting aspect of the results is that 21% of the Not RoadWorthy candidates had two or more moving violations compared with none in the RoadWorthy category. According to a study by the American Transportation Research Institute,

based on a sample of over 540,000 drivers, on average, a driving violation increases the likelihood of a crash by 114%^{iv}.

The results are very straightforward. Not RoadWorthy candidates had their licenses suspended two or more times. While 7% had one license suspension, **RoadWorthy candidates were 4 times less likely to have had their licenses suspended**, even once, compared with Not RoadWorthy candidates.

It's also important to recognize that RoadWorthy accomplishes these results by not being overly strict and setting an unrealistic bar. In fact, only 25% of candidates fell into the Not RoadWorthy category. Thus, by screening out just 25% of candidates, this organization is able to significantly reduce the likelihood of hiring a high-risk candidate and therefore greatly reduces their potential for accidents and other negative incidents.



ⁱ Caird, J.K. (2004). The relationships between organizational and individual variables to on-the-job driver accidents and accident-free kilometers. *Ergonomics* (0014-0139), 47 (15), p. 1598.

ⁱⁱ Large Truck Crash Facts 2003, Analysis Division, Federal Motor Carrier Safety Administration, FMCSA-RI-04-033, February 2005.

ⁱⁱⁱ Knipling, R.R., Boyle, L.N., Hickman, J.S., York, J.S., Daecher, C. Olsen, E.C.B., Prailey, T.D. (2004). CTBSSP Synthesis Report 4: Individual Differences and the "High-Risk" Commercial Driver, Commercial Truck and Bus Synthesis Program. Transportation Research Board, National Research Council, Washington, D.C.

^{iv} Predicting Truck Crash Involvement: Developing a Commercial Driver Behavior-Based Model and Recommended Countermeasures. American Transportation Research Institute, Research Results, 2005.