

# ABC S

## (& the 3Ds) of Fleet Safety

By Dennis Gardner

According to a new study released by the Federal Motor Carrier Safety Administration (FMCSA), driver behavior causes most truck crashes. Drivers of large trucks and other vehicles involved in truck crashes are 10 times more likely to be the cause of the crash than other factors, such as weather, road conditions and vehicle performance.

The Large Truck Crash Causation Study was commissioned by FMCSA to review the causes of, and contributing factors to, crashes involving commercial motor vehicles. While previous data focused on specific crashes and/or individual causes of crashes, this study was the first nationwide examination of all pre-crash factors.

The study, conducted with the help of the National Highway Traffic Safety Administration, investigated a national sample of fatal and injury crashes between April 2001 and December 2003 at 24 sites in 17 states. Each crash involved at least one large truck and resulted in at least one fatality or injury. The total sample of 967 crashes included 1,127 large trucks, 959 non-truck motor vehicles, 251 fatalities, and 1,408 injuries. Action or inaction by the driver of either the truck or other vehicle was determined to be the critical reason for 88 percent of the crashes.

Driver recognition [e.g. the driver did not recognize the situation due to (i) failure to pay proper attention, (ii) distractions by something inside or outside the vehicle, or (iii) failure to adequately observe the situation] and decision errors [e.g. the driver (i) drove too fast for conditions, (ii) misjudged the speed of other vehicles, (iii) followed other vehicles too closely, or (iv) made false assumptions about other drivers' actions] were the most common type of driver mistakes coded by crash investi-



gators and law enforcement officials.

In order to help prevent such accidents, organizations with commercial fleets should consider the ABCs of Fleet Safety:

**A** – Appoint a fleet safety manager with the approval and support of executive management. The fleet safety manager should be actively involved in monitoring the day-to-day implementation of the fleet safety and risk management policies, including the development of a written fleet safety program that is approved by management.

**B** – Begin implementation of the Fleet Safety Program. The Fleet Safety Manager should consider the following:

- ▶ The Fleet Safety Program should establish driver selection criteria and set driver qualification standards that comply with federal, state and insurance carrier requirements. Drivers' positions should have a complete detailed job description. A driver application should be completed as part of the application process, which also includes a multiple-step interview. Verify all information by obtaining an up-to-date Motor Vehicle Record check, completing a road test, contacting prior employers and obtaining the results of a pre-placement medical exam by a company designated physician. Other Department of Transportation requirements may also

apply, such as drug and alcohol testing.

- ▶ Defensive driver training should supplement the driver selection process. While not all drivers utilize Defensive, Decisive and Dependable driving techniques, the utilization of these techniques can help reduce crashes and collisions.

Also known as 3-D Driving, this driving technique is comprised of the following:

- ▶ Defensive driving – Driving so as to prevent collisions in spite of the actions of others or the presence of adverse driving conditions;

- ▶ Decisive driving – Making the correct decision at the proper time; and

Dependable driving – Being consistent in driving habits, making the correct decision and applying the appropriate defense to the traffic situations.

3-D Driving helps drivers make dependable, defensive decisions at the proper time. Timing is the important key in utilizing these habits, in conjunction with knowledge, skill and experience, to help avoid driving into a trap:

- ▶ Knowledge – Knowledge of the traffic rules & regulations of the state(s) of operation. Also provide your drivers with

thorough knowledge of how your vehicles operate and the controls within the vehicles;

► Skill – Skill is the result of proper training plus practice. Each driver's skill in handling a vehicle varies with training, vehicle experience, age and coordination; and

► Experience – Knowing what to do, when to do it and doing it at the correct time, every time.

The three senses of seeing, hearing and feeling also play a critical factor in collision avoidance:

► Seeing – To avoid a potential collision-producing situation, a driver must first see and recognize the hazard. Good seeing skills are critical to collision avoidance. The eye has two types of vision. The first, fringe or peripheral vision, is seeing out of the corner of your eye. The second is central vision or central focus. While fringe vision is hazy and out of focus, it is highly sensitive to light and dark contrasts, large and small shapes and motion. It is used for scanning and alerts drivers to objects and hazards that are to the left, right, up or down from the central focus. A driver should not act on a developing situation until it is seen with the central vision and consciously identified. A driver can see a very limited area clearly and distinctly with central vision, approximately an area of five feet in diameter at a distance of 100 feet. Since the scope of central vision is so confined, drivers should make a conscious effort to keep their eyes moving, thus presenting a continuous clear picture of the constantly changing scene. Correctly identifying conditions is essential to proper timing. If a hazard is recognized too late, the result will be poor or erratic timing.

► Hearing – Drivers can identify some traffic situations by their sense of hearing. Drivers can also use their horn to advise others of a condition which may be hazardous. Drivers should communicate with a friendly tap on the horn. Drivers should realize that others may not hear the horn, may not recognize the

hazard or may choose to ignore the warning, in which case drivers should be prepared to slow down or stop. Therefore, whenever using the horn, drivers should always place their foot over the brake pedal. In order to react to a warning or a signal given in this manner, the mind must be receptive to these signals and recognize their meanings.

► Feeling – The sense of feeling can be the most important sense because it can warn drivers that they are cornering too fast or have started to skid. Most skids are initiated as a result of driving too fast for conditions or from braking too severely,

especially in a curve. In 25 percent of collisions, skidding is a major contributing factor, usually as a result of wet, oily or icy roads.

#### 3-D Driving Rules

- Be far-sighted
- Move your eyes continuously
- Take in the whole picture
- Maintain a space cushion
- Communicate

Once these rules are incorporated by your drivers as part of their defensive driving, your drivers will be able to make better decisions in a more dependable manner.

## Frequency Rate Based on Number of Vehicles

(Ratio of collisions per 100 power units):

$$\text{Vehicle Collision Rate} = \frac{(\text{No. of Collisions}) \times (100)}{\text{Vehicle Exposure}}$$

$$\text{Vehicle Exposure} = \text{Avg. No. of Vehicles} \times \frac{\text{No. of Months}}{12}$$

**Example:** Fleet is 35 Power Units. Total of 6 collisions in first 9 months of the annual term.

$$\text{Thus: Vehicle Exposure} = 35 (\text{power units}) \times \frac{9 \text{ months}}{12} = 26.25$$

$$\text{Vehicle Collision Rate} = \frac{6 (\text{collisions}) \times 100}{26.25} = 22.9$$

**Answer:** 22.9 means almost 23 vehicles out of one hundred power units were involved in a collision in the first 9 months of the annual term.

## Frequency Rate Based on Mileage

(Ratio of collisions per one million miles)

$$\text{Incident Rate} = \frac{(\text{No. of Collisions}) \times (1,000,000)}{\text{Miles Driven}}$$

**Example:** Total of 16 collisions and a total of 896,113 miles driven

$$\text{Thus: Incident Rate} = (16) \times \frac{(1,000,000)}{896,113} = 17.85$$

**Answer:** 17.85 means there were approx. 18 collisions per million miles driven.

The question that you must ask yourself once you have determined your frequency rate is if it is acceptable or not. Every fleet is different and the answer to this question is best answered by you. In the first example above, a frequency rate of 23 may be acceptable to a fleet with significant exposures such as a delivery fleet or a refuse hauler. But a frequency rate of 23 for a fleet of automobiles is much too high. To set a goal for you and your drivers to achieve consider determining what your average frequency rate is over the last five years and make it a goal to reduce this rate by 10-25 percent.

C – Continuously monitor the Fleet Safety Program:

▶ Supervise driver performance by (i) completing road observations, (ii) conducting periodic ride checks, (iii) monitoring schedule/trip compliance, and (iv) requiring driver records such as call-ins and driver logs. Correlate driver records and reports, including the maintenance of the vehicle. Consider utilizing new technologies that wirelessly transmit information to and from a vehicle to collect information that can be used by a broad spectrum of various stakeholders.

▶ Implement a vehicle maintenance program that includes proper vehicle selection specifications for the job as well as a documented preventative maintenance program.

▶ All drivers should be trained in proper reporting procedures, and all vehicles should have an accident report packet for collecting information. Management should investigate each and every collision to determine the responsible conditions. A collision review board should also review the circumstances of all crashes and collisions by obtaining copies of police reports, internal investigation reports, supervisory statements, and an updated Motor Vehicle Record. Once all information has been assembled, the board should review the collision to determine whether it was preventable. This determination should not be confused with “Chargeable” or “At Fault”

collision classifications.<sup>1</sup>

▶ Conduct a periodic (no less frequent than annually) analysis of all fleet losses to determine emerging or occurring loss trends.

▶ Driver disciplinary policies and procedures should be considered. Disciplinary procedures should be implemented after the occurrence of a moving violation(s) and/or a preventable collision. Motor Vehicle Record evaluation criteria should be implemented addressing moving violations and whether the driver should be allowed to continue to operate a vehicle on company business. Disciplinary procedures should be considered for drivers involved in a preventable collision as determined by the Collision Review Board. Standard criteria should be established and may include a monetary penalty, loss of driving privileges, work suspension, remedial training, demotion, etc.

▶ Monitor fleet performance pursuant to a collision frequency rate. To help assure an accurate calculation, consider including all collisions (including collisions below your insurance deductible) in determining the collision frequency rate for your fleet.

Use of a collision frequency rate provides an “apples to apples” basis to evaluate your fleet’s performance based on either an average number of vehicles or miles driven, depending on the fleet data you maintain. The frequency rate should be

kept on an annual basis and should be compared from one year to another. You may wish to keep a monthly rate in the current year (See Sidebar). Your goal is for the frequency rate to reflect a downward trend over a period of years.

### **ANSI/ASSE Z15.1 – 2006 Safe Practices for Motor Vehicle Operations**

This new ANSI standard became effective April 28, 2006. The standard provides a comprehensive vehicle safety standard. It is to be used as a guide for organizations with motor vehicle operations. It will be most beneficial for small to medium-sized fleets. It does not address Federal Motor Carrier Safety Regulations or related requirements. The key elements of the standard include:

- ▶ Scope
- ▶ Terminology
- ▶ Leadership
- ▶ Operational Environment
- ▶ Driver Management
- ▶ Vehicles and Recordkeeping

The standard also provides some sample fleet policies including:

- ▶ Sample Business Use Policy
- ▶ Sample Personal Use Policy
- ▶ Sample Driver Owned/Leased Vehicles Used for Business Purposes Policy
- ▶ Sample Rental Vehicle Policy

Also included are sample incident rates



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and their methods of calculation. The rates reinforce the need to understand and develop frequency rates based on the number of vehicles or mileage driven. It also provides examples of frequency rates based on the number of deliveries, number of loads, service calls, etc. Copies of the new ANSI standard may be obtained through the American Society of Safety Engineers, 1800 East Oakton St., Des Plaines, IL 60018-2187 or [www.asse.org](http://www.asse.org).

Defensive driver improvement programs provide training to help bring the drivers up to date on defensive driving techniques. This training may be one of the key building blocks in an organization's efforts to implement a safer fleet operation. The Hartford's 3-D Driver program and other nationally recognized defensive driving programs, such as the National Safety Council program, are all valuable resources to assist in the goal of collision reduction.

<sup>1</sup>. Any investigation and/or determination regarding an accident may be discoverable in subsequent litigation involving the collision. Consequently, prior to implementing any business practice relating to the investigation of accidents, you should consult with your attorney to evaluate the benefit of such a program in light of the risk of discovery.

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