NPTC 2008 NATIONAL SAFETY CONFERENCE

Herndon, Virginia
September 11-12, 2008

PROGRAM HIGHLIGHTS

According to the 2008 Benchmarking Survey, NPTC members continue to improve their safety performance. Compared to the 0.826 DOT reportable crashes per million miles reported by the Federal Motor Carrier Safety Administration, private fleets reported a lower rate of 0.55 crashes, an impressive improvement from last year's 0.76 crashes.

But that doesn't just happen. It takes a commitment to excellence. Effective training programs. Strong compliance. Precise record-keeping. And dedication to learning new strategies and best practices from best practices in the industry.

Just such an opportunity for peer-to-peer learning and exchange took place September 11-12 at the Dulles Hyatt in Herndon, Va., just outside of Washington, D.C. where 134 fleet operators and safety managers convened for NPTC's sixth annual National Safety Conference.

134 private fleet professionals attended NPTC's sixth annual National Safety Conference

Through a unique format of presentations, discussions with key government representatives, workshops, expert panels, and networking opportunities, this year's program helped provide attendees with the tools and resources they needed to "Raise the Bar" on what is already an outstanding safety performance. The following is a synopsis of the presentations from the program.

NPTC Safety Programs
Charlie Rottmund, NPTC Director of Safety & Compliance, kicked the program off with a review of NPTC's safety resources.

One of the leading safety improvement tools is the Best Practices Safety Guide, a free-online resource that helps establish a baseline audit to create a safety plan and improve performance. By responding to some 181 questions in total, participants receive a feedback report that highlights strengths and weaknesses, comparing your results to the average of all NPTC fleets. Best practices focus on major elements including Leadership/Management, the Driver, Equipment, Event Management, Culture, and Evaluation/Assessment/Measurement.

In addition, the NPTC Safety Committee, which meets four times a year, provides advice on key policy issues as well as training on key management strategies and tactics. Specific areas of focus include: Education, Best Practices, and Awards.

NPTC also offers free driver safety letters each month; some 20 safety compliance seminars co-sponsored by Idealease; and a half-dozen webinars sponsored by J.J. Keller & Associates, not to mention the valuable networking with fellow safety and operational professionals and the NPTC staff. Finally, Rottmund spoke about the numerous awards and recognition programs run by NPTC: the Driver Hall of Fame, the fleet safety awards, and the new NPTC National Driver All-Stars Program.

Safety Leadership
Brian Johnston, Manager, Logistics Operations – Assets, Greif Packaging, LLC shared with the attendees how a safety audit (which produced a conditional safety rating) was able to focus the attention of his company on the private fleet. While most of the problems reflected gaps in equipment maintenance and record-keeping, "we realized we needed to improve communication with business leaders on DOT compliance issues and to help our plant managers in each of our 45 manufacturing facilities prioritize safety tasks," he said. "As a result, we received corporate backing for location training and the implementation of corrective action plans."

Greif also implemented improvements by outsourcing driver qualification files, drug and alcohol management and log auditing. In addition, Johnston and his team developed minimum hiring standards for drivers, a system for equipment maintenance records and tracking, and an internal auditing process.

Brian Johnston

The primary lesson, according to Johnston, is to inspect what you expect. Private fleets should not "assume" that their plants are doing everything correctly.

Finally, he urged attendees to communicate findings, new regulations and best practices to plant personnel and drivers as well as to top management.

Recognizing Safety

Sam Richardson, Assistant Vice President, Operations, for ADM Trucking, explained how he was implementing a formal driver recognition program based upon NPTC's National Driver All-Stars. This program will recognize the top 100 drivers of member companies based on how they stack up against their peer drivers. A compliment to the NPTC Driver Hall of Fame, the National Driver All-Stars is a way for private fleets to gain recognition for their drivers who are, in large part, responsible for delivering the high levels of customer service.

Sam Richardson

Specific measures will be:

- Customer service (uniform/appearance; on-time deliveries; attitude/conduct; customer feedback; loading/unloading; cooperation)
- Safety (number of DOT reportable accidents; number of OSHA reportable injuries; number of traffic violations verified by current MVR)
- Compliance with company standards (attendance, attendance at safety meetings, training, paperwork, etc.)
- Regulatory compliance (hours of service, DVIR, MVR, etc.)
- Community Service

Richardson said that his goal is to recognize as many of his drivers as possible based upon the criteria. One of the benefits of the program is that it would serve as an early warning system to detect potential issues should a driver's performance start to slacken. And for any driver with two incidents within a six-month period will be considered at risk and subject to a written recovery plan that would include consultation with the compliance department, special training and the Employee Assistance Program.

Driver Wellness Programs

Rick Foster

Rick Foster, CDS, Director of Private Fleet Safety for Wal-Mart Transportation, detailed his company's innovative approach to driver lifestyle and safety. He told attendees that he was seeing "a significant number of drivers succumb to heart attacks and strokes." The contributing factors include a sedentary lifestyle, lack of exercise and poor food choices on the road.

The first prong in his effort to improve driver health and wellness was to conduct sleep apnea testing. Not only has inadequate sleep been proven to undermine safety, it also leads to hypertension and heart disease, cognitive dysfunction and reduced quality of life.

Treatment options include Continuous Positive Airway Pressure (CPAP); weight loss or bariatric surgery; and dental appliances. "Some companies have experienced a 57% reduction in overall medical expenses after successful treatment," he said.

Other elements of the program include helping associates deal with issues such as body weight, smoking, exercise and mental health. As a result:

- 60% of participants have lost weight – an average of 5.2 pounds.
- 40% have increased exercise or activity level.
- 60% have decreased tobacco use by an average of 15 cigarettes a day.

In addition, Wal-Mart provides all drivers with "Road Warrior Kits" that include information about healthy

snacking, fast-food nutrition, fitness guides and tools as well as exercise tubes and a pedometer.

What DOT Audits Reveal About Driver Behavior

Michael Fox

Michael Fox, a safety investigator with the Virginia Division of the Federal Motor Carrier Safety Administration, began his presentation with an overview of several new safety policies and initiatives emanating from his agency (the Comprehensive Safety Analysis and Compass). But the real meat of his presentation concerned the safety issues he encounters from his perspective of an investigator. He said that in 2005, there were 5,212 fatal crashes involving large trucks with 91,993 accidents with injuries. The average cost of a fatal accident was $3.6 million; the average cost of an accident with an injury was $200,000; and the average cost of an accident without an injury was $91,000. While many of these accidents can be attributed to a lack of compliance with regulations, Fox focused on driver behavior and said that companies should be doing a better job of making sure their drivers were equipped to make the proper decisions. He showed graphic examples of fatal accidents that could have been avoided if the driver was paying full attention to his driving duties. The challenge is that many of these accidents occur in companies that have solid safety programs.

On average, Fox said he investigates an average of 1-1/2 fatal accidents a week and the primary factors they have in common are company inattention to hiring standards; meaningless or misunderstood safety programs; poor driver training; the lack of driver incentives and wellness programs; and driver behavior (disregard for road signs, cell phone usage, distraction, complacency, over-confidence).

Improving Driver Vehicle Inspection Reports

Dan Norris, CTP, Fleet Operations Manager for the Pepsi Bottling Group, and Ray Byrd, Fleet Manager for Pepsi, detailed their training program through which they have dramatically increased compliance with the vehicle condition reports. Their belief is that maintenance and safety are inextricably linked, and that if a truck is not maintained then drivers don't perceive a corporate commitment to safety.

Ray Byrd (top) and Dan Norris provided an inside look at the new training program developed by the Pepsi Bottling Group to enhance compliance with their driver vehicle inspection reports.

But they said that drivers play a critical role in vehicle inspection that goes beyond mere compliance with the federal regulations. This includes understanding the DVIR form, reviewing the prior day's form to see if work was performed and signing off on the form in a legible manner because it is a legal document that is kept on file for 90 days. Byrd and Norris then walked attendees through the elements of a proper pre-trip inspection – first in the classroom and later in a hands-on demonstration of one of their tractor-trailers. At the conclusion of the trip, a proper post-trip inspection is required.

"Clear communication is essential," stated Norris. "When you visit the doctor, do you only tell her about a few symptoms you're having or do you disclose everything? If your doctor only has half the story what's the chance of her making the proper diagnosis? The same applies when writing up your vehicle for service. The more information you communicate about what's happening with your

vehicle, the more likely it can be fixed right the first time."

Private Fleet Liability from the Safety Perspective
The potential for accident liability is a fact of life for any trucking operation. Myths about liability, however, are commonly found at many corporate levels. Some believe that private fleets have a higher degree of exposure to liability as compared with companies with outsourced corporate transportation. This impression, though generally false, may be the underlying reason for a company "not wanting to be in the trucking business."

Outside carriers may use this myth as a selling tool. The pitch may be that operating a private fleet, per se, equates to greater liability and financial loss. Out of fear, upper management may buy into this argument, reject the idea of a private fleet, and outsource all their transportation services – comforted in the unfounded belief that they have shielded the corporation from lawsuit and liability.

NPTC General Counsel Rick Schweitzer told attendees that having a private fleet does not always increase a company's exposure to liability, nor does outsourcing to third parties necessarily eliminate or mitigate this risk. Mr. Schweitzer says that the decision to operate a private fleet should be based on whether this is the best transportation choice for the company, not on generalized and sometimes false assumptions about degrees of potential exposure to liability.

Safety Technology Review
Amy Houser, an engineer in the Federal Motor Carrier Safety Administration's Office of Research and Analysis, spoke about her agency's ongoing efforts to accelerate voluntary adoption of onboard safety systems, including Forward Collision Warning Systems (FCWS), Lane Departure Warning Systems (LDWS), and Roll Stability Control Systems (RSC). The focus of her presentation was information from recently completed benefit cost analyses that looked at the costs of different types of crashes that a motor carrier may typically incur. By avoiding these crash costs with the use of onboard safety systems, the carrier can benefit in many cases.


Amy Houser

Forward Collision Warning Systems provide audible and/or visual warnings of vehicles or objects that come within a predefined interval in front of the vehicle. When a large truck equipped with the FCWS approaches a slower-moving vehicle or stationary object, progressively more urgent warnings are issued by the system according to pre-set thresholds. These warnings are designed to improve driver behavior through targeted feedback about safe following distances. These systems may also be integrated with an adaptive cruise control (ACC) system, which automatically maintains a set following interval between the large truck and a vehicle in front of it. As a result, FCWS with ACC have the potential to prevent rear-end collisions in which the truck is striking another vehicle; however, they do not automatically decelerate or stop the truck. Next-generation systems now in development will use direct braking as an extended benefit of FCWS.

FMCSA estimates that 8,597-18,013 rear-end crashes could be prevented through use of FCWS. Based on the average estimates of the crash cost elements, an accident without injury would cost $122,650, an injury rear-end crash would cost $239,063, and a fatal rear-end crash would cost $1,056,221.

Total costs ranged from $1,415 to $1,843 per vehicle including purchase price and financing, maintenance costs, and cost of training drivers in the use of the technology.

When the anticipated present value costs and benefits of the FCWS were compared, the benefits of using the system over a period of five years outweighed the costs associated with purchasing the systems at each efficacy rate and for each Vehicle Miles Travelled (VMT) category. For every dollar spent, carriers would get more than a dollar back in benefits that could be quantified for the analysis, ranging from $1.33 to $7.22 based on different VMTs, system efficacies, and technology purchase prices. Payback periods ranged from eight to 37 months, depending on the different VMTs, system efficacy estimates, and technology purchase costs.

Lane Departure Warning Systems warn drivers of a lane departure when the vehicle is traveling above a certain speed threshold and the vehicle's turn signal is not used to make an intended lane change or departure. LDWS do not take any automatic action to avoid a lane departure or to control the vehicle; drivers remain responsible for the safe operation of their vehicles.

FMCSA estimates that LDWS has the potential to reduce approximately 1,069–2,463 single vehicle roadway departures, 627–1,307 rollovers, 1,111–2,223 sideswipes, and 59–118 head-on collisions. Based on the average estimates of the crash cost elements, property damage only crashes range in cost from $100,150–$196,958; injury crashes are in the range of $135,096–$455,936; and fatal crashes are in the range of $885,150–$1,252,872.

With total costs approximately $765 to $866.40 per vehicle, the benefits of using the system over a period of five years outweighed the costs associated with purchasing the systems. For every dollar spent, carriers get more than a dollar back in benefits that could be quantified for the analysis, ranging from $1.37 to $6.55 based on different VMTs, system efficacies, and technology purchase prices. Following the deployment of LDWS, payback periods ranged from 9 to 37 months, depending on the different VMTs, system efficacy estimates, and technology purchase costs.

Roll Stability Control Systems include sensors that monitor vehicle dynamics and estimate the stability of a large truck based on its mass and velocity. RSC systems address roll instability by actively reducing the vehicle's throttle and applying its brakes to decelerate the vehicle if a high rollover risk or instability threshold is detected.

FMCSA estimates that 1,422-2,037 combination vehicle rollover crashes in curves could be prevented through use of the RSC. Based on the average estimates of the crash cost elements, the benefits of using the system over a period of five years outweighed the costs associated with purchasing the system ($440 to $866 per vehicle) at each efficacy rate and for each VMT category. For every dollar spent, carriers get more than a dollar back in benefits that could be quantified for the analysis, ranging from $1.66 to $9.36 based on different VMTs, system efficacies, and technology purchase prices. Payback periods ranged from six to 30 months, depending on the different VMT, system efficacy estimates, and technology purchase costs.

Using Technology to Eliminate Drowsy Driving

The National Highway Transport Safety Administration (NHTSA) in the US estimates that 30% to 40% of heavy vehicle accidents are caused by drowsiness. Dean Croke of Seeing Machines explained that driver fatigue is a serious issue concerning almost all areas of fleet or large-scale transportation operations. As in all 24-hour operations, even when resting times are adhered to, the circadian rhythm and the off-duty activities of drivers can result in drowsiness while operating a vehicle. Drowsiness is a strong contributor to heavy vehicle accidents, with the National Highway Transport Safety Administration (NHTSA) in the U.S. estimating 30-40% of heavy vehicle accidents to be caused by drowsiness.

The Seeing Machines Driver State Sensor utilizes a miniature camera on the dash to measure the eyelid opening of the driver, and based on this data derives the drowsiness state. The DSS can provide the driver with feedback on fatigue and attention that increases the safety of your operation by tracking the face of the driver, calculating head orientation and eyelid closure. These signals are processed to determine information about the driver's level of fatigue and the amount of attention paid to the road. This information is then logged by the device and can be analyzed back at base to generate driver performance metrics, reducing accidents. Beyond immediate warnings to the driver, the data relating to fatigue events can be stored on an on-board memory stick for later analysis, or the data can be directly sent from the DSS to a GPRS communication system to provide real-time warnings when fatigue could present a safety risk.

Dean Croke

One of the primary benefits of advanced fatigue management is that its raises awareness of fatigue as a key issue, resulting in employees paying more attention to their resting times. In addition, he said it helps companies to identify hazard conditions, develop statistics on fatigue event times and locations, smarter scheduling, and ultimately fewer fatigue related crashes. "This means less interruption, cost, driver injury and lower insurance premiums," said Croke.

Decision Driving Training

"Studies show that even the best drivers have a tendency to overestimate their abilities," Thomas R. Reed, Driving Instructor for Eaton Corp. and the Michigan Center for Truck Safety told attendees. "This could have serious, even deadly consequences in a dangerous situation that requires highly developed decision-making skills and quick reactions."

Three factors are involved in any crash: the driver, the vehicle, and the driving environment. The FMCSA Large Truck Crash Causation Study found

that driver action or inaction was the critical reason behind 88% of crashes. When it comes to highway accidents, the National Safety Council says two-thirds are caused, at least in part, by driver error. Here's their list of common errors.

- Following too closely
- Overdependence on brakes
- Driver inattention
- Driving to fast for conditions
- Inability to control skids
- Failure to use mirrors, signal, or yield

Thomas Reed

How a driver assesses the risk level is the most important factor, according to Reed. For many the "perceived risk level" is lower that the "real risk level." Becoming a good driver is not just a matter of increasing "skill level" through experience, but the ability to accurately assess risk levels. "So becoming a good driver is not just a matter of increasing skill level through experience," he said. "We also need to improve our ability to accurately assess risk levels both real and perceived.

Reed went on to highlight those areas that the Michigan Center for Decision Driving emphasizes in its performance and skill training including how to expand your look-ahead capacity by continuously search the front, rear and sides for clues and how to size up the whole scene. "The more facts you feed into a computer – your brain – the less chance there is of making a poor decision. Finally, he urged all drivers to signal intentions early, always have an escape route and to take decisive action.

Alan Weisinger

Integrating Simulators into Training

Jim Naatz, Vice President of Sales for MPRI, and Alan Weisinger, Director of Driver Training for Schneider National Carriers, spoke about how Schneider had implemented driver simulators into its training program.

Accidents represent the highest and most rapidly increasing cost Schneider faces as an industry and a company. Although major accidents account for less than one-half of one percent of accidents, they represent half of all the risk costs. Even though Schneider's preventable accident frequency is best in-class, Weisinger said he wants to improve it by using new training technologies such as simulators, better instructor led training, and computer based training to reduce accident frequency and severity. Not only does technology improve training cycle time, he said it will yield a 10% reduction in accidents for new hires in the first 90 days in addition to a 10% reduction in overall driver related accidents.

Schneider uses simulators to enhance basic skills (shifting and defensive driving); intermediate skills (situational awareness, skid pad, and evasive maneuvers); environmental challenges (winter hazards) that cannot be taught on the road, and vocation specific training. In addition, simulators come in handy for advanced training such as evaluating experienced, pre-hire or at-risk drivers, continuous improvement for both new and experienced drivers, fuel management techniques, and check ride assessment training.

Already, Schneider has found that its training technologies have resulted in reduced accident frequency and severity and training cycle time.

Predictive Modeling

Justine Russo, Director of Market Research and Business Intelligence for Pitt Ohio Express, LLC, provided an in-depth overview of how her company used information to measure, manage and optimize performance to achieve both enhanced efficiencies and financial benefits.

Justine Russo

Specifically she used accident and driver history data to understand trends and developed a formula to enable Pitt Ohio to better understand why accidents were happening. Based on the information her department gathered, she was able to work with the safety department to focus training on locations and drivers who were most at risk. For instance, she discovered that of those accidents that cost more than $10,000, backing accidents and rear-end accidents comprised 20 and 25% of the total respectively. Based on that information, the safety department was able to build specific training programs to address these accidents.