Improving Driver Behavior with Real-Time Verbal Coaching

The Key to Efficient Fleet Management
# Real-Time Verbal Coaching

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Why is Driver Behavior so Critical?

According to the International Organization for Road Accident Prevention (IORAP), 1.3 million road deaths occur worldwide every year and more than 50 million people are seriously injured. The World Health Organization (WHO) breaks down these unfortunate fatalities even further: nearly three people are killed on the road every minute. In addition, a National Highway Traffic Safety Administration (NHTSA) study found that that a person who drives as part of his or her job is three times more likely to be killed in their workplace than a person who works in a manufacturing environment.

Unfortunately, this 2010 study by NHTSA also found that 90 percent of accidents are caused by human error, i.e. driving recklessly and speeding, changing lanes without signaling, driving on the hard shoulder and passing through red lights. Much of our driving habits are formed when we are 16 years old and these habits – good or bad – affect safety and performance as drivers for the rest of our lives. Changing these habits is critical – and highly possible with proper motivation, including training, rewards and effective discipline.

Driver behavior is also a major factor in fuel efficiency and maintenance costs. In fact, the Environmental Protection Agency says that the way a vehicle is driven can affect its fuel efficiency by 33 percent. 2 If each driver changes their driving behavior to increase miles per gallon by even a small percentage, their company can reap substantial savings in maintenance and fuel costs.

Clearly, influencing driver behavior is a critical goal for commercial fleets, both for safety and liability reasons as well as optimizing fleet equipment and efficiency costs.

1 “Human Error Accounts for 90% of all Road Accidents,” AlertDriving Magazine, International News, April 2011
Why Real-Time Verbal Coaching is Essential to Changing Driver Behavior

A telematics solution that effectively employs Real Time Verbal Coaching (RTVC) will allow commercial fleets and fleet managers to make dramatic strides towards improving driver behavior and road safety.

Do Written Safety Policies Help?
A written safety policy is a good starting point, but companies also need the means to actually enforce their policies. A recent survey of 100 fleet managers reported that while 73 percent of organizations provide safety briefings and 70 percent have written safety policies, a full 51 percent acknowledge that the method they use to actually monitor and manage their employees’ behavior is out of date.

What about Training?
Training programs produce no statistical change or improvement in the incidence of fleet driver accidents. This is true regardless of the style of advance training employed – on site, online, in truck, or using audio-visuals – and regardless of the fact that the training programs provided 88-272 hours of contact each. It is easy to theorize, based on this research, that driving behavior is heavily influenced by deeply ingrained habits, and without continual reporting and feedback, an individual’s ingrained habits will be extremely difficult to break.

What about Driving Records?
Driving records only show a glimpse of the past; one speeding violation does not tell you if the driver is a habitual speeder. One accident may indicate an unlucky driver more than a reckless driver.

What about GPS or Data Feedback?
Global positioning system (GPS) and vehicle telematics offer an increasingly thorough view of driver behavior. A basic system is likely to show the fundamental details of location, time the vehicle is in use and idle, and a record of off-route miles. More advanced systems can report speeding based on posted speed limits, not just a top speed threshold. They can also provide data on many known traits of aggressive driving: jack-rabbit starts, harsh braking, hard cornering and bumps.

Telematics-related information, which helps fleet managers understand what is really happening when the rubber meets the road, is a big step in the right direction. Industry research shows that telematics can also reduce fuel consumption by up to 14 percent, while cutting maintenance costs by the same amount.

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4 “A Technical Analysis of Driver Training Impacts on Safety, American Transportation research Institute, May 2008 (www.arti-online.org)
5 “Private Fleet Management: from necessary evil to strategic asset,” Logistics Management, November 2011
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A system that forwards GPS or telematics data to a fleet manager or a supervisor allows organizations to give feedback that is specifically aligned to a driver’s weak points, as well as hold drivers accountable for their individual results. This is a highly positive step. Insurance companies who offer telematics to their fleet management customers, for example, report up to 45 percent reduction in accidents and as much as 50 percent reduction in accident payout costs.\(^6\)

Data from Aberdeen Research has also verified the savings commercial fleets can achieve with telematics technology. When telematics is used, the data shows a 25 percent reduction in idle times, 32 percent increase in fleet utilization, 22 percent decrease in fuel costs and a 31 percent drop in daily mileage, and a 23 percent increase in workforce productivity.\(^7\)

Providing drivers with immediate feedback in their vehicle – “slow down, you are speeding” – allows them to make quick corrections and learn over time how to most efficiently drive. A telematics system that both monitors and improves driver behavior in this way can help your organization lower costs, boost fleet productivity and even protect your company brand.

**Real-Time Feedback is The Key To Successfully Changing Behavior**

So, how can you get a true picture of driver behavior? Furthermore, even more important than measuring and assessing driver behavior, what can fleet managers do to improve the behavior? In a telematics system, the most crucial feature for improving driver behavior is real-time coaching (the immediate input and instruction to the driver, as opposed to even real-time notification to the fleet manager and to the driver that a mistake has been made).

\(^6\) “Fleet Telematics: Changing driver behavior for the better,” Telematics Updates, November 7, 2012
\(^7\) Fleet Management Weekly, April 14, 2011
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How Do Systems that use Real-Time Verbal Coaching Compare To Systems That Don’t?

Real-time verbal coaching (RTVC) is proactive, not reactive. It can actually prevent accidents and enforce compliance, instead of merely recording and reporting the events that have already occurred. While many fleets continue to approach safety with policies, training and reactive measures, a proactive solution like RTVC helps form safer driving habits.

RTVC is the closest thing to actually sitting in the cab next to the driver. It senses danger, often before the driver sees it and it immediately tells the driver what to do, using words the driver understands.

Consider the following findings:

- The Federal Highway Administration published the following in its guidelines for commercial vehicles: “There is some evidence that a combined visual display and auditory display might provide the best all-around approach to the presentation of collision warning information. Dingus et al. (1997) found that the combination of their perspective visual display and verbal warning (either ‘look ahead’ or ‘brake’) was most effective at reducing problematical headways. Generally similar results were seen by Hirst and Graham (1997), who found that an abstract visual display combined with a speech warning resulted in earlier braking times. However, the findings in their totality suggest that a visual display (not a simple discrete visual alarm) combined with a verbal warning might be most effective in addressing headway problems.”

- In fleet management, changing a driver’s behavior requires frequent and specific interventions. In a commercial vehicle safety study, international management consultant Aubrey Daniels finds: “Feedback is most powerful when it is frequent, reliably tied to specific behaviors, timely, constructive and supportive.”

Real-time verbal coaching in a telematics solution can help prevent crashes and violations because it gives drivers timely, constructive feedback that is tied directly to their specific driving behaviors. It designed to shape safer drivers—not punish them after the fact.

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What Options Are Available to Answer These Requirements?

Fortunately, several telematics offerings are now emerging that offer various levels of real-time verbal coaching. For fleet managers looking to update or acquire a solution that can actually improve driver behavior instead of simply monitoring and reporting vehicle conditions and driver reactions, ask the following key questions:

1. **Is the solution rugged enough to work in my environment?** Several vendors have introduced solutions that can operate from smart phones, but smart phones aren’t appropriate for every environment. For example, the extreme temperatures at oil and gas drilling sites and the intense vibrations at mining sites can damage sensitive electronics.

2. **Does it provide real-time feedback to drivers in a meaningful way?** Accurate and timely vocal commands generate a more immediate change in driver behavior than flashing lights and buzzers, which aren’t specific on the infraction being committed. A driver may lose precious time figuring out why something is buzzing or flashing. Immediate and specific feedback, using words in the driver’s spoken language, should be used.

3. **Does it provide both visual and audible feedback to drivers?** Two forms of feedback at the time of an event are more effective than one. Multimodal feedback research shows that combining visual feedback with auditory or tactile feedback can improve reaction times and performance.¹⁰

4. **Does it provide real-time feedback to management?** Information sent wirelessly to fleet management as events happen is much more valuable than an eventual report. Real-time information provides managers with information they can act upon immediately, while giving drivers continual reminders that their managers have the ability to see and monitor their behavior as they drive.

5. **Can I customize the alerts to fit my operating model?** Fleet managers should have the ability to choose the level of the alerts and how they are notified. For example, can you set the system to automatically call first responders in case of a crash? Or can you request an alert every time the driver doesn’t wear a seatbelt?

6. **Is it built on a telematics platform that can expand with my needs?** Many vendors provide “point solutions” – systems with a single and specific purpose such as a maintenance system to address mechanical breakdowns, a system for driver safety issues, and a system for electronic logs (DOT hours of service). For simplicity in maintenance and service, as well as to avoid cluttering cabs with multiple boxes and touchscreen displays, consider choosing a telematics vendor that offers all of the tools you need in a single solution that can serve the fleet manager, safety officer, maintenance manager and operations manager from a single console and a single device.

7. **Can it integrate with our other systems?** A telematics solution with the ability to integrate with all fleet management and operations systems can be especially beneficial. If you already have

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payroll, routing, and work order management in place, for example, look for a telematics system that can integrate and communicate with the systems you already own.

8. **Can it monitor engine idle time?** Reducing engine idling saves fuel and maintenance costs, extends vehicle life and decreases CO2 emissions. A 2009 Energy Policy study found the average American idles for roughly 16 minutes a day, resulting collectively in close to 94 million metric tons of CO2 and wasting more than 10 billion gallons of gasoline annually. The right telematics solution can reduce engine idling, fuel costs and air pollution.

It’s critical to address these questions before your purchase, or you could be making a costly mistake, both in efficiency and safety and in the ability to use your chosen solution with confidence for a number of years, without having to spend the funds to make a replacement.

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Using inthinc Telematics to Improve Driver Behavior

Fleet managers looking for a full-featured telematics solution to improve and manage driver behavior should consider inthinc Technology Solutions Inc. Inthinc is a global provider of telematics, fleet management and driver safety solutions. While many product offerings and many fleets continue to approach safety with a series of policies and reactive measures, inthinc’s state-of-the-art solution coaches drivers proactively and in real-time to help them progressively learn and retain safer habits. In addition, fleets using inthinc realize substantial performance and sustainability benefits.

Benefits and Results

On average, fleets using inthinc telematics solutions achieve the following results:

- Reduce speeding by 86 percent
- Reduce aggressive driving by 89 percent
- Reduce crashes by 90 percent
- Improve seat belt use by 88 percent
- Reduce idle time by 53 percent
- Reduce carbon emissions by 30 percent
- Decrease maintenance costs by 20 percent
- Cut fuel costs by 15 percent

Inthinc is the only telematics solution that uses real-time verbal coaching to notify drivers precisely what they need to do to correct their actions. Verbal notifications occur when drivers exhibit unsafe behaviors such as speeding, aggressive turning, hard braking and accelerating, or not wearing a seatbelt.

More specific than a buzzer or a flashing light, inthinc uses audible verbal prompts that help drivers take immediate corrective action without taking their eyes off the road. The following table compares the results of verbal coaching and beeps as types of driver feedback.

<table>
<thead>
<tr>
<th>Type of Feedback</th>
<th>When an Infraction Occurs...</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal Coaching (coaching-based system)</td>
<td>It identifies the type of infraction in real time, using words the driver understands.</td>
<td>Drivers know why the coaching event was triggered and improve their behavior in real time.</td>
</tr>
<tr>
<td>Beeps (punishment-based system)</td>
<td>It makes a noise but the driver may not know the type of infraction or the reason for the infraction.</td>
<td>Drivers are confused and frustrated, learning nothing and improving nothing.</td>
</tr>
</tbody>
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Immediate feedback improves unsafe behaviors and decreases maintenance and fuel costs.

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inthinc Advantages

A “secret sauce” element that is unique tointhinc is a 15-second grace period for speeding and seat belt violations. The grace period allows drivers to correct their behavior before it is logged as a violation and reported to fleet management. This system of correcting mistakes in real time, and not reporting a penalty on drivers who comply immediately, proactively encourages better driving and better driver morale.

Additionally, by providing true global coverage with its satellite network,inthinc leads the telematics industry in communications transmission coverage.inthinc technology can deliver reliable, efficient communications to your fleet by using the most cost-effective media—satellite, cellular or Wi-Fi.

Perhaps the best advantage ofinthinc telematics is its rapid return on investment. Fleet managers get meaningful reports that list events, show trends and offer solutions to the problems they need to solve. In most cases, customers realize enough savings in reduced fuel costs, fewer crashes and lower maintenance to pay for the product within the first year of ownership.

Typically,inthinc customers reduce fleet-wide speeding by more than 80 percent within the first month. Combine that efficiency with the additional fuel consumption savings gained via fuel and MPG tracking and idle time mentoring, and customers often see significant savings within a few months after implementation.

Satisfied Customers

Many fleets around the globe have saved money, improved operational efficiency and ensured driver safety withinthinc solutions. Here are a few examples:

- **Barrick Gold Corporation** – fleet telematics system paid for itself in only seven months, reduced speeding by 80 percent and vehicle incidents by 78 percent.

- **Cintas** – reduced speeding by 85 percent, improved seat belt use by 89 percent and decreased vehicle incidents by 46 percent.

- **McCall Services** – gained an additional 100 miles more per tank of gas in its vehicles and improved driver scores from the 2.0 range to the 4.0 range in only one month.

Aboutinthinc

inthinc is a global company centered on telematics, fleet management and driver safety solutions. Its breakthrough technologies are designed to safeguard lives, save money and protect the environment.inthinc technology has been documented to reduce accidents by 90 percent, reduce speeding by 86 percent, decrease maintenance costs by 20 percent and reduce overall fuel costs. For more information, please visit http://www.inthinc.com.

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