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Toll NQX

Focus on in-vehicle cameras propels safety culture

Fleet Size:

400+ company-owned
heavy vehicles
across Australia

Staff:

450+ company drivers,
1,500+ drivers
(including contractors)

CASE STUDY

NRSP
NATIONAL ROAD SAFETY

PARTNERSHIP
PROGRAM



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Key Outcomes:

- In-vehicle camera systems are a powerful risk management and safety improvement tool
- The cameras have resulted in better dialogue with and compliance by company and contract drivers with safe driving practices
- Ongoing collaboration with heavy vehicle manufacturers and parts suppliers to develop safer cabin environments
- Trucks are involved in less incidents, and the system has driven opportunities to contribute to the wider community and safety
- Positive implications for driver and community welfare, fleet maintenance, reputation and costs

Synopsis:

When leading road transport provider Toll NQX, part of Toll Group, installed in-vehicle camera systems in its long haul fleet in mid-2011, it was not expecting to shake the conventional wisdom that speed and fatigue are the greatest safety risks for truck drivers. Today, it has compelling evidence that driver distraction also poses a significant incident risk. This insight is changing the way Toll NQX operates its fleet, manages risk, and engages with drivers and contractors.

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About Toll Group

Celebrating 125 years in 2013, Toll Group is the leading provider of transport and logistics in the Asia Pacific region. Toll employs more than 45,000 people across 1,200 locations in more than 50 countries, and has annual revenues of A\$8.7 billion. Toll provides specialist logistics capabilities to a range of sectors including defence and government, industrial, manufacturing, mining and resources, retail and automotive.

As part of Toll Group, Toll NQX is a leading provider of road transport solutions for freight moving across Australia, serving a wide range of industries including mining, manufacturing, retail and wholesale. Toll NQX operates B-doubles and road trains across the country and specialises in the long distances, remoteness and harsh conditions of Australia's northern routes. Toll NQX employs more than 1,500 people and operates in 24 depots throughout Australia, with its trucks clocking up 100 million kilometres a year on Australia's roads.

Embedded in Toll Group's corporate values is the belief that all injuries are preventable and everyone has the right to go home safely. This is articulated in the company's Think safe. Act safe. Be safe. strategy, which aims to develop a consistent and systematic approach to leading and managing health and safety across the group. Toll NQX is also represented on Toll Group's Linehaul Fleet Safety Network, which coordinates best practice and sets minimum standards for heavy vehicle safety across Toll.

The Back Story

Drivers are alone on the road for many hours, often in remote locations, commonly clocking up 1,000 kilometres over a 24-hour period and more than 200,000 kilometres a year. They are behind the wheel of loaded vehicles weighing up to 130 tonnes, pulling as many as four trailers with a million-dollar price tag, and carrying valuable freight. In this challenging environment, drivers make thousands of small decisions that can have major implications.

Toll NQX knew incidents, especially in remote areas, could be costly – not just mechanical damage costs but also the physical and emotional costs for the people involved.

Reducing the number of incidents its vehicles were involved in has long been a goal for Toll NQX, so it set out to discover the root cause of incidents to reduce the risk and put in place effective preventative measures.

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Key Milestones on the Safety Journey

Safety is Toll's priority, always. This includes the safety of staff and contractors, as well as the communities in which it operates. For Toll NQX, the journey towards becoming one of the safest companies in the industry began with joining TruckSafe more than a decade ago. Since then, Toll NQX has been involved in a series of safety initiatives including:

- early adoption of GPS-enabled telematics (commonly referred to as 'black box') technology and monitoring
- introduction of a 95kmh B-double speed limit
- its program to phase in in-vehicle cameras and an associated monitoring system.

In-truck Monitoring

From 2001, Toll NQX installed 'black boxes' across its entire fleet to control speed. Telematics takes engine speed data from the engine management system and relays it via telephone to an independent analyst based in Newcastle. If a truck exceeds 103kmh, Toll NQX is immediately notified.

"Open road speed management is something we have been doing for a long, long time. We know whether a truck's idling or speeding and we can even tell if the box has been disconnected, as it's GPS-enabled so comparisons can be made between the engine speed and the GPS speed," according to Toll NQX National Linehaul Manager John King.

Telematics gave the company important information about whether speed was a factor in incidents but it still didn't show what was going on inside the cabin at the time or what else might be creating risk.

Lower Speed Limit

Toll NQX gradually reduced the speed limit its drivers could follow from 100kmh to 95kmh over several years. "We were trying to get drivers to accept the legal speed limit and to not exceed." Speed limiters do not slow trucks' momentum when travelling downhill, so setting a limit below the legal one, combined with active driver co-operation, has been critical.

In-vehicle Cameras

Two-way cameras have been installed in 121 Toll NQX truck cabins since 2011.

Toll NQX researched the latest technology and chose cameras made by DriveCam. They were supplied by In Vehicle Camera Systems (IVCS), an innovative New Zealand company that had developed a sponsorship program with insurance company Lumley to offer premium incentives to NZ trucking customers that fitted the cameras.

The camera captures G force events, such as sudden braking, harsh cornering, rough road surfaces or swerving. It records eight seconds of vision – of both the driver and the road ahead – leading up to the event and four seconds after, providing a valuable 12-second snapshot of a near miss or incident. Audio is also recorded within the cabin.

The film is then relayed directly to DriveCam, a third party monitoring service in California, which analyses the footage and emails back any footage that may warrant further investigation with a prioritised message heading. Toll NQX receives about 2,000 video clips a month, most of which require no follow-up with drivers. Those that do are forwarded to the driver's manager to discuss with the driver.



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Overcoming the Barriers

- Demonstrating the case for cameras: Toll NQX involves the IVCS company in workplace briefings to explain the technology and how it can benefit corporate safety, and draws on evidence from the DriveCam website to sell the case for monitoring. The company is also keen to work with other Australian organisations to share its positive camera outcomes.
- Driver resistance: In light of concerns from drivers about the operation of the cameras, Toll NQX began a staged rollout. This started in far north Queensland, where drivers were keen to have the cameras installed as replacements for older models in their trucks. Heavy vehicle drivers often witness unsafe behaviour by other road users and can manually hit a button that records the incident. The footage can play a useful role in incident investigation.

The initial wave of objections to the introduction of cameras in a new region is necessary to give people the chance to voice concerns, get them to agree to give the cameras a try, to explain how the company will address any outstanding issues, and to build trust. "We are changing driver perceptions from one of privacy concerns to understanding the imperatives behind this key initiative. The evidence has shown rather than dismissing drivers for breaches of the law, Toll NQX is able to teach, manage and develop better, more professional drivers."

- Supporting managers: Managers can find safety discussions with drivers uncomfortable and time-consuming, but the video clip arms them with a powerful tool. The cameras' GPS capability is also weaning some managers off unnecessary

and distracting phone calls to drivers about their location with a simple click of a touch screen in their office. Managers are building meaningful relationships with drivers that centre on honest discussions about their behaviour, their health, their lifestyle and the risk environment.

- Cost: The camera is just one cost element in the program. Others include resourcing camera monitoring and working with drivers to change behaviour. Each camera costs around \$1,000 to install and \$90 a month to monitor. Managers oversee the program internally as part of their broader roles but can be receiving and reviewing footage at any hour of the night or day. Toll NQX is confident its investment will pay off over time in terms of reducing heavy vehicle incidents, which can be costly physically and financially.
- Privacy: Toll NQX developed a simple code of conduct to explain how it would use camera footage. It has also found that drivers' privacy concerns generally dissipate once the cameras are operating and their fears are not realised. "DriveCam are the people actually monitoring our trucks. The camera is constantly filming but unless a G-force event occurs, the camera does not retain the footage. No one is sitting there at the end of the day viewing each driver's every moment."

Unions have been supportive, and the company is working to meet the requirements of Victoria's privacy laws, the only state where two-way in vehicle camera technology is yet to be rolled out by the company.

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What Has Been Learned

- Driver distraction is a key risk: The cameras have revealed a number of small distractions that have the potential to compromise safety, including using mobile phones, inserting CDs or changing radio stations, or reaching for a lunchbox. "One of the biggest issues in our world is driver distraction, or the things that people do while driving that all of a sudden see them change course dramatically. We've all done it in our own cars but in a 53-metre road train it can have a huge effect."
 - The camera tells all: "The truck was always the first 'person' to get the blame in any incident, now it is 100 per cent objective." While the prime motivation for installing two-way in vehicle cameras was to get to the root cause of incidents, the cameras have also helped to identify risky driving behaviour from either Toll's drivers or from other road users.
 - Cabin design impacts safety: "We've learned a lot about cabin layout and had discussions with truck and parts manufacturers about how to overcome drivers having to reach all over the place to do things." For example, many vehicles now feature dash-fitted phones that are set to auto answer, the radio can be controlled from the steering wheel, and the fridge behind the seat is locked when the vehicle is moving so the driver can't reach around and open it.
 - Law enforcement benefits: As a legal requirement, wearing seatbelts is non-negotiable and Toll NQX uses the cameras to enforce driver compliance. Bright orange seatbelts make it easy to spot on camera whether drivers are actually wearing them. Seatbelt compliance has risen since the cameras were introduced. Toll NQX's own rules, such as no smoking in cabins, can also be better enforced.
 - Safety features in best procurement practice: Drivers and procurement managers in most organisations with corporate fleets prefer particular vehicles and models for all sorts of reasons, both rational and emotive. While Toll NQX has traditionally favoured US prime movers such as Kenworth and Western Star, the safety imperative has made the company more receptive to other vehicles on the market.
 - Collaboration gets results: The National Linehaul Manager not only talks to truck manufacturers, he works closely with others within the Toll Group to share safety ideas and learnings. Toll has three committees focussed on road safety across its operations and monthly speed reports are provided to all managers. Its Think safe. Act safe. Be safe. global safety campaign lives and breathes through communications, training, new driver induction and OH&S practices. John King also liaises with contractors to lift safety standards, which have improved markedly at the contractor firm where IVCS technology was installed.
 - Changing human behaviour requires flexible responses: Most drivers want to do the right thing but aren't always aware they have been driving unsafely. The aim is not to target drivers for dismissal, rather the focus is on education and compliance. A driver caught on film asleep for a nanosecond can be shaken by the footage. "Drivers are more frank with you if you can show them the evidence."
- While the prime motivation for installing two-way in vehicle cameras was to get to the root cause of incidents, the cameras have also helped to identify risky driving behaviour from either Toll's drivers or from other road users.***

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- Cameras can contribute to general road safety: Truck drivers are often blamed for incidents yet statistical evidence shows 70 per cent of incidents involving trucks are the fault of another party. The camera can prove that the Toll NQX driver was not at fault because it also films outside the cabin, giving drivers peace of mind. It can also help provide details of incidents not involving Toll NQX vehicles but in their vicinity. For example, Townsville police were offered footage to assist with investigations into a fatal incident.
- Cameras are a commitment: As impressive as the technology is, it also takes corporate commitment to use the camera footage to educate drivers and change the safety culture. "You've got to embrace it 100 per cent to get the value out of it. If there was a two-way camera in every vehicle in Australia we'd see a very different outcome regarding incidents involving heavy vehicles. In Toll NQX we can't imagine now doing business without cameras: they are just part of doing things in a safe way, but the real truth will come for us when we have a longer-term history."

About the author

John King has worked at Toll NQX since 1997 and safety is an integral part of his role as National Linehaul Manager. He has been in the transport and logistics industry for 42 years.

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