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Safety in the transport industry

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Abstract

Workers compensation statistics show high rates of fatalities, traumatic injuries and musculoskeletal disorders occur in the transport industry, particularly the road transport sub-sector. Safety initiatives and innovation are occurring although they tend not to be shared between operators. The Transport Strategy Group, Workplace Health and Safety Queensland is engaging with the industry, especially the heavy freight road transport sector, using action research to learn more about the health and safety systems in the industry and concurrently to improve health and safety outcomes. Industry networks are being established using concepts of collaborative governance to break down barriers, improve sharing of issues and solutions and to improve work health and safety outcomes.

Keywords

Transport, Road freight, Work health and safety, Collaborative governance, Action research

Introduction

Queensland workers compensation statistics show that the transport industry, and particularly the road transport sub-sector, is a high risk industry with workers compensation claims well above the all-industry wide rate [1]. The Transport and Logistics Industry Skills Council, in their 2010 Environmental Scan [2 p.3], observe '…there are widely held views that the industry is dangerous, fatiguing and has little potential for career development. The high profile of accidents and fatalities involving transport drivers compounds this image.'

It was against this backdrop of higher than average fatality and injury statistics that Workplace Health and Safety Queensland (WHSQ) established the Transport Strategy Group (TSG) in 2010. The aim of the TSG is to provide focus and strategic direction on health and safety issues affecting the transport industry through evidence-based and innovative programs [3].

The TSG is developing an approach which recognises that many of the problems confronting the industry are broader societal issues that defy a single jurisdiction- or government-imposed solution. This approach includes:

- leading relationships between WHSQ and transport industry partners (including other government agencies)
- assisting in the development of information and education strategies to enhance health and safety
- seeking to influence legislation and standards including those in other portfolio areas which have the potential to impact health and safety outcomes within industry
- developing WHSQ's internal capabilities in this area.

The TSG is also addressing the shortcomings or insufficiencies of a formalistic legal paradigm. Over the last two years WHSQ has been improving the impact and effectiveness of inspectorate services through better targeted enforcement activity, a more advisory approach and emphasising interventions with a multiplier effect. Regulatory support and, when required, regulatory compulsion, are critical. However, more is required to move the industry beyond laws and a culture of minimal compliance and avoiding litigation to one which creates new values, norms, practices and culture around health and safety.

One of the priorities of the TSG is an engagement program aimed at identifying and understanding safety management in the industry and, over time, encouraging continuous improvement. This is progressed by facilitating cross-industry

relationships and networks that create positive environments to identify barriers to safety, to share ideas, develop and test solutions, and learn from evaluating those experiences. In short, the program embodies an action research approach in which the TSG seeks to study the system while working collaboratively with transport industry stakeholders for change.

This paper provides the theoretical basis and research methodology which underpins the engagement program. It also provides some of the preliminary findings.

Description of the transport industry

In terms of employment, the transport and storage industry in Queensland is the second smallest of the major industry sectors in the state. In 2009-10, this industry employed almost 120,000 people, or 5.6 per cent of all people employed in Queensland [1]. Road Transport is the largest sub-sector, employing 50,000 workers, and as at 30 June 2010 there were almost 90,000 trucks registered in Queensland [4]. Transport support services and rail transport are the next largest employing sub-sectors. In the medium to long term, Queensland's transport industry is expected to see fairly strong employment growth – around 20% to 2017-18. Some sub-sectors such as road transport and rail are predicted to reach over 30% [5].

The heavy freight road transport industry is complex, with many sub-sectors dominated by small and medium-size businesses, complex sub-contracting arrangements and a high degree of economic pressure [6, 7]. Profitability of owner-operators is very low and owner-drivers work long hours for low remuneration [7]. The potential flow-on effects to poor safety outcomes are recognised and a system to ensure that pay rates are not adversely affecting safety has been proposed [8].

The industry has the challenge of a constantly changing workplace and work environment. Truck drivers spend most of their working time on their own driving in their trucks. Although there are times - during queuing, loading, unloading and infrequent breaks – that drivers interact face-to-face with others, for most of their working hours they are on their own with limited communication. This engenders a unique culture characterised by a strong sense of independence, coping with isolation and working alone [9].

Work health and safety injury and fatality data

In 2008/09 there were 64 compensated fatalities in Queensland. The transport and storage industry recorded 15 fatalities, or a rate of 12 per 100,000 workers. This is significantly down on the 2007-08 rate of 32 per 100,000 workers. However, it is still well above the National Occupational Health and Safety Strategy targets and the all-industries fatality rate of

3 fatalities per 100,000 workers. Fatality data shows not only on-duty road traffic incidents; many fatal incidents are happening in the depots, involving loading and unloading, crush injuries and falling objects [1].

In relation to non-fatal compensated claims, the transport industry was responsible for about 9% of Queensland's 30,500 claims in 2008/09. However, as a rate, transport and storage recorded 21.7 compared to the all-industry average of 14.5 per 1,000 workers. This rate was exceeded only by the manufacturing industry which recorded a rate of 32.4 per 1,000 [1].

Over 70% of compensated injuries were musculoskeletal disorders and these types of injuries, particularly trauma to joints and ligaments, are increasing over time. Over the longer period 2005 to 2009, muscular stress while lifting and handling, falls on the same level and falls from height were the most common mechanisms of injury. Vehicle incidents and contact with moving plant/objects are significantly further down the list of injury mechanisms.

This data shows that while the transport and storage industry is the second smallest industry sector in terms of employment, it has the second highest incidence rate for workers compensation. Drivers have a high rate of injury, ill-health and stress. Owner-drivers tend to have more negative work health and safety (WHS) outcomes than small-fleet drivers or, especially, large-fleet drivers [7]. Fatalities and serious injuries occur in other contexts besides on-road, and improving health and safety performance is dependent upon overcoming the challenges of these industry aspects [3].

Regulatory Space

Safety issues in the transport industry, particularly in the heavy freight road transport industry, have a greater impact on the general public and wider community than for most other industries. Failure of safety, when it occurs on-road, can result in a traffic crash or incident. Due to the vehicle types involved (truck versus car), the consequences for the member of the public can be far worse than for the truck driver [5].

This has given rise to large volumes of regulation covering [10]:

- road rules
- vehicle standards and safety
- vehicle registration
- licensing
- fatigue management
- mass, dimensions and loading
- dangerous goods.

Unlike other industries, the heavy freight road transport industry operates under significant and obvious surveillance - by transport inspectors and police, and by remote technology such as speed cameras, safe-t-cams and red light cameras. Global Positioning System (GPS) tracking is increasingly being used by companies and regulators to monitor where, when and how heavy vehicles are being operated [11].

Not only is this a congested regulatory space, it is also one which is rapidly changing. The introduction of chain of responsibility legislation was a major shift for the industry from prescriptive and driver-targeted rules to more performance and

principle-based regulation. New on-road requirements have also been introduced covering fatigue, mass loads, load restraints and speeding. There is increased focus on prosecuting the corporate chain who are responsible for creating the conditions or placing pressures on drivers. Consignors, consignees, packers, loaders and receivers, who create conditions which lead to drivers contravening road transport laws, can be prosecuted under this legislation [12]. The establishment of a National Heavy Vehicle Regulator and associated legislation will bring further changes. There is also the possibility of safety regulation through industrial relations law, with the Federal Government recently releasing a 'Safe Rates, Safe Roads' discussion paper [13].

Changing regulation can be perceived as 'more' regulation in an already heavily regulated environment. The perception of an increased regulatory burden can cause an adversarial relationship between the regulator and businesses, fostering a relationship that, in some instances, is 'dismissively defiant' with the industry distrustful of any overture from the regulator [14]. Wallace [9] notes the existence of such a relationship between government and the transport industry, and the difficulties that exist in breaking it down. This distrust extends not only to the road traffic regulator but other regulatory agencies, such as for occupational health and safety.

Regulating work health and safety – multiple approaches

An awareness that traditional deterrence-focussed regulation was creating an adversarial climate - one that stifled innovation and, at best, maintained minimum standards rather than allowing best practice to evolve - has led public agencies to investigate other forms of governance [15]. Occupational health and safety has, since the 1970s, been moving away from prescriptive controls towards models of 'self-regulation' and responsive enforcement [16].

The 'new' approach to regulation, directed by both legislative change and maximising limited regulatory resources, recognises that different organisations will respond differently to different approaches by the regulator. It also recognises that it is essential to ensure a balanced approach across the encouragement-persuasion spectrum [17].

In the last few years, Workplace Health and Safety Queensland [18] has moved to adopt the attributes of a modern regulator characterised by:

- client focus, reflecting and evolving with the community's needs and concerns
- use of regulatory powers in a constructive, accountable, transparent and effective manner
- experienced and well trained people who are empowered, professional and capable of dealing with each situation on its merits
- a proactive and positive approach – identifying and focusing resources on the areas of greatest risk and impact
- engaging with people to help them be on the right side of the law by showing them how to comply
- ensuring there are fair and swift consequences for those who do the wrong thing.

It is vital that a modern regulator goes beyond the 'expert knows best' model in order to change behaviours and build effective intervention programs [19]. 'Expert knows best', or command and control models, are not as effective as a combination of collaborative, distributed and dialectic leadership roles, although potentially there are higher regulatory costs for the latter [20 pp.1-2]. Governance arrangements which support these leadership roles will assist a modern regulatory approach.

Collaborative governance is defined as:

> 'A governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus-oriented and deliberate and aims to make or implement public policy or manage public programs or assets' [15 p.2].

Ansell and Gash [15 pp.8-11] have developed a collaborative governance framework that suggests effective engagement and collaboration may be impacted by factors such as power/resource imbalances, the incentives for stakeholder participation, and any prehistory of antagonism or cooperation (Figure 1). However, they argue that such factors may be overcome or managed through facilitative leadership stewarding the process (building trust and facilitating dialogue, as well as embracing, empowering and mobilising stakeholders), institutional design (the basic protocols and ground rules that establish procedural legitimacy), and the way the collaborative process is administered (face-to-face dialogue, building collective understanding and trust, and celebrating small wins) [15 pp.12-19].

Collaborative approaches are based upon the formation and maintenance of relationships. They require a facilitative style to manage behaviours, activate the right people, coordinate their interfacing and set out operating rules within which they may deal with complex situations [21 p.445].

When properly applied, this partnership approach has benefits for all stakeholders. It is more likely to result in sustained behaviour change and to create 'behavioural norms' that legitimise the adoption of good safety practice. Simply put, if you have the key actors working together for an agreed common goal they are more likely to take action and to see the action as the 'way we do business around here' [14, 22]. Critical to the success of these partnerships is having the right people 'at the table' but foremost are the skills of the broker or facilitator. They have to be credible, able to build relationships, develop trust, sustain communication and develop processes and plans in concert with the stakeholders [15, 20, 21].

The health and safety performance of the industry, the regulatory space and theoretical approaches outlined above were used to inform the TSG strategy. This strategy combines a focus on engagement and a research approach in order to learn more about the system to be influenced.

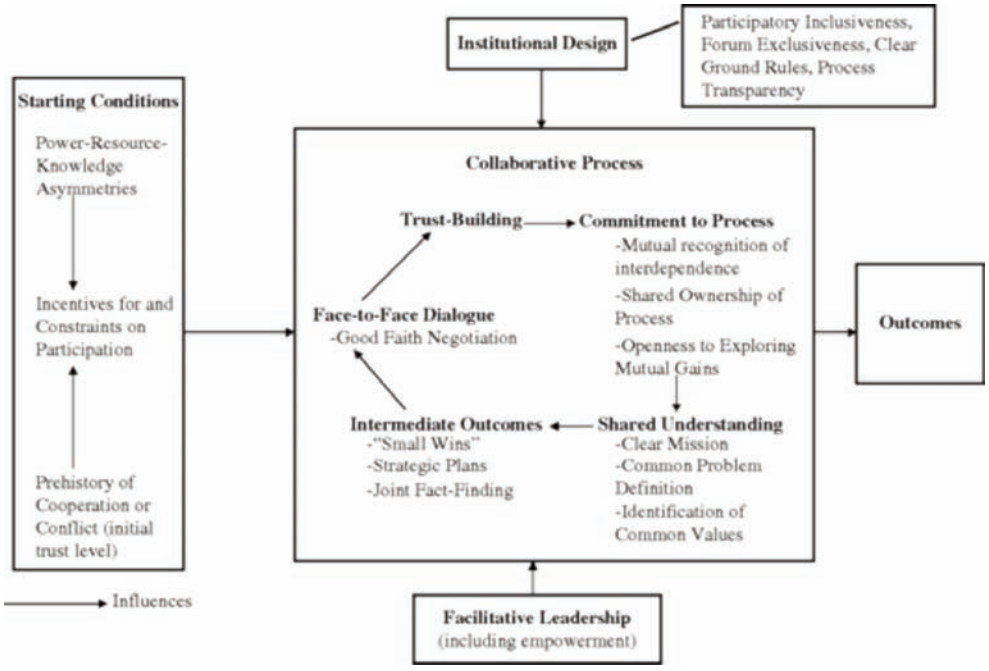

Figure 1. A model of collaborative governance [15 p.8]

Putting it into action

The initial work of the Transport Strategy Group built on a previously established stakeholder framework. Collaborative arrangements are included in the *Workplace Health and Safety Act 1995* with formal arrangements required for Industry Sector Standing Committees (ISSC). The Transport and Storage ISSC was integral to the development of the Transport and Storage Industry Action Plan (IAP) 2008-10 [23]. Initiatives under the IAP led to the staging of a Transport Industry Summit in 2009. The Summit was organised to establish an entry point with the transport industry and to seek industry comment on the most significant occupational health and safety issues facing industry, including stakeholder views on how to address them. It was clear during this consultation that industry felt:

- over-burdened by sometimes conflicting regulation from government agencies
- ready to embrace improved health and safety practices (but without understanding how to do this in practical ways.

With the establishment of the TSG in January 2010, an engagement strategy was developed. This encompassed the principles of Action Research: '… a flexible spiral process which allows action (change, improvement) and research (understanding, knowledge) to be achieved at the same time' [24]. This process of diagnosis-planning-action-evaluating-learning is outlined in Figure 2. Put simply, this is a process of *'learning by doing* - a group of people identify a problem, do something to resolve it, see how successful their efforts were, and if not satisfied, try again' [25].

Part of this engagement strategy was a series of interviews with senior management and executives of transport companies. The participants came mainly from the heavy freight road transport sector. Selection of participants was by purposeful sampling. From a list of major transport operators a subset of 20 were contacted initially, consisting of Chief Executive Officers and State Managers [26]. These were followed up with 80 additional operators through a process of identification and referral.

In order to foster an atmosphere of trust and confidentiality, a semi-structured interview process was adopted to explore a number of key themes. It was important to differentiate this approach from legalistic interactions by appointed inspectors acting under conferred powers. It was stated at the start of each interview 'I am not here to conduct an audit of your safety management system. I am sure that on paper it would look fantastic, but what I am really interested in is how safety is being managed through practical application at the coal face in your workplace'.

The basic information asked for by the researcher was:

- what safety meetings they held within their company
- what the highest level of management in attendance was at those meetings
- how often they held each of those meetings
- what initiatives (if any) they had in place to address any safety concerns/issues that were raised at those meetings
- how they managed safety when using contractors and at customer sites
- whether they were aware of any barriers or gaps to improving safety in the industry
- whether they wanted to make any additional comments.

The interview process was also used to gauge interest in the companies becoming involved in WHSQ's Zero Harm at Work Leadership forum [27] and regional transport networks.

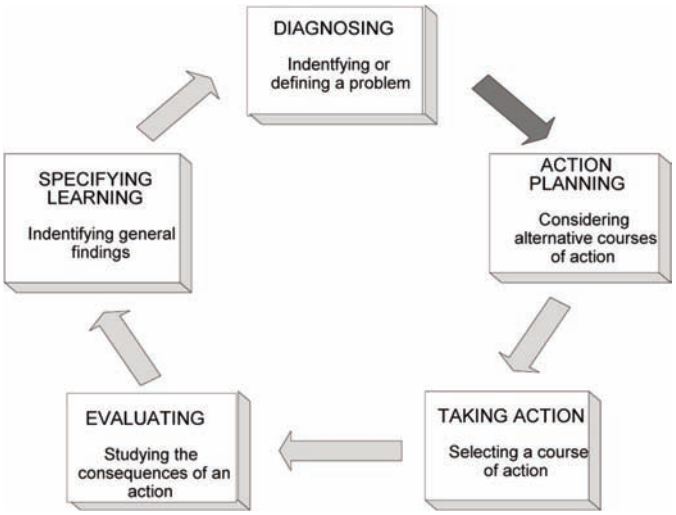

Figure 2. Detailed Action Research Model, (adapted from Susman 1983) [25 p.3]

Records of conversation were made for the first 20 interviews and these were reviewed by those interviewed to ensure that they faithfully captured both the content and meaning of the information provided [26]. The 80 subsequent interviews, conducted to date, were not individually documented but the key themes, ideas and initiatives were recorded. Researcher notes and reports de-identified interviewees and companies to ensure confidentiality.

Thematic analysis was employed and the development of emerging themes is incremental. As themes are identified the methods of questioning require adapting and changing. For example, the early interviews were conducted using a number of questions that had been developed in advance; however, during the interviews the participants raised issues that had not emerged previously. After carefully considering what had been said the words were analysed and the discussions were refined to include these issues for further interviews.

Results and Discussion

A number of key themes emerged from the interpretive analysis of the records of conversation of the interviews and supplementary information from the additional 80 interviews. These themes are indicative of the type of practice likely to be encountered in more than 50% of the businesses interviewed. As such, they do not apply to all businesses interviewed. The themes are generalised and language used by the interviewees was subject to the interpretation of the interviewer. Discussion of each theme grouping and the implications for a collaborative governance approach is presented below. Quotes (text in bold), selectively drawn from the report produced after the first 20 interviews, are used to illustrate the theme [26].

Consultative arrangements

- Companies have active safety committees at a site level.
- They hold safety meetings including tool box talks within the company structure.
- They have safety as a standing agenda item at every meeting.
- They employ a full-time OHS and/or Compliance Officer .
- Management attend meetings appropriate to the level that the meeting is convened at.
- Safety meetings are held on a monthly basis with State Managers in attendance whenever possible.

  "Our company has a strong belief that awareness defeats complacency."
- Tool box talks are held on a needs basis rather than a regularly scheduled systematic approach.

  "Building a pool of real stories from real people from the shop floor would be powerful messages."
- Employers are realising that the engagement of the workers in the decision making process is key to improving safety in the transport industry.

  "Inclusion of the workers in the decision making process achieves the desired change."

  "Consultation is the key to good safety management."

  "You can have all of the safety processes in the world but the real key to safety is how the drivers apply them."
- Literacy skills among drivers are improving; however there is a need for clear and concise information about safety. This needs to be delivered as simple messages designed specifically for the targeted audience.

  "The best way to communicate important messages to drivers is sharp, short and direct to the point."

  "The way to improve safety in the industry is by bringing the message to the worker in the format necessary for them to understand it."

  "It is important to simplify the message(s) and to identify the audience."

  "The method of delivery of a new idea is crucial."

  "How an idea is delivered is the most important aspect of change management."

Health and safety management within transport companies is showing signs of taking a consultative and collaborative approach and it is apparent that some of the basic communication mechanisms required for effective health and safety management systems are commonly used. This not only means that the fundamental structures for sharing information between employees and managers are in place but also there is a demand for information and ideas to ensure that meetings are interesting and informative. Participation in wider collaborative mechanisms, such as the local transport networks, could be an effective way of meeting this information need.

Contractors and supply chain

Measures to improve control over safety in the use of contractors and at customer sites are in the process of being implemented. In some companies, contractors are treated the same as direct employees with respect to safety and are included in internal training programs and safety meetings.

> **"There should be a compulsory element of safety in contract procurement."**

Reporting of issues by drivers is a key component to addressing those issues. In some cases, drivers are being encouraged to report safety concerns at their customer and delivery sites through a simplified *'Driver Hazard Identification Form'* which is kept in the cab of the vehicle.

> **"The key to making the workplace safer is encouraging the reporting of near misses. That's where we can make a real difference."**
>
> **"No blame reporting encourages a high level of reporting and if we know what is going on we can address the problem."**

It is clear that the industry recognises that the supply chain is a critical component of health and safety. This recognition is the start of awareness that all health and safety issues cannot be addressed in-house, and that wider communication would be beneficial. This provides the opportunity for WHSQ, through the collaborative governance framework, to facilitate cross industry discussions.

Safety initiatives

Throughout the interview process, a number of 'low cost/ high impact' safety initiatives were identified. Highlights include:

- **Safety Cuffs/Chains** – metal cuffs on a short chain that can be clipped onto the outside of container doors prior to opening, allowing a driver to safely open the doors to check and see if the load has moved during transport
- **Mobile Flashing Unit** - a mobile unit that any employee must keep within a defined range, when working in the vicinity of a forklift, in order to alert the forklift driver that there is a person/pedestrian in the area
- **Safety Walk** – once a week an employee is chosen to conduct a safety walk to identify any ongoing safety issues and/or concerns so that these issues can be addressed. The policy is that names of employees are not relevant unless there is a significant safety breach identified.

Whilst there is a significant level of innovation in the industry, many of the solutions identified are viewed by the industry as simple and not worthy of being shared. Breaking down this perception and encouraging the industry to share and collectively implement effective low cost initiatives could result in significant health and safety improvement in the industry.

Cost of safety and other barriers

- The most commonly identified barrier to the improvement of health and safety is cost although it was recognised that it is part of doing business. Some companies can only afford the bare minimum or basic requirements.

  > **"If you can't afford safety then you shouldn't be able to get a licence to operate a transport company."**

- Other significant barriers to improved health and safety are the problems associated with the ageing workforce, and an embedded culture with a level of acceptance that if you work in the transport industry you will probably get hurt.
- Factors external to the company, such as roadside facilities and the behaviour of other road users, were seen as important.

  > **"An increase in the number of change-over stations at appropriate places would help to improve the health of line-haul drivers by having them home every night."**
  >
  > **"There is no respect for truckies on the road. Professional drivers drive the equivalent of 10 years driving every year (based on the average person driving 20,000 km/yr)."**
  >
  > **"The industry is in desperate need of a traineeship program."**
  >
  > **"All road users would be safer if general licensing included education in relation to sharing the roads with heavy vehicles."**
  >
  > **"Actually looking in the mirror and seeing the distance to the back of the vehicle would provide a better understanding of heavy vehicles."**

The risk of being directed to implement potentially costly rectifications is a significant disincentive for business to seek professional advice or, especially, advice from the regulator. Awareness that other businesses have or have had the same issues and, in some cases, have implemented cost-effective solutions, is a significant incentive for participation in the local industry networks. Realisation by industry that facilitation by WHSQ can lead to practical cost-effective solutions is a significant step in building trust and breaking down the perception of an adversarial relationship between business and regulator.

The emphasis that the road transport industry has on external factors, and perceptions that certain aspects are beyond their control, indicate the need for support mechanisms which emphasise the advantages of the industry expanding their collective sphere of influence.

Conclusions

The opportunity to share the information gathered from one employer to another is a powerful tool and an opportunity for WHSQ to influence the way that the transport industry is managing safety. By facilitating this information exchange, the TSG is more easily able to provide the necessary guidance and assistance to improve health and safety outcomes in the industry.

This is also the opportunity to facilitate employers working together to improve health and safety, and the TSG is encouraging this through the establishment of a series of industry networks. The first regional transport network was established in Rockhampton in September 2010; an early indicator of success was their decision to hold bi-monthly meetings rather than the quarterly meetings suggested by the TSG. Toowoomba was scheduled to have their first meeting in March 2011; however, this was delayed due to the Queensland flood disaster, and occurred in May 2011. Workshops, the first step in commencing the networks, have now taken place in Ipswich, Townsville, Cairns and Mackay. There are also plans for networks in Logan, Gold Coast, North Brisbane, Nambour and Bundaberg by December 2011. In effect, these industry networks will become the vehicles through which action research continues.

The industry networks being established by the TSG are consistent with collaborative governance. The role of WHSQ in the networks is one of facilitation and guidance rather than as an expert giving direction. This will be 'hands on' and will focus on building trust, facilitating dialogue and embracing, empowering and mobilising stakeholders. The aim is for the networks to be self-sustaining with drive and enthusiasm generated by focussing on issues and solutions which can be addressed locally. This will be supported by encouraging the right foundation through the availability of systems, guidance, tools on the WHSQ website and access to health and safety professionals at the network meetings. The networks provide the opportunity to share experiences and expertise and come up with the best health and safety solutions and most practical solutions to make workers safe in their workplaces. WHSQ will utilise the opportunities provided by the networks to disseminate information that is critical for the improvement of safety in the industry as a whole.

The 'low cost/high impact' solutions identified in this paper represent only a few of the many solutions which are available to be shared. These solutions can be developed into information to be shared more widely among other networks and on WHSQ's website. The information available becomes dynamic, improving as better guidance and solutions are developed by the stakeholders. This approach of partnership and engagement encourages ownership of problems and risks. It also demonstrates to stakeholders that they can be effective in addressing problems and having successes. This, in turn, builds confidence and promotes an increased level of trust and participation.

There are challenges in taking this approach. Firstly, there is a significant challenge in overcoming the suspicions created by an overcrowded regulatory space which is often referred to by industry as 'turkey nesting': each additional requirement is dealt with as quickly as possible but isn't necessarily understood, 'just scratched in a pile with all the rest of them'. Regulatory fatigue, overcoming inertia, engaging the unengaged or hard-to-reach (owner-operators and workers) are all associated problems. Secondly, external forces which have impact on the transport industry and government - such as the 2010-11 flood and cyclone disasters in Queensland - create a challenge of maintaining focus on issues that are considered less immediate and therefore less important. Lastly, there are the challenges associated with reliably measuring the impact, particularly in relation to outcomes and benefits. Effective ways to measure and evaluate progress need to be developed.

WHSQ and the TSG do not underestimate these challenges. However, given the positive industry response to date, including strengthened relationships with other regulators, there is good reason to be optimistic about the future.

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