



Onsite traffic management project

Phase one report

Background

In Queensland between 2009 and 2014, 12 people died and almost 950 workers were seriously injured as a result of being hit or trapped by moving plant or vehicles on worksites.

Workplace Health and Safety Queensland (WHSQ) is working with industry to reduce the number of these injuries and fatalities by improving traffic management at workplaces. The project aims to:

- raise awareness about the importance of traffic management
- provide information and guidance on what good traffic management looks like
- increase levels of work health and safety compliance.

The project targets workplaces in the construction, manufacturing, agriculture, and transport and logistics industries that have powered mobile plant (e.g. forklifts, earthmoving equipment, cranes) or other vehicle traffic (e.g. trucks, cars) present in the workplace.

During 2016, WHSQ inspectors delivered the first phase of the campaign which included:

- 195 workplace advisories to provide information and guidance
- 322 workplace assessments to review systems and control measures.

Who was involved?

The breakdowns below provide a snapshot of the types of workplaces that were involved in the 322 assessments completed.

Which industries were assessed?



Industrial (e.g. transport, manufacturing, logistics)

193



Construction

100



Agriculture

29

What size were workplaces?



Small (less than 20 workers)

106



Medium (20-199 workers)

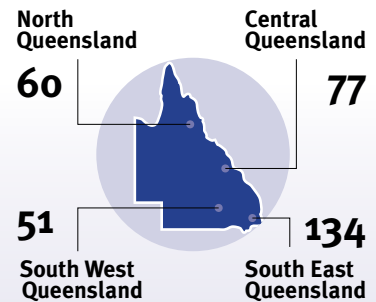
193



Large (200 or more workers)

23

Where were assessments done?



What types of plant and vehicles were used at workplaces?



Trucks

92%



Forklifts

75%



Cars

70%



Cranes and elevating work platforms

38%



Earthmoving equipment

33%



Tractors

11%

What was assessed?

Inspectors used a three point assessment tool (2-Compliant; 1-Partially compliant; 0-Not compliant) to assess compliance levels.

The assessments consisted of a range of items split into six sections. These sections represent basic components of effective traffic management. The items within each section cover regulatory requirements as well as recognised industry practices. The sections are:

1. Understanding the site's traffic needs:



- assessing the level of risk
- consulting workers, plant operators and delivery drivers
- learning from previous incidents.

2. Developing a traffic management plan (TMP):



- visualising traffic routes, pedestrian walkways and other key areas
- identifying the roles and responsibilities of people
- communicating the TMP to workers, contractors and visitors.

3. Controlling the risk of people being hit by plant or vehicles:



- keeping vehicles and people apart
- limiting vehicle movements or speed
- limiting the need for reversing vehicles
- creating dedicated loading and unloading areas and carparks
- having clear signage, markings and communication.

4. Observing traffic and pedestrian behaviour:



- inspecting plant or equipment to ensure it is being maintained
- ensuring plant operators are adequately trained, hold any required licences and are operating in a safe manner
- ensuring workers and pedestrians are using designated walkways and not encroaching in exclusion zones
- checking the workplace environment to ensure it is free from hazards (i.e. housekeeping).

5. Preparing for an emergency:



- developing emergency response procedures (e.g. evacuation, first response)
- redirecting traffic away from the location of an incident
- communicating and alerting people in an emergency.

6. Construction-specific requirements:

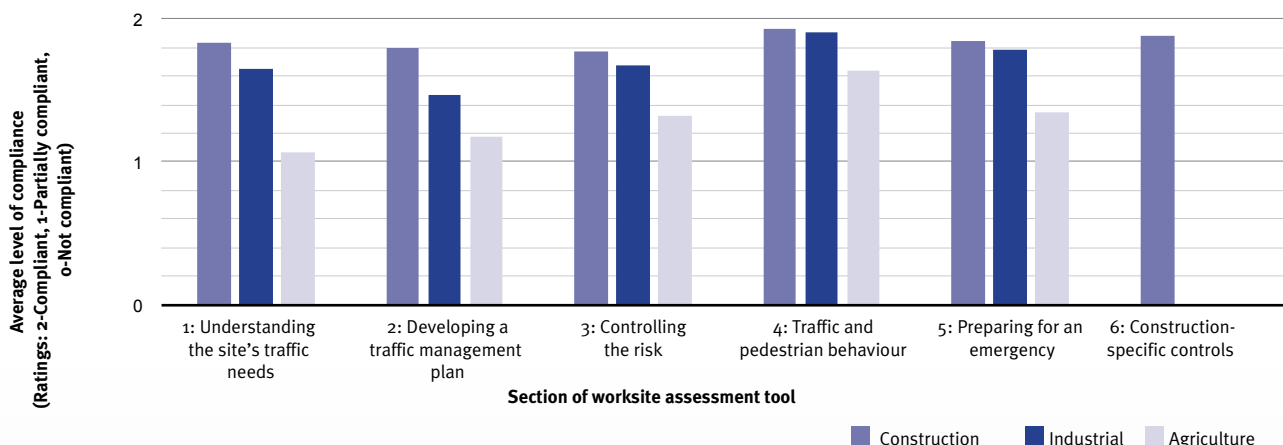


- preparing a work health and safety management plan
- developing safe work method statements for high-risk construction work
- designing traffic guidance schemes and implementing traffic control arrangements for works on or near roads
- closure of roadways and footpaths.

What were the findings?

Figure 1 below shows the levels of compliance for each section of the assessment broken down by industry. Each bar represents the average rating for the items within a section based on the three point rating scale that inspectors used when completing the worksite assessments (2-Compliant; 1-Partially compliant; 0-Not compliant).

Figure 1: Average compliance levels for onsite traffic management by industry

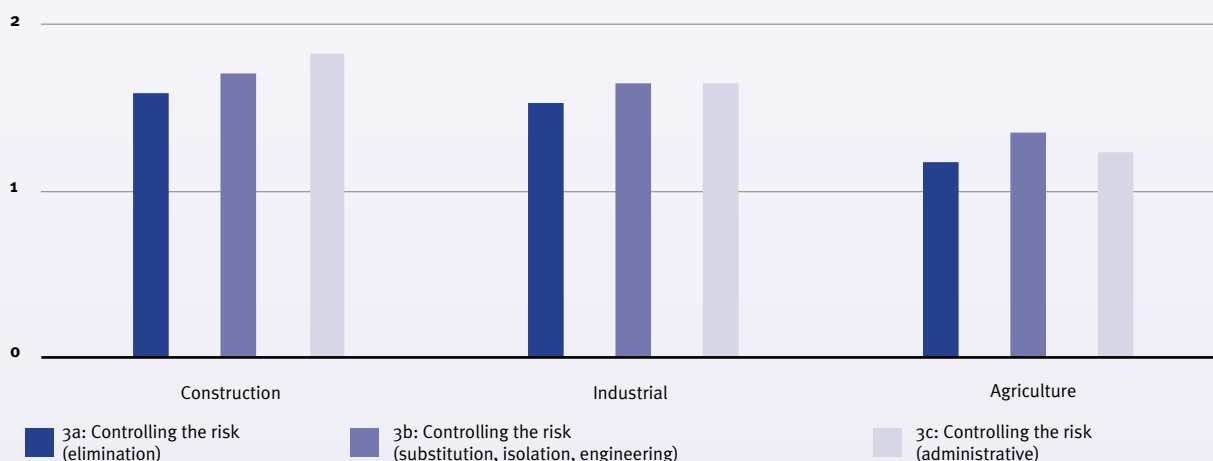


The findings are generally positive across each of the three industries. The average levels of compliance were between fully compliant and partially compliant. There is a slight difference in the levels of compliance between each industry, with construction workplaces tending to have higher levels of compliance than industrial or agriculture workplaces.

Average levels of compliance were lowest in section 1 (Understanding the site's traffic needs) and section 2 (Developing a traffic management plan) of the assessment tool, indicating these are areas requiring continued improvement by industry.

Figure 2 provides a further breakdown of the types of control measures implemented by workplaces, based on the hierarchy of controls. It shows that workplaces tended to rely more on lower-level, less effective administrative control measures rather than eliminating or designing out risks.

Figure 2: Types of control measures implemented



One of the objectives of the first phase of this project was to identify good practice to share broadly with industry. Inspectors identified a wide range of examples of effective and innovative traffic management solutions. These examples typically involved elements of planning, design and consultation with workers and supply chain partners. A list of these examples of good practice can be found at Appendix 1.

Next steps

The traffic management processes used by workplaces that were assessed in the first phase of this campaign were found to be generally good. The positive findings may be due to the types of workplaces that participated in the campaign. Firstly, inspectors sought participation from worksites for an assessment. This could mean workplaces that were assessed were more likely to be better performers. Secondly, inspectors contacted workplaces in advance of a site visit to encourage them to use the project self-assessment tool to prepare for the visit.

Inspectors identified a number of areas where further improvement is required, including:

- closer consultation, cooperation and coordination with workers, sub-contractors and supply chain partners
- using higher-level control measures to prevent people and plant/vehicles from interacting (e.g. eliminating traffic, isolating people from the hazard, engineering solutions)
- ensuring risk assessments are site-specific rather than generic documents
- simplifying traffic management plans by using pictures and diagrams.

WHSQ inspectors will commence the next phase of worksite assessments in early 2017. This means your workplace could be visited. To improve traffic management in your workplace it is recommended that you use the [Onsite traffic management self-assessment tool](#). This tool will help you to review the effectiveness of your current control measures.

The following case studies show what good traffic management looks like:

- [Dindas Australia](#)
- [Hyne Timber](#)
- Roadtek

There are other resources, including guidance material, presentations and films available on the www.worksafe.qld.gov.au website.



Appendix 1

Examples of good practice

Understanding the site's traffic needs	<ul style="list-style-type: none">• risk assessments done collaboratively with supply chain and workers• plant/people collision identified as a critical risk in the project/site risk register• site layout and traffic management plan developed during design of new facility• site maps and directions provided to delivery drivers prior to arrival on site• logistics coordinator role to liaise with and manage all contractors and drivers• third party inspections of physical workplace environment• liaising with local government to reconfigure nearby bus stop impacting on worksite access• safety alerts are shared with other sites to learn from near-misses• 3D modelling to analyse traffic movements (e.g. traffic volumes, road layout, elevations).
Developing a traffic management plan	<ul style="list-style-type: none">• site layout is sketched to visualise desired traffic and pedestrian areas• Google Maps images used to show an aerial view of surrounding roads and landmarks• signs at site entry points clearly show instructions, phone numbers and radio frequencies• information is provided in advance to delivery drivers and sub-contractors (e.g. instructions on where to enter the site)• detailed risk assessments are completed or traffic control companies engaged for complex situations (e.g. large deliveries)• use of site inductions, toolbox talks and pre-start meetings to provide information and instructions about traffic management.
Controlling the risk	<ul style="list-style-type: none">• pedestrians removed from work areas via overhead walkways• conveyor systems installed to eliminate forklifts• dedicated areas for loading and unloading trucks• delivery drivers escorted to a designated safety zone while unloading occurs• one-way drive-through system for heavy vehicles to avoid the need for reversing• permanent bump stops• presence-sensing lights and alarms when pedestrians enter a work area• colour-coded walkways and traffic routes• scheduling of deliveries to occur outside busy times• overhead electrical services replaced with underground services• side-unload tip trucks to avoid entering exclusion zones of overhead electrical lines• separate gates for heavy plant and light vehicles entering and leaving the site• speed bumps at entry and exit to site• convex mirrors placed at blind or low visibility corners• bollards designed for high impact to flex and retract• forklifts fitted with presence-sensing devices or 'blue halo' lighting to designate exclusion zone.
Traffic and pedestrian behaviour	<ul style="list-style-type: none">• electronic systems installed in plant for pre-start inspections, limiting speed and restricting unauthorised use• computer software to monitor forklift use (e.g. bumps/impact, speed, duration).• familiarisation training undertaken for each machine• site supervisors complete regular task observations• ample storage and regular removal of waste to avoid overflow of materials in traffic.
Preparing for an emergency	<ul style="list-style-type: none">• regular evacuation drills conducted• use of two-way radios for communication with plant operators• consulted with nearby school about emergency planning.