

Vehicles as workplace – a new framework for a critical road safety management issue

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Abstract

The paper outlines the similarities in policy and differences in application between the management of road traffic safety (RTS) and of work health and safety (WHS). The application of WHS principles to RTS is discussed and used to develop a new framework for considering road traffic system risks and countermeasures. The development of WHS guidance regarding the use of vehicles in road traffic, based on this framework, is described.

Background

The development and implementation of road traffic safety (RTS) programs based on the safe system approach are increasingly aligned to the principles guiding work health and safety (WHS) programs for many years.

However, RTS and WHS have remained quite separate disciplines. With the support of the Heads of Workplace Safety Authorities, Austrroads undertook to develop a guide for duty holders under WHS law, focusing on the use of vehicles in road traffic. The WHS guide adapts best practice RTS management principles to the recognised structures of WHS management.

RTS in the WHS Context

This paper describes the application of three key WHS principles to RTS:

- Safe as reasonably practicable
- Hierarchy of control
- Identification of hazards and risks

Safe as reasonably practicable

Compliance with road traffic law will not necessarily achieve safety on the road (the absence of fatality or serious injury). WHS duties relating to the use of vehicles in road traffic go beyond ensuring compliance with road traffic law.

WHS law defines the factors that duty holders must consider in regard to the use of vehicles in road traffic (see Table 1 below).

Hierarchy of control

Notwithstanding the growing primacy of the safe system approach, considerable priority is still directed in RTS programs to improving human performance. WHS programs refer to a hierarchy of control that gives lower priority to these (less effective) administrative actions (SWA, 2011).

This hierarchy of control can be defined in RTS terms:

- Eliminate the hazards
- Substitute the hazard with something safer

- Isolate the hazard from people
- Reduce risks through engineering control
- Reduce exposure to the hazard using administrative actions
- Use personal protective equipment

Identification of hazards and risks

Application of this hierarchy is based on hazard identification and management processes. Road traffic needs to be considered at two levels. The first level is the road traffic system itself. Until there is a safe system, travel by road is hazardous.

The second level assumes that travel cannot be avoided, and defines the hazards that remain. A taxonomy of hazards was developed with reference to the elements of a sound road traffic safety management system as described in ISO 39001. Each hazard is described as the absence of this element, viz:

- Inadequate journey planning
- Roads providing inadequate protection
- Vehicles providing inadequate protection
- Speed in excess of safe exposure thresholds
- Unauthorised drivers
- Unsafe drivers
- Non-use or misuse of personal protective equipment
- Inadequate post-crash responses

The WHS Guide

The resulting WHS Guide is based on a simple risk management process for organisations (Figure 1), starting with a step for organisations to understand their workers’ exposure to hazards.

Table 1. WHS Duties and RTS Considerations

Duty holders must consider (based on SWA, 2016)	In relation to road traffic, duty holders should consider
The likelihood of the hazard or risk occurring	The likelihood of exposure to the hazard is extremely high
The degree of harm arising from the hazard	The degree of harm that can arise is extremely high
Knowledge (or what would be reasonable to know) about the hazard, and ways to eliminate or minimise the risk	The hazards and risks commonly experienced in road traffic are well known
Availability and suitability of ways to eliminate or minimise the risk	There are numerous, proven controls to minimise risks
Whether the cost of controls is grossly disproportionate to the risk (only after taking account of the above four matters)	Analyses have shown that the benefits of these controls can far exceed the costs

Table 1. WHS Duties and RTS Considerations

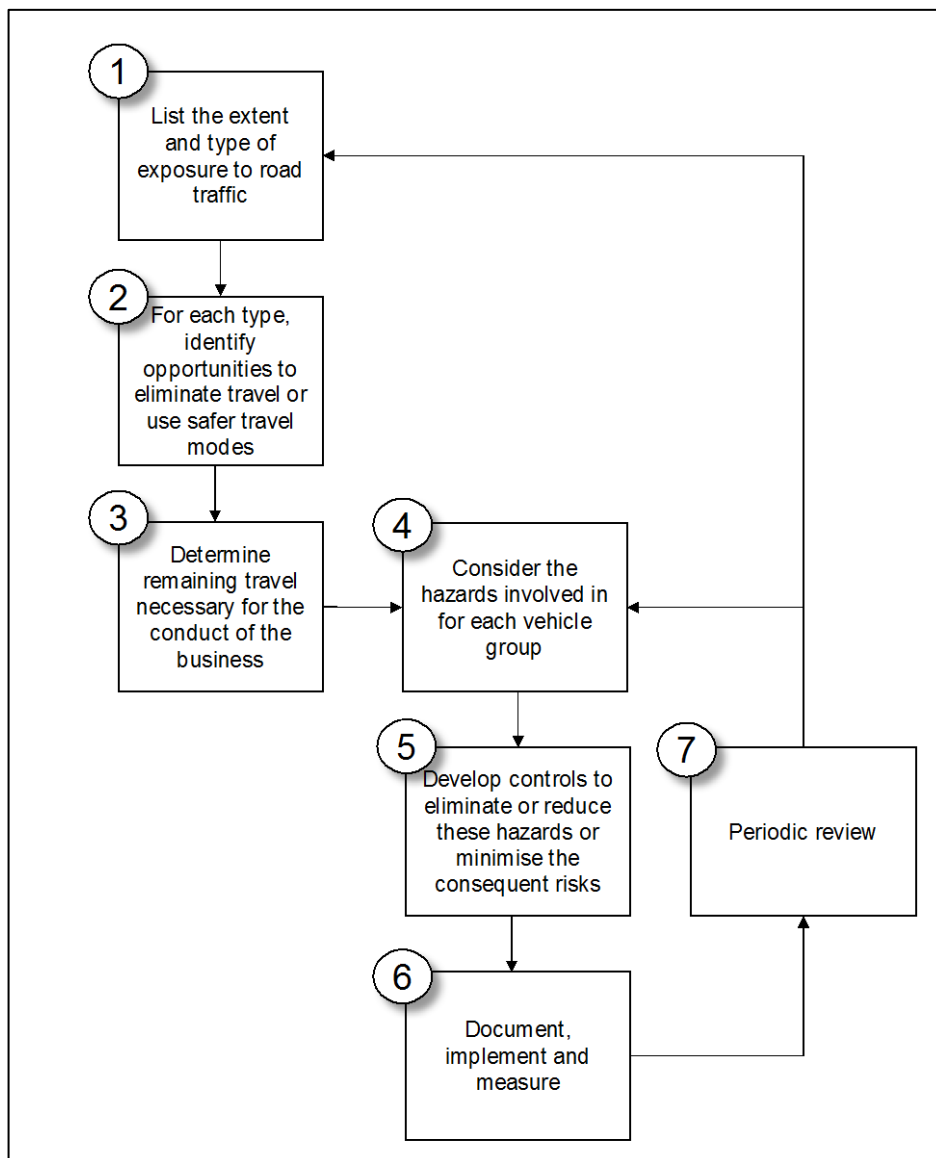


Figure 1. Risk management process

References

SWA, 2011, How to Manage Work Health and Safety Risks Code of Practice, Safe Work Australia, SBN 978-0-642-33301-8, Canberra, December, 2011

SWA, 2016, Guide to the Model Work Health and Safety Act, Safe Work Australia, ISBN 978-0-642-78409-4, Canberra, March 2016