



# Collision between two road/rail vehicles at Haig, Western Australia

24 May 2012

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Australian Transport Safety Bureau  
PO Box 967, Civic Square ACT 2608  
Australia

1800 020 616

+61 2 6257 4150 from overseas

www.atsb.gov.au

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**Figure 1: Hino (TS63) and Toyota (TS45) road/rail vehicles following the collision**



## Abstract

On Thursday 24 May 2012 Transfield Services Australia Pty. Ltd. road/rail<sup>1</sup> vehicles TS24, TS45 and TS63 were travelling in convoy in a westerly direction between Forrest and Haig, Western Australia.

On arrival at the Haig level crossing the lead vehicle TS24 left the track. The second vehicle, Toyota utility TS45 was stationary on the level crossing being prepared to leave the track. At approximately 1711<sup>2</sup>, the following Hino truck road/rail vehicle (TS63) collided with the rear of Toyota TS45 (Figure 1).

The driver of the road/rail vehicle TS45 was fatality injured and the driver of TS24 incurred minor injuries following the collision.

The investigation is continuing.

## FACTUAL INFORMATION

*The information contained in this preliminary report is derived from the initial investigation of the occurrence. Readers are cautioned that it is possible that new evidence may become available that alters the circumstances as depicted in the report.*

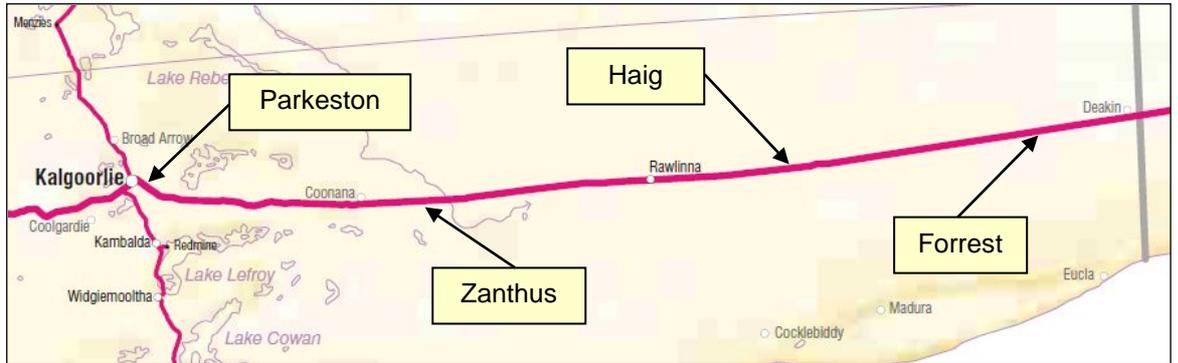
## Location

Haig is located on the Defined Interstate Rail Network (DIRN) approximately 450 track kilometres east of Kalgoorlie (Figure 2).

1 A road vehicle fitted with retractable rail guidance wheels. (Source: RISSB National Guideline Glossary of Railway Terminology)

2 The 24-hour clock is used in this report. Australian Western Standard Time (WST), UTC +08:00 hours

Figure 2: Location of Haig, Western Australia



Geoscience Australia. Crown Copyright ©.

The track through Haig is comprised of a standard gauge main line, crossing loop and an engineer's siding.

A level crossing is located to the east of the crossing loop, approximately 360 m from the eastern most points of the crossing loop. The level crossing is accessible to the public and is also used by rail workers to access the track using road/rail vehicles.

### Road/rail vehicle information

Road/rail vehicles TS24, TS45 and TS63 were owned and operated by Transfield Services Australia Pty. Ltd (Transfield). The vehicles were used by Transfield rail workers in undertaking rail track maintenance and inspection activities on the DIRN in accordance with Transfield's contract with the Australian Rail Track Corporation Ltd (ARTC). All vehicles were based at the Transfield maintenance facility at Parkeston, Western Australia.

The Hino road/rail vehicle (TS63) was a 15 t GVM<sup>3</sup> single cab truck, fitted with a table top, drop side tray. The Toyota road/rail vehicle (TS45) was a 3.3 t GVM Toyota Landcruiser cab chassis vehicle fitted with a drop side tray body. The third road/rail vehicle of the convoy (TS24) was a Toyota troop carrier.

All of the road/rail vehicles were fitted with Aries Hy-rail rail guidance equipment, an overhead flashing orange beacon, a UHF radio, and a vehicle data recording device equipped with an audible vigilance feature.

3 Gross Vehicle Mass

### Environmental Conditions

Weather observations and ambient light conditions on the evening of the collision were obtained from the Bureau of Meteorology (BoM) weather station located at Forreast, approximately 195 kilometres east of Haig. The recorded conditions at 1500 were a temperature of 16.2°C with wind from the SSW at 22 km/h. There was no cloud cover recorded. Sunset was at 1638 with evening civil twilight<sup>4</sup> ending at 1704.

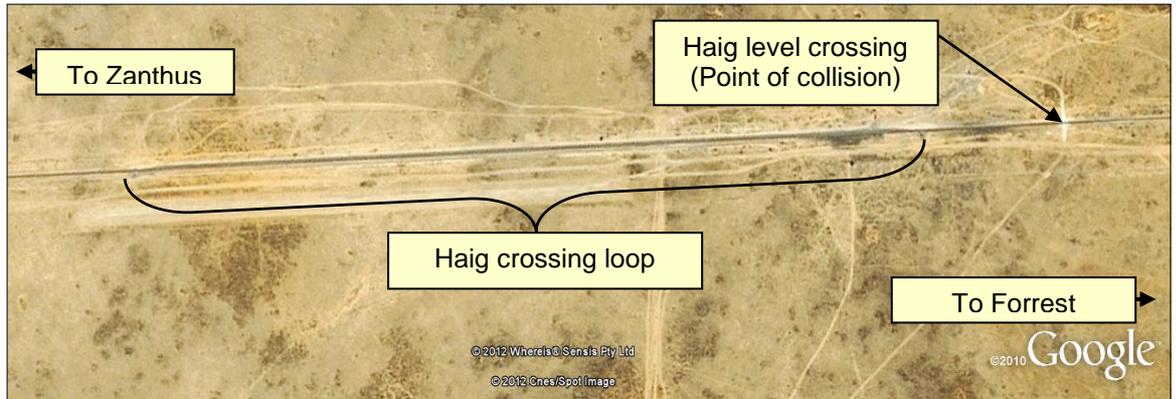
### The occurrence

On Thursday 24 May 2012, the drivers of road/rail vehicles TS24, TS45 and TS63 commenced duty at about 1400 at Forreast, Western Australia (Figure 2).

At approximately 1420 the safe-working officer, who was the driver of the lead road/rail vehicle (TS24) contacted the ARTC Network Control Officer (NCO) requesting a train authority to travel between Forreast and Loongana. The NCO issued a train authority for the convoy of road/rail vehicles to travel on track as train 8M77. The drivers set their vehicles on track and travelled to Loongana to drop off a Transfield employee, the only passenger being transported in the convoy. The convoy of vehicles arrived at Loongana, fulfilling the train authority at 1542.

4 Defined as the instant in the evening, when the centre of the Sun is at a depression angle of 6° below an ideal horizon. At this time in the absence of moonlight, artificial lighting or adverse atmospheric conditions, the illumination is such that large objects may be seen but no detail is discernible. Source: Geoscience Australia

Figure 3: Level crossing location Haig, Western Australia



A new train authority was issued by the NCO for the convoy to continue as train 8M77 for travel from Loongana to Haig. The train authority required that on arrival at Haig the road/rail vehicles were to be removed from the track to allow the passage of eastbound freight train 4PM6. The convoy departed Loongana at 1557 and on arrival at Haig the drivers planned to remove the vehicles from the rail line and complete their journey to Zanthus by road.

The lead vehicle (TS24) arrived at the level crossing east of Haig (Figure 3) around 1700 and was removed from the track. Shortly after the second vehicle (TS45) also arrived at the level crossing where the driver also stopped and attempted to retract the Hy-rail equipment using controls located in the cab of the vehicle.

However, the Hy-rail equipment on TS45 failed to retract so the drivers of both TS24 and TS45 exited their vehicles and moved to the front of TS45 where they started to manually retract the Hy-rail equipment using a hydraulic hand pump.

While the drivers were connecting the hydraulic hand pump, the third road/rail vehicle (TS63), was still approaching the level crossing and gradually decelerating from a speed of 50 km/h as the driver applied the brakes to stop the vehicle.

A short time later TS63 collided with the rear of TS45 at a speed of approximately 28 km/h. As a result of the collision the driver of the road/rail vehicle TS45 was fatality injured and the driver of TS24 received minor injuries.

### *Post Occurrence*

At 1720 on 24 May 2012, the NCO received a radio call from the operator of TS24 requesting the assistance of emergency services and to report the collision. The NCO contacted the emergency services and then facilitated the movement of freight train 4PM6 to Haig to allow the train crew to provide additional assistance at the site.

Officers from the Western Australia Police and investigators from the ATSB attended the site on the morning of Friday 25 May 2012 to commence onsite investigation activities.

### **ATSB INVESTIGATION**

The investigation is continuing and will focus on:

- The operation of the road/rail vehicles involved in the collision.
- Inspection and maintenance records, operational characteristics and performance of the road/rail vehicles involved.
- Procedures in relation to the operation of road/rail vehicles and the training of the drivers.
- History of similar events and strategies to mitigate risk arising from similar road/rail vehicle operations.