



**Office of Transport Safety Investigations**

# **RAIL OCCURRENCE: FACTUAL STATEMENT**

## **LEVEL CROSSING COLLISION**

### **MOORLAND, NSW**

**21 APRIL 2016**



*Published by:* The Office of Transport Safety Investigations  
*Postal address:* PO Box A2616, Sydney South, NSW 1235  
*Office location:* Level 17, 201 Elizabeth Street, Sydney NSW 2000  
*Telephone:* 02 9322 9200  
Accident and occurrence notification: 1800 677 766  
*Facsimile:* 02 9322 9299  
*E-mail:* [info@otsi.nsw.gov.au](mailto:info@otsi.nsw.gov.au)  
*Internet:* [www.otsi.nsw.gov.au](http://www.otsi.nsw.gov.au)

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Established on 1 January 2004 by the *Transport Administration Act 1988 (NSW)*, and confirmed by amending legislation as an independent statutory office on 1 July 2005, OTSI is responsible for determining the contributing factors of accidents and to make recommendations for the implementation of remedial safety action to prevent recurrence. Importantly, however, OTSI does not confine itself to the consideration of just those matters that contributed to a particular accident; it also seeks to identify any transport safety matters which, if left unaddressed, might contribute to other accidents.

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Once OTSI has completed an investigation, its report is provided to the NSW Minister for Transport and Infrastructure for tabling in Parliament. The Minister is required to table the report in both Houses of the NSW Parliament within seven days of receiving it. Following tabling, the report is published on OTSI's website at [www.otsi.nsw.gov.au](http://www.otsi.nsw.gov.au).

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## EXECUTIVE SUMMARY

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### What happened

At 1110 on 21 April 2016, a westbound car with four occupants collided with Pacific National steel transport service 4WB3 travelling on the North Coast line between Sydney and Brisbane on the Henrys Lane level crossing at Moorland, approximately 30 kilometres north of Taree in New South Wales. The level crossing was defined as passive with fixed signage used to warn road traffic of the crossing and likelihood of approaching trains.

Two occupants in the car suffered critical injuries and were evacuated by helicopter to major hospital facilities in Newcastle. The other injured persons, and the shocked train crew, were transported to Taree Base Hospital for medical treatment.

### What was found

Despite clear visibility of the stop signage between Coral Ville Road and the crossing, the car driver did not approach or stop at the crossing in accordance with NSW Road Rule 121 *Stopping and Giving Way at a Stop Sign at a Level Crossing*. Instead, third hand media reports indicated that the car driver had mistakenly expected that protection at the crossing would activate automatically on the approach of a train. Although one warning sign was absent on approach to the crossing, it was not considered a contributing factor to the collision as approaching road motor vehicle drivers had an unobstructed view of the signage still in place.

There was no interface agreement between the Australian Rail Track Corporation and the Greater Taree Shire Council for management of the level crossing as required by the National Rail Safety Law.

### What's been done as a result

The Office of the National Rail Safety Regulator corresponded with Greater Taree Shire Council regarding the implementation of an interface agreement and the replacement of the absent signage at the crossing.

NSW Police are undertaking a traffic accident investigation.

## **Safety message**

The occurrence highlights the need for road motor vehicle drivers to be vigilant and obey road traffic signage. It also highlights the requirement for improved assessment for the necessity of crossings where valid alternatives exist within close proximity.



## PART 1 CONTEXT

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### The occurrence

- 1.1 At approximately 1110<sup>1</sup> on 21 April 2016, a car with four occupants collided with Pacific National (PN) steel transport service 4WB3 on the Henrys Lane level crossing at Moorland. The car was heading from east to west just after turning off Coral Ville Road. The collision propelled the car approximately 35 metres diagonally from the crossing injuring all four occupants. The interstate train was travelling northbound from Port Kembla (NSW) to Brisbane (Qld) at a reported speed of 68 km/h at the time of the occurrence.



Photograph 1: Henrys Lane level crossing

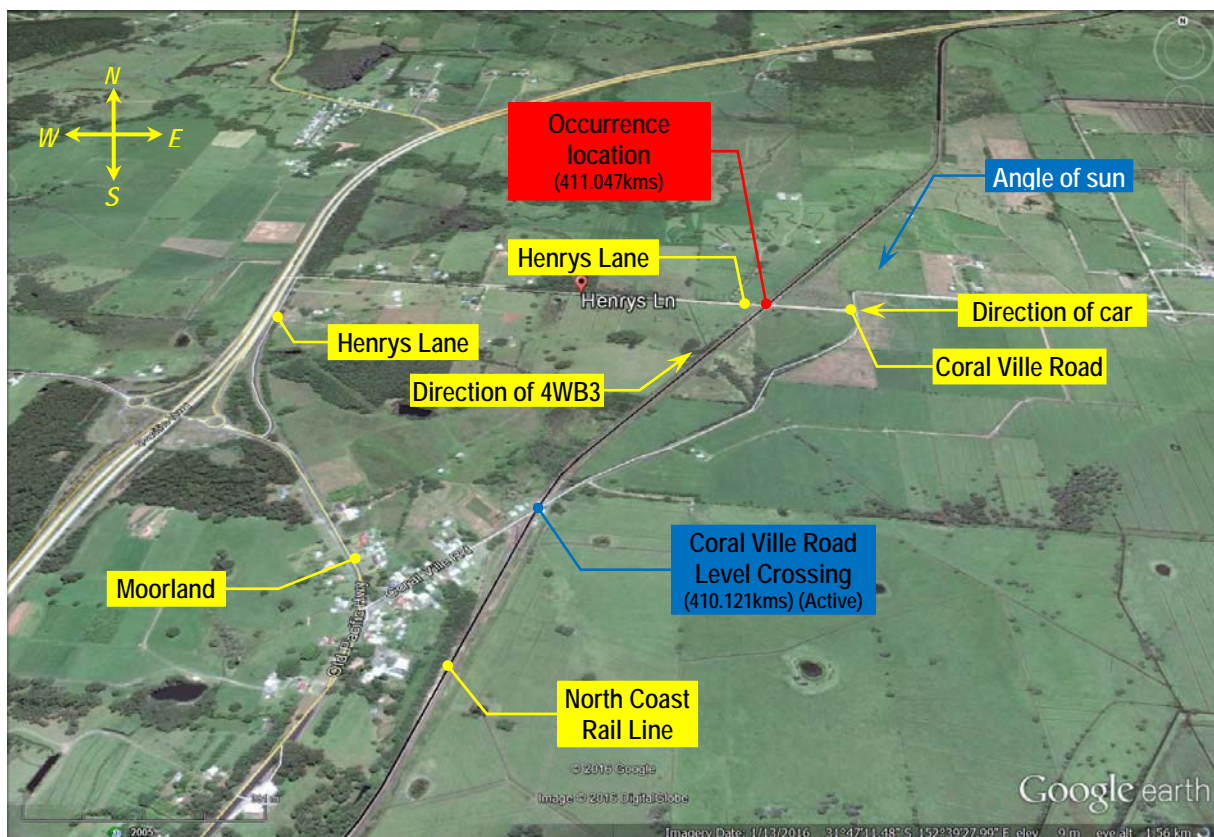
- 1.2 Emergency services were called and attended with the train crew also assisting the injured while awaiting the arrival of officers from Ambulance Services of NSW and NSW Police. Two of the injured were subsequently evacuated by helicopter to major hospital facilities in Newcastle in critical

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<sup>1</sup> All times referred to in this report were Australian Eastern Standard Time.

condition. The other injured persons, and the shocked train crew, were transported to Taree Base Hospital for medical assessment.

- 1.3 Henrys Lane intersects with the single line Coopernook to Johns River rail section approximately 30 kilometres north of Taree on the North Coast line. It was a single lane, mixed surface thoroughfare. The crossing was defined as 'passive' with STOP signs and various roadside warning signs located on the approaches to and adjacent to the track. There were no road markings on the approaches to or at the crossing because of the gravel surface. (*Figure 1*)



Photograph 2: Location of Henrys Lane level crossing

- 1.4 Henrys Lane is a thoroughfare servicing a small number of rural properties between Coral Ville Road and the Old Pacific Highway at Moorland. (*Figure 2*) An alternative level crossing was available on Coral Ville Road approximately two kilometres south of Henrys Lane. This crossing was protected with 'active' warning lights, bells and boom gates.
- 1.5 The train crew observed the car approaching the crossing 'at speed'. However, despite illuminated headlights on the leading locomotive and the



train crew sounding the horns, its driver did not react until just before the collision. Further, although prominent signage being positioned at the crossing requiring road motor vehicles to stop in accordance with NSW Road Rule 121 *Stopping and Giving Way at a Stop Sign at a Level Crossing*, third hand media reports later indicated that the car driver had mistakenly expected the crossing to be protected with equipment which activated automatically on the approach of a train.

- 1.6 Bureau of Meteorology records and CCTV footage from the train indicated that weather conditions on the day were fine and clear with some cloud. Sunlight and glare were eliminated as a contributing factor to this occurrence as the sun was positioned behind the car driver's right side line of vision at the time.



Photograph 3: Location of crossing – looking in direction of the approaching train

## Warning signage at the crossing

- 1.7 The warning signage at the crossing exceeded the 'minimum treatment' requirements of *Australian Standard AS 1742.7*<sup>2</sup> for 'passive' crossings with give way signs replaced by stop signs to mitigate track sighting issues caused by high vegetation on the side of the laneway. However, upon entering the 19 metre wide rail corridor from the eastern side, road motor vehicle drivers had approximately 400 metres of unrestricted visibility of north bound trains approaching the crossing. (*Figure 3*)
- 1.8 Post-occurrence inspection of the approach warning signage on Henrys Lane observed that both W3 type 'stop sign ahead' signs and the western side W7<sup>3</sup> type 'railway crossing ahead symbolic train' sign required in conformance of the standard were absent. Their absence, however, was not considered to be a major contributing factor to this occurrence. ONRSR has indicated that it will correspond with Greater Taree Shire Council (road owner) for the replacement of the absent signage to ensure compliance with the standard.

## Level crossing interface agreements

- 1.9 On 20 January 2013, the Office of the National Rail Safety Regulator (ONRSR) commenced operations and assumed regulatory responsibility for rail safety in NSW under the Rail Safety National Law (NSW).<sup>4</sup> The NSW Independent Transport Safety Regulator (ITSR) delivers a range of services on behalf of the ONRSR under a service level agreement.
- 1.10 The *Rail Safety National Law (NSW)* prescribes *Interface agreements* for rail transport operators, rail infrastructure managers and managers of a public road under Division 6, Sub Division 2 and states under Section 107 (1): "A rail infrastructure manager must—
- a) *identify and assess, so far as is reasonably practicable, risks to safety that may arise from railway operations carried out on or in relation to the manager's rail infrastructure because of, or partly because of—*
    - i. *the existence of road infrastructure of a prescribed public road; or*

<sup>2</sup> Australian Standard AS 1742: 'Manual of Uniform Control Traffic Devices'.

<sup>3</sup> W3 and W7 are a standardised international descriptions for the sign type and design

<sup>4</sup> The *Rail Safety National Law National (NSW)* legislation is available at <http://www.legislation.nsw.gov.au/>

- ii. *the existence or use of any rail or road crossing that is part of the road infrastructure of a public road; and*
  - b) *determine measures to manage, so far as is reasonably practicable, those risks; and*
  - c) *for the purpose of managing those risks—seek to enter into an interface agreement with the road manager of that road.”*
- 1.11 Similarly, the road manager must: “...*for the purpose of managing those risks—seek to enter into an interface agreement with the rail infrastructure manager of the rail infrastructure.”*
- 1.12 In this case, despite evidence of repeated attempts by the Australian Rail Track Corporation (ARTC) (rail infrastructure manager), there was no interface agreement with the Greater Taree Shire Council as road manager, as required by the *Rail Safety National Law (NSW)*.

### **Australian Level Crossing Assessment Model**

- 1.13 Each public level crossing in NSW has been assessed by Transport for NSW (rail infrastructure owner) using the Australian Level Crossing Assessment Model (ALCAM) process. The ALCAM is a standardised process used to identify safety hazards at level crossings on a consistent priority basis for mitigation by appropriate and cost effective strategies.
- 1.14 Although the ALCAM process assesses the exposure to risk at the crossing, it has limitations. The process is heavily reliant on the crossing, its layout, the volume of road traffic and the volume of rail traffic. However, it does not assess what the crossing services or the impact to road traffic using alternate, nearby crossings. Further, it must operate within Government/Parliament policy, financial and budgeting levels that ultimately control the number of rail level crossings that can be upgraded to full active controls.
- 1.15 In this occurrence, ALCAM assessed the Henrys Lane level crossing as a low priority. Further, it was noted that the crossing only serviced a small number of rural properties with an alternative route via an active level crossing also available in close proximity.

## PART 2 ANALYSIS/FINDINGS

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- 2.1 At approximately 1110 on 21 April 2016, a car with four occupants collided with Pacific National (PN) steel transport service 4WB3 on the Henrys Lane level crossing at Moorland.
- 2.2 From the evidence available, the following findings are made with respect to the collision and should not be read as apportioning blame or liability to any particular organisation or individual.

### Contributing safety factors

- 2.3 The car driver did not approach or stop at the crossing in accordance with NSW Road Rule 121 *Stopping and Giving Way at a Stop Sign at a Level Crossing*.

### Other safety factors

- 2.4 The signage at the crossing exceeded the 'minimum treatment' requirements of *Australian Standard AS 1742.7* for passive crossings. However, both W3 type 'stop sign ahead' signs and the western side W7 type 'railway crossing ahead symbolic train' sign were absent.
- 2.5 An alternative route via an active level crossing was available in close proximity to the car driver and a small number of rural properties using Henrys Lane level crossing.
- 2.6 There was no interface agreement between the Australian Rail Track Corporation and the Greater Taree Shire Council for management of the level crossing as required by the National Rail Safety Law.
- 2.7 ALCAM identified the crossing as low risk.

### Other key findings

- 2.8 The train crew of 4WB3 sounded the train horns, in accordance with ARTC Network Rule *ANWT 408 'Using Train Whistles'* on approach to the crossing when a collision was imminent.
- 2.9 The train was being controlled at a speed substantially lower than the posted 105 km/h speed of the track for freight trains.

- 2.10 The headlights on the leading locomotive were illuminated at the time in accordance *ARTC Network Rule ANWT 406 'Using Train Lights'*.
- 2.11 The weather conditions at the time did not impede visibility of the crossing or its signage for the entire length of Henrys Lane between Coral Ville Road and the crossing.
- 2.12 The sun was behind the car driver's right side line of vision for the entire length of Henrys Lane between Coral Ville Road and the crossing.
- 2.13 There was approximately 400 metres of unrestricted visibility at the boundary of the rail corridor of northbound trains from within the rail corridor.
- 2.14 The stop and approach warning signage present at the crossing at the time was in a clean, clear and legible condition.
- 2.15 There was a W7 type 'railway crossing ahead symbolic train' positioned on the eastern side approach to the crossing 150 metres prior.



## PART 3 CONCLUSION

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- 3.1 Though tragic, with the train and car unfortunately arriving at the crossing simultaneously, there were no failings of any rail safety system by rail operators or rail infrastructure managers in this occurrence. In concluding its examination of the circumstances surrounding this occurrence, OTSI has determined that it does not warrant any further investigation under the provisions of Section 46BA (1) of the *Passenger Transport Act 1990* in addition to the traffic accident investigation being conducted by the NSW Police Force.