



**Office of Transport Safety Investigations**

## **BUS SAFETY INVESTIGATION**

### **INTERIM FACTUAL STATEMENT**

**BUS WHEEL SEPARATION  
MEDOWIE**

**8 FEBRUARY 2010**



The Office of Transport Safety Investigations (OTSI) is an independent NSW agency whose purpose is to improve transport safety through the investigation of accidents and incidents in the rail, bus and ferry industries. OTSI investigations are independent of regulatory, operator or other external entities.

Established on 1 January 2004 by the Transport Administration Act 1988, and confirmed by amending legislation as an independent statutory office on 1 July 2005, OTSI is responsible for determining the causes and 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 caused or contributed to a particular accident; it also seeks to identify any transport safety matters which, if left unaddressed, might contribute to other accidents.

OTSI's investigations are conducted under powers conferred by the Rail Safety Act 2008 and the Passenger Transport Act 1990. OTSI investigators normally seek to obtain information cooperatively when conducting an accident investigation. However, where it is necessary to do so, OTSI investigators may exercise statutory powers to interview persons, enter premises and examine and retain physical and documentary evidence.

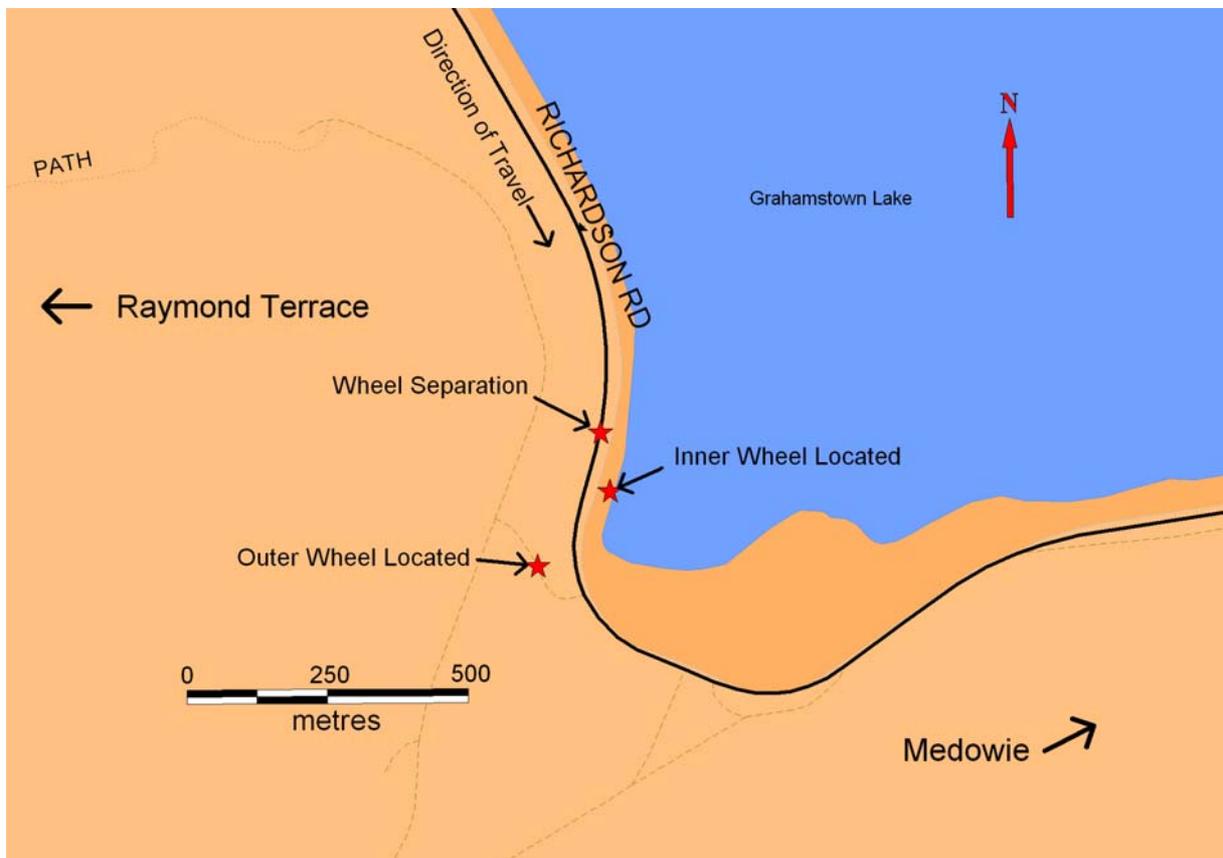
It is not within OTSI's jurisdiction, nor an object of its investigations, to apportion blame or determine liability. At all times, OTSI's investigation reports strive to reflect a "Just Culture" approach to the investigative process by balancing the presentation of potentially judgemental material in a manner that properly explains what happened, and why, in a fair and unbiased manner.

Once OTSI has completed an investigation, its report is provided to the NSW Minister for Transport 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).

OTSI cannot compel any party to implement its recommendations and its investigative responsibilities do not extend to overseeing the implementation of recommendations it makes in its investigation reports. However, OTSI takes a close interest in the extent to which its recommendations have been accepted and acted upon. In addition, a mechanism exists through which OTSI is provided with formal advice by the Independent Transport Safety and Reliability Regulator (ITSRR) in relation to the status of actions taken by those parties to whom its recommendations are directed.

## Incident Overview

At approximately 3.15pm on Monday 8 February 2010, a bus carrying 79 school students had both of its passenger's side rear wheels separate from the bus. The bus was travelling at approximately 70km/h at the time of the incident, heading south on Richardson Road between Raymond Terrace and Medowie (see *Figure 1*). The driver was alerted to the problem when he felt the rear of the bus sway from side to side before seeing one wheel travel off to the right and one wheel travel off to the left hand side of the road.



**Figure 1: Incident Location**

The bus was stopped safely by the driver, who used the gears to slow the bus down while the left rear corner of the bus scraped along the roadway. The driver and passengers escaped uninjured, and no other vehicles were involved in the incident. Damage to the bus was limited to minor impact and scrape damage to the undercarriage, along with damage to the hub, brake drum and wheel studs.

After the incident, the inner of the dual rear wheels was located on the edge of Grahamstown Lake. The outer wheel was located during an additional search the next day. Locating the outer rim provided evidence that the 10 wheel nuts which secure the wheels to the hub had been fitted and worked loose over a period of time. Eight nuts were found close to where the outer rim was located, indicating that they had fallen from the wheel studs and sat inside the rim, held by centrifugal force until the separated wheel came to the end of its travel.

### **Preliminary Investigation**

OTSI was notified of the incident and an investigator attended the depot and the location of the separation the next day to undertake a preliminary investigation in an effort to establish how the wheels had come off the bus.

The bus involved was examined at the depot, along with the maintenance records detailing the last time the subject wheel had been removed and replaced. The examination of the rims, hub, studs and wheel nuts showed signs that all ten wheel nuts had originally been fitted to the wheel. Location of eight of the nuts in the vicinity of where the outer wheel was located pointed towards a conclusion that at least eight of the wheel nuts had fallen from the studs during travel. The driver reported observing all ten nuts fitted to the wheel involved at the commencement of his shift.

As a result of the preliminary investigation, the Chief Investigator determined that the incident warranted formal investigation in accordance with Section 46BA of the *Passenger Transport Act 2008*.

### **Terms of Reference**

The Terms of Reference established by the Chief Investigator require OTSI's Investigator in Charge to:

- a. determine what caused the wheels to separate from the bus and what factors may have contributed either directly or indirectly to the incident;

- b. determine whether the standards of vehicle inspection, maintenance and quality control employed by Hunter Valley Buses are consistent with good operating practices in the bus industry and compliant with NSW regulatory requirements, and
- c. make safety recommendations, the implementation of which would prevent, or at the very least, minimise the potential for recurrence of this type of incident.

### **Status of the Investigation**

OTSI's investigation has commenced. During the course of the investigation, all Directly Involved Parties (DIPs) will be consulted and will be afforded the opportunity to provide information and commentary which will contribute to ensuring that the investigation and its report are inclusive and comprehensive.

Once completed, OTSI's investigation report will be tabled in both Houses of the NSW Parliament by the Minister for Transport in accordance with Section 46D of the *Passenger Transport Act 1990*. When the Report has been tabled, it will be published on OTSI's website and will replace this Interim Factual Statement.