

**NET SAFETY ISSUES**

**1. SUMMARY OF ISSUES**

- 1.1. The report provides an update on the investigations by the Rail Accident Investigation Branch (RAIB) into two incidents that occurred in 2016, one in Croydon and one in Nottingham. It also informs the Committee of an incident that occurred on NET in December 2017 that has resulted in an RAIB investigation.

**2. RECOMMENDATION**

- 2.1. It is RECOMMENDED that the Committee notes this report.

**3. CROYDON ACCIDENT, NOVEMBER 2016**

- 3.1. The Rail Accident Investigation Branch (RAIB) issued their final report into the fatal Croydon Tram accident, which occurred in November 2016, on 7<sup>th</sup> December. It was found that the accident, in which seven people died and 61 were injured, 19 seriously, was caused by the tram travelling at excessive speed around a sharp curve, resulting in it overturning. The investigation concluded that it is probable that the driver temporarily lost awareness and that a possible explanation for this was that the driver had a micro-sleep. Although it is possible that the driver was fatigued due to insufficient sleep, there was no evidence that this was the result of the shift pattern that he was required to work. It was found that the windows of the tram broke when people fell against them, so many passengers were thrown from the tram, causing fatal or serious injuries.
- 3.2. The RAIB has made 15 recommendations intended to improve safety, with the areas of recommendation including:
- technology, such as automatic braking and systems to monitor driver alertness;
  - better understanding the risks associated with tramway operations, particularly when the tramway is not on a road, and the production of guidance on how these risks should be managed;
  - improving the strength of doors and windows;
  - improvements to safety management systems, particularly encouraging a culture in which everyone feels able to report their own mistakes and other safety issues;
  - a dedicated safety body for UK tramways.
- 3.3. A UK Tram group, which includes representation from Nottingham, has been examining the findings of the RAIB report and has launched a series of detailed studies in areas such as fatigue monitoring and driver vigilance devices. Tramway signage is also being reviewed, in order to draw up best practice guidance, and speed control systems that are currently available are being jointly examined.

- 3.4. With regard to glazing, it is considered that the need for containment in the event of a tram overturning has to be balanced alongside the need for providing a means of rapid escape in other eventualities, such as fire or collision and further research therefore needs to be undertaken with relevant standards bodies and manufacturers. The suggestion of the establishment of a formal light rail sector safety body has been welcomed by UK Tram.

#### **4. DAVID LANE FATALITY, AUGUST 2016**

- 4.2. On 15th August 2016 a tram hit a pedestrian in the off street section of the tramway between David Lane and Basford resulting in fatal injuries. The RAIB and the Office of Road and Rail (ORR) investigated the incident and both organisations have concluded that poor audibility was a contributing factor to the fatality.
- 4.3. Consultants, SNC Lavalin, were commissioned to investigate the radio equipment and it was identified that the microphone in the drivers cabs was causing the audibility of communications within the control centre to become distorted. As a consequence, all the drivers cab microphones were replaced to a type that had identified as being suitable.
- 4.4. The ORR undertook an audit of the recommendations from the David Lane fatality in August 2016 for compliance by Nottingham Trams. ORR were satisfied with the audit and will now confirm closure with the Coroner.

#### **TRAPPED PUSCHAIR, RADFORD ROAD, DECEMBER 2017**

- 4.5. On 15<sup>th</sup> December, part of the cover of an empty pushchair became trapped in a tram door, leading to it being dragged along, outside the tram, between Radford Road and Hyson Green tramstops. Nobody was injured during the incident. The RAIB are investigating the incident and have posted an Urgent Safety Bulletin to all Light Rail Operators on its website. Evidence has been provided to demonstrate that the tram doors comply with Euro Norms and that driver training includes checking doors before proceeding. The RAIB have visited the Depot to carry out door tests on the tram involved in the incident.

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