

Recommendation(s) Status: Tram running with doors open on London Tramlink, Croydon




This report is based on information provided to the RAIB by the relevant safety authority or public body.

The status of implementation of the recommendations, as reported to us, has been divided into six categories:

Key to Recommendation Status

Implemented:	All actions to deliver the recommendation have been completed.
Implemented by alternative means:	The intent of the recommendation has been satisfied in a way that was not identified by the RAIB during the investigation.
Implementation ongoing:	Work to deliver the intent of the recommendation has been agreed and is in the process of being delivered.
In-progress:	The relevant safety authority has yet to be satisfied that an appropriate plan, with timescales, is in place to implement the recommendation; and work is in progress to provide this.
Non-implementation:	Regulation 12(2)(b)(iii) = recommendation considered and no implementation action to be taken.
Awaiting response:	Awaiting initial report from the relevant safety authority or public body on the status of the recommendation.

RAIB concerns on actions taken by organisations in response to recommendations are reflected in this report and are indicated by one of the following:

-  The red triangle shows recommendations where the RAIB has concerns that no actions have been taken in response to a recommendation.
-  The blue triangle shows recommendations where the RAIB has concerns that the actions taken, or proposed, are inappropriate or insufficient to address the risk identified during the investigation.
-  The white triangle shows recommendations where the RAIB notes substantive actions have been reported, but the RAIB still has concerns.

Note: The tables which follow, report the status of recommendations on 31 December 2015. In some other cases the end implementer has already sent information to the relevant safety authority about the actions it has taken, or proposes to take and the safety authority is considering whether it is satisfied that those actions and the associated timescales are accepted.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of current status (based on latest report from the relevant safety authority or public body)
<p>1 13/04/2013 05/2014</p> <p>Tram running with doors open on London Tramlink, Croydon</p> <p>Status: Implemented</p>	<p>The intention of this recommendation is to minimise driver distraction from communicating or attempting to resolve faults while on the move, and to improve safety-critical communications in abnormal working conditions.</p> <p>Tram Operations Ltd should revise its policy on verbal communications to:</p> <p>I reinforce rules on the avoidance of communicating with drivers by mobile phone while trams are moving (paragraph 104);</p> <p>I minimise, where possible, communication by radio while trams are moving particularly for complex issues (such as the resolution of faults) (paragraph 101a); and</p> <p>I enhance the use of readbacks for safety-critical communications in abnormal, degraded and emergency scenarios (paragraph 101f).</p>	<p>ORR has reported that Tram Operations Ltd has reported that it has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>
<p>2 13/04/2013 05/2014</p> <p>Tram running with doors open on London Tramlink, Croydon</p> <p>Status: Implemented</p>	<p>The intention of this recommendation is to improve the fault handling responses of drivers and controllers by providing them with a better understanding of fault modes, overrides, and resolution options.</p> <p>Tram Operations Ltd should revise its training modules and procedures on fault handling to achieve:</p> <p>I improved awareness amongst drivers and controllers of critical fault modes, the effects of operating override switches (including the fault override and the driver's emergency door release) and how to respond to faults, including guidance on co-operation between drivers and controllers (paragraphs 101b, 101c, 101f, and 102c); and</p> <p>I clarification of the procedure for handling critical faults such as Alpha faults, including explicit guidance for defined circumstances (such as how many attempts should be made to rectify a fault and when the tram should be taken out of service) (paragraph 101g).</p>	<p>ORR has reported that Tram Operations Ltd has reported that it has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>
<p>3 13/04/2013 05/2014</p> <p>Tram running with doors open on London Tramlink, Croydon</p> <p>Status: Implemented by alternative means</p>	<p>The intention of this recommendation is for improvements to be made to the driver's cab displays and labelling to minimise the chance of the driver not noticing that the doors are open and of misunderstanding the operation of override switches.</p> <p>London Tramlink, in conjunction with Tram Operations Ltd,</p>	<p>ORR has reported that London Tramlink, in conjunction with Tram Operations Ltd have reported that they have taken actions (by alternative means) in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>

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should improve cab displays and labelling in all of its trams. This should include, but not be limited to:

I a prominent indication of the status of the doors (for example, by changes to the cab panel indicator light, or by introducing an audible warning) (paragraph 102a); and

I information provided to the driver about the fault override function and other safety-critical overrides (such as the emergency door release), including the switch label and the associated alert on the message display, to clarify its purpose and effects of its operation (paragraph 101d).

4 13/04/2013 05/2014
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Status: Implemented

The intention of this recommendation is to minimise the risk of incidents involving accidental operation of safety override devices occurring elsewhere on UK tram networks.

UK tram operators should conduct an assessment of controls in driving cabs in their current and future fleets to identify those which override safety systems, the risk of drivers inadvertently operating those controls and, where reasonably practicable, design and implement solutions to minimise such risk based on the lessons from this investigation (paragraph 101d).

ORR has reported that UK tram operators have reported that they have taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

5 13/04/2013 05/2014
Tram running with doors open on London
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Status: In-progress

The intention of this recommendation is to ensure that appropriate guidance on ergonomics principles for cab interface design is constantly available to tram operators, particularly in terms of protecting safety-related controls from accidental operation.

The Office of Rail Regulation should ensure that UK tram operators publish suitable guidance on ergonomics principles for cab interface design (with reference to appropriate tramway, railway and European standards), and identify where such guidance is to be found in the long term. This shall include guidance on protecting safety-related controls from accidental operation (paragraph 101d).

ORR has informed the RAIB that it is considering ways in which it can make public guidance that it previously provided on ergonomic principles for cab interface design. ORR also wrote to tram operators and requested that they consider, and where appropriate act upon, these principles.

6 13/04/2013 05/2014
Tram running with doors open on London
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Status: Implemented

The intention of this recommendation is to improve the design of passenger controls and displays (emergency alarms, intercoms etc.), through shape, colour, symbols and/or signage, so as to make their operation more obvious and intuitive to the user in the event of an emergency.

Tram Operations Ltd should take steps to improve the clarity and consistency of passenger controls and displays on its trams,

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taking into account the findings of RSSB project T052c as appropriate (paragraph 101e).

7	13/04/2013	05/2014	<p>The intention of this recommendation is to minimise the potential for miscommunications on London Tramlink by enhancing the quality of the radio system.</p> <p>London Tramlink should develop and implement a programme to prioritise and expedite the planned upgrade of the radio system, to achieve an improvement in signal coverage and strength across the whole network (including tunnels) and reliable operation in adverse weather conditions (paragraph 102b).</p>	<p>ORR has reported that London Tramlink has reported that it has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>
8	13/04/2013	05/2014	<p>The intention of this recommendation is to enhance fault reporting between the operator, the infrastructure manager and the maintainer so that reported faults that could impact on safe running of the network are recorded properly and followed up within appropriate timescales.</p> <p>Tram Operations Ltd should improve its fault reporting processes to ensure that faults are properly logged and tracked to resolution (paragraph 102b).</p>	<p>ORR has reported that Tram Operations Ltd has reported that it has taken actions in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>
