



Rail Accident Investigation Branch

Rail Accident Report



Runaway hand trolley at Ramsbottom, East Lancashire Railway 15 March 2018

Report 18/2018
November 2018

This investigation was carried out in accordance with:

- the Railway Safety Directive 2004/49/EC;
- the Railways and Transport Safety Act 2003; and
- the Railways (Accident Investigation and Reporting) Regulations 2005.

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Preface

The purpose of a Rail Accident Investigation Branch (RAIB) investigation is to improve railway safety by preventing future railway accidents or by mitigating their consequences. It is not the purpose of such an investigation to establish blame or liability. Accordingly, it is inappropriate that RAIB reports should be used to assign fault or blame, or determine liability, since neither the investigation nor the reporting process has been undertaken for that purpose.

The RAIB's findings are based on its own evaluation of the evidence that was available at the time of the investigation and are intended to explain what happened, and why, in a fair and unbiased manner.

Where the RAIB has described a factor as being linked to cause and the term is unqualified, this means that the RAIB has satisfied itself that the evidence supports both the presence of the factor and its direct relevance to the causation of the accident. However, where the RAIB is less confident about the existence of a factor, or its role in the causation of the accident, the RAIB will qualify its findings by use of the words 'probable' or 'possible', as appropriate. Where there is more than one potential explanation the RAIB may describe one factor as being 'more' or 'less' likely than the other.

In some cases factors are described as 'underlying'. Such factors are also relevant to the causation of the accident but are associated with the underlying management arrangements or organisational issues (such as working culture). Where necessary, the words 'probable' or 'possible' can also be used to qualify 'underlying factor'.

Use of the word 'probable' means that, although it is considered highly likely that the factor applied, some small element of uncertainty remains. Use of the word 'possible' means that, although there is some evidence that supports this factor, there remains a more significant degree of uncertainty.

An 'observation' is a safety issue discovered as part of the investigation that is not considered to be causal or underlying to the event being investigated, but does deserve scrutiny because of a perceived potential for safety learning.

The above terms are intended to assist readers' interpretation of the report, and to provide suitable explanations where uncertainty remains. The report should therefore be interpreted as the view of the RAIB, expressed with the sole purpose of improving railway safety.

The RAIB's investigation (including its scope, methods, conclusions and recommendations) is independent of any inquest or fatal accident inquiry, and all other investigations, including those carried out by the safety authority, police or railway industry.

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Summary

At around 11:15 hrs on Thursday 15 March 2018 a hand trolley, loaded with approximately 0.5 tonnes of ballast, ran away from a group of track workers near to Ramsbottom station on the East Lancashire Railway. The trolley derailed when it struck a wooden level crossing gate. The gate was pushed into a road which was open to road traffic.

There were no injuries, although the level crossing gate was damaged.

The immediate cause of the runaway was that the trolley was not fitted with any brakes and was deployed on a gradient without the introduction of any mitigation or safeguard against it running away.

The unbraked trolley was almost certainly available for use because it had been donated to the East Lancashire Railway, which did not have any processes in place to manage donations, and no controls in place for use of trolleys during track maintenance. Additionally, there were no constraints on the use of such trolleys on the railway, nor any competence and training requirements for their operators.

There was no assessment of the risks of using the trolley, either generically or for the specific task on the day, and there was no formal training or briefing of the operators on the day.

The underlying factors were inadequate management systems in the Permanent Way department and, probably, a lack of Safety Management System compliance audits.

The RAIB has made three recommendations as a result of this investigation. The first is made to the Heritage Railway Association and relates to it issuing guidance to its members on limiting the use of trolleys not fitted with fail-safe brakes, and fully assessing the risks where they are to be used. The other two are made to East Lancashire Railway; the first relates to the provision of suitable working procedures in the Permanent Way department, and the other to the implementation of an effective audit process.

The RAIB has also identified three learning points. These relate to the importance of undertaking planned audit and compliance activities; being clear about how vehicles and trolleys are to be controlled before they are deployed; and considering the safety risks associated with assets that are acquired through donations.

Introduction

Key definitions

- 1 Metric units are used in this report, except when it is normal railway practice to give speeds and locations in imperial units. Where appropriate the equivalent metric value is also given.
- 2 A glossary of abbreviations and acronyms is at Appendix A.

The incident

Summary of the incident

- 3 On Thursday 15 March 2018 an unbraked, manually-propelled trolley was being used by a group of trackworkers on a section of line north of Ramsbottom station on the East Lancashire Railway (ELR) (figure 1). The trolley was being used to move ballast to various locations where extra ballast was needed, following a recent track renewal. The trolley was loaded with approximately 0.5 tonnes of ballast.
- 4 At about 11:15 hrs, as two trackworkers were pushing the trolley along the line, they realised that it was running away from them towards Ramsbottom station. They were unable to catch up with and regain control of it before it collided with the wooden level crossing gates at Ramsbottom level crossing. The gates were across the railway, as the road was open to traffic. No one was injured but a gate was forced open and the mechanism damaged. The trolley derailed and some ballast spilled onto the road.

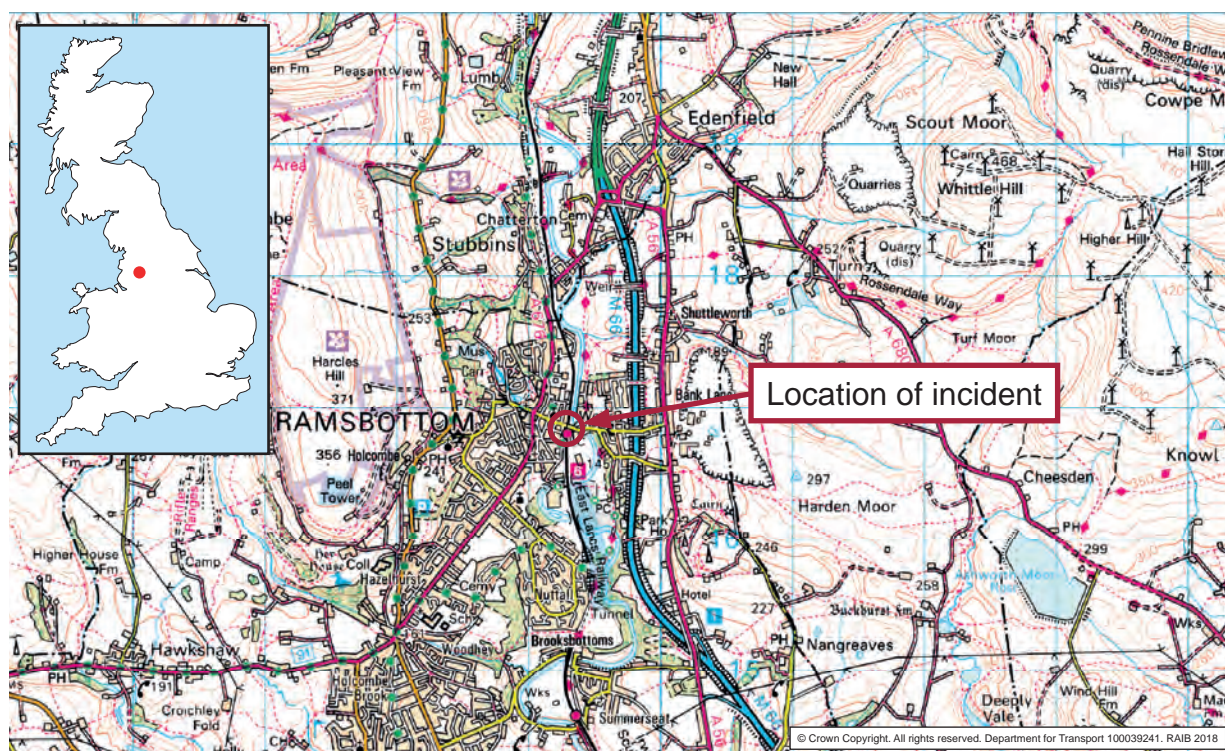


Figure 1: Extract from Ordnance Survey map showing location of incident

Context

Location

- 5 The East Lancashire Railway is a heritage railway based in Bury, Lancashire. It runs from Rawtenstall in the north, through Ramsbottom and Bury to Heywood, east of Bury. There are connections to the main line railway beyond Heywood, and to the Manchester Metrolink tramway south of Bury town centre.

- 6 The incident began near Great Eaves Road level crossing, 28 chains (560 metres) north of Ramsbottom level crossing. This is on the section of single line running from north of Ramsbottom signal box to just south of Rawtenstall. At Ramsbottom signal box the line divides to create an 'Up' and a 'Down' loop through Ramsbottom station. Ramsbottom level crossing, where Bridge Street crosses the railway, is at the northern extent of the 'Up' and 'Down' loops (figure 2).
- 7 Travelling south (in the 'Up' direction) towards Ramsbottom the gradient is downhill. North of Ramsbottom the gradient is 1 in 140 although at Ramsbottom level crossing and station it is a shallower 1 in 264.

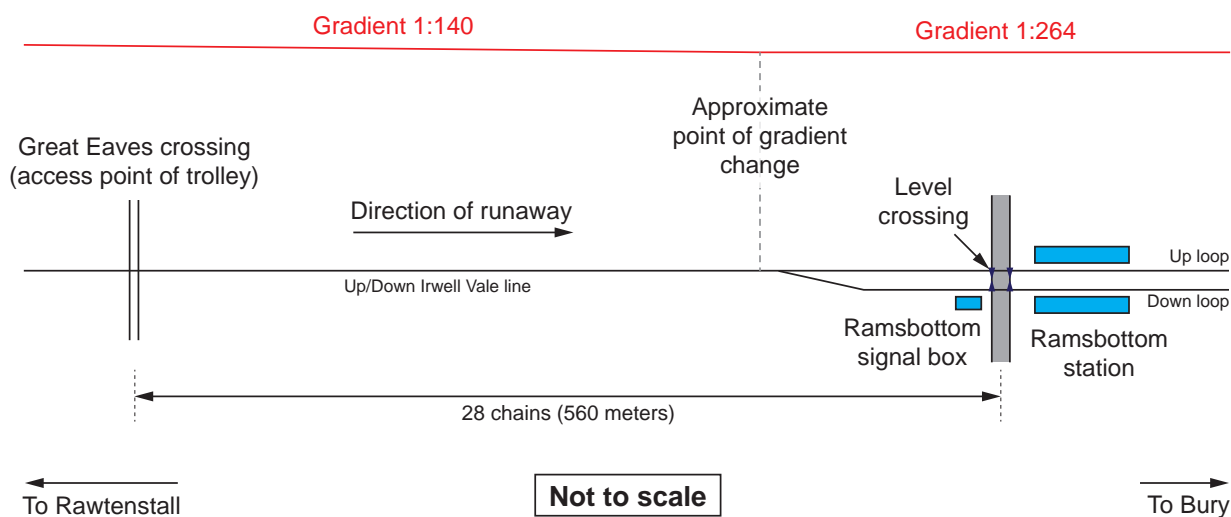


Figure 2: Diagram showing track layout

Organisations involved

- 8 The railway is operated by the East Lancashire Railway Company (ELR). The company leases the track bed and infrastructure from the East Lancashire Railway Trust. ELR owns the trolley and other equipment involved in the incident.

9 ELR freely co-operated with the investigation.

Rail equipment involved

10 The trolley involved was a four wheeled flatbed trolley typically used to transport materials or tools along the railway (figure 3). This type of trolley is made up of two sections for ease of handing. Trolleys of this type are normally transported in these sections and joined together on site. When new, the trolley was fitted with brakes. These would have been spring applied and released using a manually operated lever.



Figure 3: Photograph of similar hand trolley (courtesy of East Lancashire Railway)

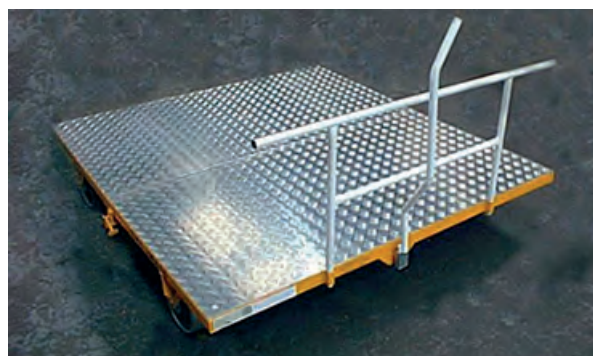


Figure 4: Photograph showing a correctly configured manually-propelled trolley

- 11 When new, a push-handle would have been provided to allow the operator(s) to propel the trolley (figure 4). The bottom ends of the push-handle are inserted into brackets fitted to the ends of the trolley deck. The trolley is intended to be propelled by one or more persons walking along behind it holding the brake off and pushing the push-handle. The trolley involved no longer had any brake shoes or springs fitted. It was still fitted with some parts of the braking system and brackets for the push-handle. No push-handle had been provided with the trolley on the day of the runaway.
- 12 Ramsbottom level crossing has two pairs of wooden crossing gates that are operated from the adjacent Ramsbottom signal box (figure 5). The operation of the crossing is not a factor in this incident.

Staff involved

- 13 The workgroup involved comprised five ELR volunteers. One acted as supervisor and excavator operator and the other four undertook the manual work.
- 14 The supervisor on the day had worked for British Rail for a significant period in the late 20th Century and been associated with ELR from its beginnings in 1970. He had previously held a voluntary senior technical management position and a paid supervisory position for many years until 2017. At the time of the incident, he was still working regularly for ELR in a voluntary capacity within the Permanent Way department.
- 15 One of the two volunteers operating the trolley was an experienced railway worker having worked as a Signals and Telecommunications engineer for British Rail in the 1970s and 1980s. He had completed the basic track safety training required by ELR some years ago, but had not received any training on the use of trolleys.



Figure 5: Ramsbottom signal box and level crossing

- 16 The other volunteer operating the trolley was a new volunteer; it was his first day on the railway. He had not completed any induction or basic track safety training, or received any training on the use of trolleys.
- 17 The other two volunteers had worked on the East Lancashire Railway for several years; they did not have any other railway background. They had completed ELR's basic safety course when they first joined the railway, but had not been trained on the use of trolleys.

External circumstances

- 18 The incident occurred during daylight, and the weather was dry and clear. External circumstances did not affect the incident.

Events preceding the incident

- 19 During January and February 2018, a ¼ mile section of track incorporating the incident site was re-laid over a period of four weeks. This work was undertaken to improve the quality of the track. Although the main work was completed in mid-February a residual task of topping up ballast in some areas remained outstanding.
- 20 On the morning of 15 March 2018 it was intended that volunteers would undertake work on a boundary fence. A possession¹ was arranged to allow the fencing work to be carried out. From 09:30 hrs volunteers assembled at Bury Works for tasks to be allocated. More volunteers attended than were required for the fencing work so it was decided that five of them would top up the ballast north of Ramsbottom.

¹ A formal temporary closure of a line to trains for safety reasons, or to allow engineering work to take place.

- 21 The supervisor decided to use the excavator owned by ELR. The trolley and some hand tools were loaded into the excavator's bucket by the supervisor and some of the volunteers. As he was the only one of the five who had the competence to drive the excavator, the supervisor drove it by road to Great Eaves Road level crossing; the other volunteers went by car. Once they had all arrived the trolley was unloaded and assembled on the track adjacent to the level crossing. The volunteers used pieces of ballast on the rail head as improvised chocks to stop the trolley from rolling away.
- 22 Witness evidence indicates that no formal briefing was given either on site or at Bury Works, but the volunteers understood that they would use the trolley to transport ballast from near to Great Eaves crossing south towards Ramsbottom. Ballast was then to be deposited manually at locations where it was needed. The trolley was loaded with ballast using the excavator. Witness evidence indicates that approximately 0.5 tonnes of ballast was put on the trolley.
- 23 At around 11:15 hrs the volunteers began to push the trolley south towards Ramsbottom station. The supervisor remained with the excavator and one of the volunteers returned to a car to get a bag. Shortly after, another left to speak with the supervisor. This left two volunteers with the trolley.

Events during the incident

- 24 The trolley started rolling along ahead of the two volunteers. It is not clear how far ahead of them it was or how far they had gone when they realised that the gap between them and the trolley was increasing. Up to this point they had not needed to stop the trolley and had not attempted to. When they realised it was running away one of them ran after it. He was unable to catch it, but saw it collide with the level crossing gates (figure 6).



Figure 6: Representation of the trolley striking the level crossing gate (inset image courtesy of East Lancashire Railway)

- 25 The trolley struck the eastern gate on the north side of the crossing. It derailed and some ballast spilled onto the road. The impact damaged the woodwork and the gate mechanism causing the gate to be partially displaced across the road. A passing motorist was forced to alter course to avoid the gate. He stopped briefly and spoke with one of the volunteers.

Events following the incident

- 26 The volunteer who had chased the trolley was joined by the other three volunteers and they tried to make contact with the supervisor by mobile phone. They were unable to contact him because he could not hear his mobile phone in the cab of the excavator. One of the volunteers walked back to tell the supervisor what had happened. The remainder of the group used shovels to remove the ballast from the road and returned the gate to its original position.
- 27 There was no impact on the train service on the railway as there were no trains scheduled that day. The gate was temporarily repaired and the trolley removed from service. The Responsible Officer² was notified of the incident between 12:15 and 12:30 hrs. The work was abandoned for the day and the volunteers allowed to go home.

² The role of 'Responsible Officer' is defined by ELR in its Rulebook as 'the person appointed by the Company to be in charge of the co-ordination of all movements on the Railway'.

Key facts and analysis

Background information

- 28 Manually-propelled trolleys are commonly used during maintenance on railways. While there are several types, most are fitted with fail-safe brakes designed to stop and hold a loaded trolley on the maximum gradient likely to be encountered³ (paragraph 10).
- 29 To move a braked trolley an operator needs to hold the brake off manually. If the lever is released the brakes automatically apply. This configuration ensures that should an operator lose contact with the trolley, it should stop. The same brake mechanism also fulfils the function of a parking brake. Trolleys without brakes are not allowed to be used on the main line (Network Rail) infrastructure.
- 30 Because the trolley involved did not have brakes, the operators were reliant on ballast 'chocks' as a 'parking brake' and being able to keep hold of the moving trolley to restrain it. No push-handle (paragraph 11) was made available that day, which meant that an operator would have had to push on the deck of the trolley, which is approximately 25 cm above the rail head. The operators would have needed to stoop down to keep hold of the trolley, making control of it difficult and uncomfortable, or push it intermittently with their feet. Witness evidence indicates that the operators were pushing the trolley and letting it roll along ahead of them. This would explain why they had no early warning of the trolley running away.

Identification of the immediate cause

- 31 A laden, unbraked trolley was deployed on a gradient.**

Identification of causal factors

- 32 The incident occurred due to a combination of the following causal factors:
- a) a trolley without brakes or a push-handle was available for use (paragraph 33); and
 - b) the decision was taken to use the unbraked trolley without introducing any other mitigation or safeguard against it running away (paragraph 42).

Each of these factors is now considered in turn.

³ There is no specific standard for heritage railways. However, for the mainline Railway Industry Standard 1530 states that a fully loaded trolley must be able to be held on a gradient of 1:25.

Availability of trolleys without brakes**33 A trolley without brakes or a push-handle was available for use.**

- 34 This causal factor almost certainly arose due to a combination of the following:
- the trolley had been donated and ELR's Safety Management System (SMS) only recognised purchasing as a means of acquiring equipment (paragraph 35); and
 - ELR had no adequate and specific procedures, controls or specifications in place for trolleys (paragraph 39).

Each of these is now considered in turn.

Donation of equipment**35 The trolley had been donated and ELR's Safety Management System only recognised purchasing as a means of acquiring equipment.**

- 36 ELR's SMS specified that *'all equipment purchases should be carried out in accordance with ELR's procurement policies and procedures'*. However, in common with many heritage railways, ELR receives many of its assets and equipment through donation and these are not subject to the same controls. Heritage railways are happy to acquire assets through donations as this helps to keep costs down and may ensure that obsolete items are preserved for posterity.
- 37 The condition of the trolley when it was donated is not known with certainty. However, ELR considers it likely that it was donated without brakes. Other similar trolleys at ELR had been donated without brakes.
- 38 If ELR had had formal controls and procedures in place to manage the acquisition of assets through donation it is probable that the absence of brakes on the trolley would have been recognised and consideration given to its suitability for use on the railway.

Absence of procedures, controls or specifications relating to trolleys at ELR**39 ELR had no adequate and specific procedures, controls or specifications in place for trolleys.**

- 40 The SMS includes high level requirements for the provision and use of equipment, including specifying general requirements for the specification, maintenance, management, inspection and storage of equipment used on the railway. ELR had prepared procedures to implement these requirements at a local level for equipment that was perceived as having significant potential for causing harm, but this was generally only the case where there was a specific statutory obligation.
- 41 The Permanent Way department had not prepared any local procedures for implementing these high level SMS requirements for the majority of its equipment, including trolleys. Had it done so it is likely that it would have recognised the absence of brakes on the trolleys as a hazard, causing it to consider their suitability for use, or the need for additional safeguards⁴. The lack of adequate and specific procedures implementing the SMS requirements was due to the inadequate management systems in the Permanent Way department (paragraph 56).

⁴ A post incident review by ELR found other trolleys without brakes that its management team had not been aware of.

Decision to use the trolley

42 The decision was taken to use the unbraked trolley without introducing any other mitigation or safeguard against it running away.

43 Unbraked trolleys were historically commonplace on the UK rail network. It is possible to operate an unbraked trolley safely if careful regard is taken of the gradient, mass of trolley and payload, the means of holding the trolley stationary, and the number of operators. Where appropriate, effective control of a trolley can be achieved by providing a means for operators to readily keep hold of it. This is usually done by providing a push-handle that an operator can use whilst walking upright (paragraph 11). However, the provision of a handle may not totally overcome the risk of a trolley running away on a downhill gradient.

44 This causal factor arose due to a combination of the following:

- ELR had no rules or constraints on the use of trolleys (paragraph 45); and
- the residual risk of the trolley running away was not adequately managed (paragraph 48).

Each of these is now considered in turn.

Absence of rules or constraints on use of trolleys

45 ELR had no rules or constraints on the use of trolleys.

46 Despite the use of trolleys being common, ELR did not have any procedures or rules for how they should be used during maintenance activities. Furthermore, it did not have any procedures for trolley maintenance and inspection. As such, the SMS aspiration of safely managing equipment was not being met with regard to trolleys. However, ELR did recognise the risk to train operations that trolleys posed if left on the line. This was reflected in the rulebook which describes the circumstances when a trolley may be placed on a running line.

47 This lack of an effective local procedure in the Permanent Way department was due to the inadequate management systems in the Permanent Way department (paragraph 56).

Management of the residual risk of using trolleys

48 The residual risk of the trolley running away was not adequately managed.

49 This factor almost certainly arose due to a combination of the following:

- there was no formal risk assessment carried out either in relation to the generic use of trolleys or specifically for the task being undertaken on that day (paragraph 50);
- the individual members of the work gang did not perceive any significant risk in using the trolley (paragraph 52); and
- the supervisor did not consider a runaway of the trolley as a credible event (paragraph 55).

Each of these is considered in turn.

Absence of risk assessment

- 50 The SMS document at ELR has three sections dedicated to risk assessment. They describe the general concept, give a suggested method and a form for documenting the outcome. The SMS document states that risk assessments should be specific to either 'significant tasks', locations or individuals. The method describes how the frequency of an 'unwanted event' and the severity of the likely outcome are combined to give a risk score.
- 51 No specific risk assessment had been undertaken for the work. This was probably due to the fact that no local Permanent Way procedures had been developed to embody the need to undertake risk assessments. Witness evidence indicated that no risk assessment would have been undertaken even if the task had been pre-planned.

The work gang's perception of the risk

- 52 None of the four volunteers saw any significant risk in operating the unbraked, laden trolley on a gradient. This may have been because the gradient north of Ramsbottom (between 1 in 140 and 1 in 264) is so shallow as to not be immediately obvious to the untrained eye.
- 53 Furthermore, they did not consider the trolley to be either unsuitable or defective, indeed at least one of the volunteers did not know that a trolley should have brakes and a push-handle. This was probably because they had no experience of, or training in, operating trolleys.
- 54 The Permanent Way department maintained a list of individuals considered competent to use equipment such as chainsaws, rail drills and abrasive disc cutters. However, it did not have competence requirements relating to operating trolleys, which meant that there was no organisational drive for volunteers to be trained. The gang was therefore reliant on being effectively briefed on the risks posed by an unbraked trolley on a gradient. There is conflicting evidence as to whether the gang were briefed on keeping the trolley under close control or not. The supervisor claims that he told the gang '*...not to let the trolley get away....*'. However, none of the other four volunteers recall hearing this. There is no written evidence that a formal briefing took place.

Supervisor's perception of the risk

- 55 It is likely that the supervisor did not consider a runaway as a credible event. This is probably due to a mismatch between his own understanding of trolleys and that of the gang. The supervisor had worked on the mainline railway when the use of unbraked trolleys was common, and, as such, he was very familiar with how to operate and control them. It is likely that when deciding to use the trolley he assumed a similar level of knowledge in the work gang, which they did not possess. It is likely that he saw safe unbraked trolley operation as a fundamental skill for permanent way workers.

Identification of underlying factors

Management systems in the Permanent Way department

56 **The management systems in the Permanent Way department were inadequate.**

- 57 Management of the Permanent Way department had for many years been reliant on a single individual, the former Permanent Way department supervisor. For many years he was reporting to himself as Civil Engineering director. His management style was to use his own extensive knowledge to decide what needed to be done, and to present to others how it should be done. As a consequence of this, adequate procedures to implement the high level requirements of the SMS had not been prepared. In particular, there were no procedures for the use, inspection and maintenance of much of the Permanent Way department equipment. Additionally, there was no comprehensive training programme for volunteer staff, and no structured approach to risk assessment or formal work planning.
- 58 Although this individual had retired from both posts 9½ months before the incident, the department continued to operate in the same manner with none of the persons fulfilling the roles raising any shortcomings with the ELR management; this is possibly due to their expectations and the lack of auditing and compliance (paragraph 61).
- 59 The fact that the previous Permanent Way department supervisor had been reporting to himself in his role as Civil Engineering director limited the opportunities for the shortcomings of his approach and methods to be identified and corrected.
- 60 Had the management systems in the Permanent Way department been adequate, suitable procedures would have been in place to address the risk of the runaway.

Auditing within ELR

61 **ELR was not auditing its compliance with its SMS. This was a probable underlying factor to the runaway.**

- 62 The SMS describes the general principles of auditing within ELR. It includes broad descriptions of how audits are to be conducted and how the results are to be dealt with and recorded. However, ELR had not conducted audits on its compliance with the requirements of its SMS or its internal procedures for some years. Witness evidence suggests that this was due to a lack of suitable resource.
- 63 ELR management were aware that it was not conducting audits in the way the SMS prescribed, and have stated that they were taking steps to address this at the time of the incident.
- 64 Had a thorough programme of audits been correctly undertaken, ELR would have identified that its Permanent Way department had inadequate procedural arrangements for managing its equipment and carrying out its work. It is probable that it would have then put suitable procedures in place which would have addressed the factors that contributed to the runaway.

Observations

- 65 ELR is non-compliant with several areas of its SMS and related policies and procedures.**
- 66 The RAIB identified several areas where, although not directly relevant to the cause of the runaway, ELR was non-compliant with its SMS and related policies and procedures.
- 67 The SMS describes how ELR should have a 'suitable system for reporting faults' on equipment. ELR did not have such a system in the Permanent Way department, but had relied on the former Permanent Way department supervisor being told about faults, and him then deciding what action to take and when.
- 68 ELR has a clear policy on post-incident drugs and alcohol testing. While there is no evidence to suggest drugs or alcohol were a factor in this runaway, no one involved was tested, despite the incident meeting the criteria for testing. There is some uncertainty as to when the Responsible Officer (who would arrange for the tests) was notified of the incident, and a delay in making him aware may have contributed to the absence of testing.
- 69 ELR has a policy of requiring safety critical workers to sign on when reporting for duty. Witness evidence indicates that this often did not happen, and ELR did not always have knowledge of when and where volunteers were working.
- 70 The ELR SMS has a section devoted to the Provision and Use of Work Equipment Regulations. It describes how ELR should maintain an inventory and label its equipment. The Permanent Way department did not have an inventory and was not in the practice of identifying or labelling equipment. The SMS stated that equipment should be maintained in line with manufacturer's specifications, and records of maintenance kept. ELR did not have a procedure for maintaining trolleys and did not keep records of maintenance or repairs.

Previous occurrences of a similar character

- 71 The RAIB has previously investigated incidents involving runaway trolleys. Three of these have resulted in the RAIB making recommendations. They are Larkhall and Barncluith tunnel ([RAIB report 20/2006](#)), Notting Hill Gate ([RAIB report 12/2007](#)) and Haslemere ([RAIB report 14/2012](#)). A fourth incident at Dargan Bridge, Belfast was the subject of an RAIB bulletin ([RAIB bulletin 06/2009](#)). All four involved runaway trolleys on main lines or metro systems. Defective brakes or unauthorised modifications to braking systems feature in all four incidents. Operator competence, pre-use checks, and awareness and briefing regarding gradients also feature prominently. At Dargan Bridge the failure to recognise trolleys in the SMS was also a factor. However, none of these incidents involved trolleys without any brakes or operating on heritage railways.
- 72 The RAIB has previously made recommendations on inadequate safety management in the heritage sector. Four of the most recent reports are: South Devon Railway ([RAIB report 02/2018](#)), Loughborough ([RAIB report 04/2015](#)), Grosmont ([RAIB report 23/2012](#)) and Kirklees ([RAIB report 04/2012](#)).

73 In 2004 a heavily laden trailer with disabled brakes struck a group of trackworkers near Tebay, Cumbria. Four of them were killed as result. This tragic event highlights the danger posed by the near silent movement of runaway railway trolleys and trailers.

Summary of conclusions

Immediate cause

74 A laden unbraked trolley was deployed on a gradient (paragraph 31).

Causal factors

75 The causal factors were:

- a) a trolley without brakes or a push-handle was available for use (paragraph 32), almost certainly due to a combination of:
 - i. the trolley had been donated and ELR's Safety Management System only recognised purchases as a means of acquiring equipment (paragraph 35), **Recommendations 1 and 2**); and
 - ii. ELR had no adequate and specific procedures, controls or specifications in place for trolleys (paragraph 39, **Recommendation 2**).
- b) the decision was taken to use the unbraked trolley without introducing any other mitigation or safeguard against it running away (paragraph 42), due to a combination of:
 - i. ELR had no rules or constraints on the use of trolleys (paragraph 45, **Recommendation 2**); and
 - ii. the residual risk of the trolley running away was not adequately managed (paragraph 48, **Recommendation 2**).

Underlying factors

- 76 An underlying factor was that the management systems in the Permanent Way department were inadequate (paragraph 56, **Recommendations 2 and 3**).
- 77 A probable underlying factor was that ELR was not auditing its compliance with its internal SMS (paragraph 61, **Recommendation 3**).

Actions reported as already taken or in progress relevant to this report

- 78 ELR has withdrawn all of its manually-propelled trolleys and replaced them with a new industry-standard, braked trolley. All ELR Permanent Way department staff and volunteers have been trained in using the new trolley, including pre-use brake tests, in accordance with the manufacturer's instructions.
- 79 ELR are assessing the withdrawn trolleys and arranging for them to be repaired or disposed of, as appropriate. All retained trolleys will be given asset numbers and suitably labelled.
- 80 ELR have trained all Permanent Way staff in the responsibilities of the role of 'Person in Charge of Work'.
- 81 ELR has engaged a safety consultant who is reviewing the SMS and underlying procedures that support its implementation. The output from this review is to be used to support revision of the SMS and develop the required procedures to enable its efficient implementation.

Recommendations and learning points

Recommendations

82 The following recommendations are made⁵:

- 1 *The intent of this recommendation is to ensure that trolleys without fail-safe braking are only used on heritage railways when the risks of doing so have been fully considered and it has been demonstrated safe to do so.*

HRA should issue clear guidance to its members that the use of trolleys without fail-safe braking should be prohibited on running lines and restricted to yard or workshop work on level track; unless the use of such trolleys is supported by a robust risk assessment and suitable operating procedures (paragraph 75a.i).

- 2 *The intent of this recommendation is to ensure that ELR has in place suitable and sufficient working practices in its Permanent Way department to meet the requirements of the Safety Management System.*

The East Lancashire Railway Permanent Way department should develop and implement local procedures in accordance with the principles of the railway's Safety Management System, including, but not limited to:

- risk assessing work activities;
- managing and controlling the acquisition (including donation), maintenance and operation of Permanent Way department equipment;
- staff competence management; and
- planning of work activities.

(paragraphs 75a.i, 75a.ii, 75b.i, 75b.ii and 76)

⁵ Those identified in the recommendations have a general and ongoing obligation to comply with health and safety legislation, and need to take these recommendations into account in ensuring the safety of their employees and others.

Additionally, for the purposes of regulation 12(1) of the Railways (Accident Investigation and Reporting) Regulations 2005, these recommendations are addressed to the Office of Rail and Road to enable it to carry out its duties under regulation 12(2) to:

- (a) ensure that recommendations are duly considered and where appropriate acted upon; and
- (b) report back to RAIB details of any implementation measures, or the reasons why no implementation measures are being taken.

Copies of both the regulations and the accompanying guidance notes (paragraphs 200 to 203) can be found on RAIB's website www.gov.uk/raib.

- 3 *The intent of this recommendation is to ensure that ELR is aware of the extent to which its Safety Management System is being effectively implemented.*

The East Lancashire Railway should implement a process of thorough regular audits, which are capable of detecting non-compliances with its Safety Management System and identifying corrective actions needed to improve the management of safety (paragraphs 76 and 77).

Learning points

83 The RAIB has identified the following key learning points⁶:

- 1 The importance of undertaking planned audit and compliance monitoring activities so that heritage railways are informed about the extent to which their Safety Management Systems are being effectively implemented.
- 2 The importance of being clear about how any vehicle or trolley is to be controlled before it is placed on the track.
- 3 The importance of heritage railways adequately considering the safety risks associated with assets that are acquired through donations, and ensuring that the suitability and condition of the equipment is effectively assessed to ensure compliance with Sections 4, 5 and 6 of The Provision and Use of Work Equipment Regulations 1998.

⁶ 'Learning points' are intended to disseminate safety learning that is not covered by a recommendation. They are included in a report when the RAIB wishes to reinforce the importance of compliance with existing safety arrangements (where the RAIB has not identified management issues that justify a recommendation) and the consequences of failing to do so. They also record good practice and actions already taken by industry bodies that may have a wider application.

Appendices

Appendix A - Glossary of abbreviations and acronyms

ELR	East Lancashire Railway Company
SMS	Safety Management System

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