

RIGHT back

FIRST ISSUE!

ISSUE 1 // April 2012

THE NEW ANGLE FOR PEOPLE OPERATING THE RAILWAY

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STATION SAFETY

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MIND THE INNER INTER-CAR GAP
UNDERSTANDING DUTY OF CARE

REGULAR FEATURES

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RAIB REPORT ROUND-UP
INCIDENT NEWSWIRE



A NEW APPROACH TO
ROUTE LEARNING



A FREIGHT OPERATOR'S
TAKE ON POSSESSIONS



DRIVEN TO DISTRACTION
IN CANADA

OFG OPERATIONS
FOCUS
GROUP

Part of the operational safety
programme sponsored by OFG

headlamp

Welcome to Right Track, the rail industry's new operational safety magazine.

Right Track is for: drivers, signallers, shunters, station staff, managers, track workers, depot staff – anyone and everyone who plays a vital part in keeping the railway going.

Right Track is about sharing news, safety points and good ideas; it's about being part of the whole railway network. It's also about 20 pages long...

Station safety has shot up the agenda as a major issue, a fact which moved the industry to form a dedicated action group. This led to the development of the Station Safety Improvement Programme. On page 4, former East Coast man turned programme manager Andy Wallace takes us through some of the work that's been going on in this area, while Mike Carr of Network Rail shows how slips, trips and falls have been successfully cut down at Euston.

Elsewhere in this issue, Nick Edwards (DB Schenker) gives a haulier's perspective on possessions, Paul Sutherland (Network Rail) describes a new approach to the Sectional Appendix being trialled in Wales and Greg Morse (RSSB) takes a look at a collision in Canada that raises questions about drugs and mobile phone use. SPAD guru Roger Badger (RSSB) kicks off his SPADtalk column

by commenting on why we've been doing so well at reducing SPADs and where the focus on them came from. Richard Farish also shows how First Capital Connect drivers keep an eye on the situation.

Add in our mini-interview with ASLEF health and safety man Dave Bennett, our worldwide news update and RAIB report summaries and you'll be wondering how you ever did without us. But the truth is, of course, that we can't do without you! Right Track is signalled for bi-directional running – it's *your* magazine – so we're just as keen to hear from you as you will be from us...

If you have a story, a safety idea, a lesson or initiative, get in touch! Full articles and comments are always welcome, but so are leads and ideas, which our team will be only too happy to follow up on your behalf.

Why not get on the Right Track, and contact us today?

righttrack@rssb.co.uk

What is OFG?

Right Track is sponsored by OFG – but what is OFG? OFG stands for Operations Focus Group, whose meetings are attended by operational heads and specialists from across the rail industry. By working together, it helps everyone make improvements to safety by sharing things and running joint initiatives – including this magazine. OFG includes Network Rail, train and freight operators, infrastructure maintenance companies, trades unions, the Office of Rail Regulation and London Underground.

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Right Track is produced by RSSB through cross-industry cooperation. It is designed for the people on the operational front-line on the national mainline railway, yards depots and sidings and London Underground. Their companies are represented on the cross-industry Operations Focus Group, managed through RSSB, and Right Track is overseen by a cross-industry editorial group.



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Right Track is designed to share news and views from individual companies in a positive way. However, the views expressed in Right Track are those of the contributing authors; they do not necessarily reflect those of the companies to which they are affiliated or employed, the editors of this magazine, the magazine's sponsors - the Operations Focus Group - or the magazine's producers, RSSB (Rail Safety and Standards Board).



Need access to up-to-date stabling point safety surveys?

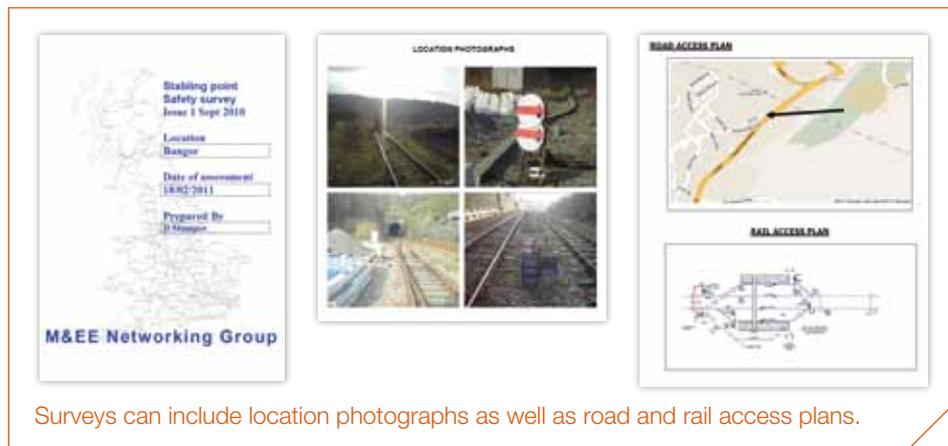
The Mechanical & Electrical Engineering Networking Group has produced a series of safety surveys to provide useful information and guidance for those setting up safe systems of work.

After conducting a site visit, they draw up a Stabling Point Safety Survey, which includes an accurate description of the location.

Though designed to meet the authors'

specific requirements, they can be used by other railway companies – providing end users accept that they are responsible for ensuring accuracy and for checking (before use) that the survey meets their company requirements.

To find the surveys, go to Opsweb - www.opsweb.co.uk, click on railway operations/otm operations/sidings-safety surveys and away you go!



Surveys can include location photographs as well as road and rail access plans.

Number crunch

The latest figures show that even though passenger and freight numbers keep going up and up, there's been a general decreasing trend in the number of safety incidents and level of risk.

This means that even though there are record levels of train use, the people who use and work on the railway are actually experiencing less harm, as they have been year-on-year for some time.

Nobody would ever dare become complacent, but it's heartening to see the numbers confirm good safety performance.

Safety performance reports can be found on Opsweb – www.opsweb.co.uk and the RSSB website www.rssb.co.uk

UK – 5 January: Pans down near Littleport, 2 injured

Two passengers were injured when part of their train's pan assembly fell from the roof and smashed saloon windows some two miles south of Littleport. RAIB's preliminary examination found that the head of the pantograph lost contact with the OHLE when travelling at about 80 mph through an area blighted by high winds.

USA – 6 January: Rear-end collision leads to injury

At 14:25 (local time), two freight trains were involved in a rear-end collision near Westville, Indiana. Shortly after, a third freight – travelling on the adjacent line – struck the wreckage and derailed, causing fire and injury. Scant information about the nature of the goods being carried led to the precautionary evacuation of around 50 local homes. The National Transportation Safety Board is investigating.

USA – 9 January: Foreman struck and killed by rail grinder

A welding foreman was fatally injured when he was struck by a rail grinder travelling at low speed in Potter County, Amarillo. The man was trying to fix a leak on the grinder when the accident occurred. Initial investigations suggest miscommunication as a possible cause.

Germany – 13 January: One killed as push-pull service strikes cattle

One person and eight cows were killed when a push-pull passenger train running driving trailer-first struck a herd of cattle and derailed. Three other passengers were injured. The driver had seen the cattle, but was unable to brake in time. The incident has led some to draw parallels with the accident at Polmont, Scotland, in 1984, in which 13 were killed when a push-pull express running driving trailer-first struck a cow at high speed. See the next issue of Right Track for the full story.

Got something to share?

Right Track would love to hear from you – especially if you have an initiative worth sharing with readers, or if you want to feed back on this issue.

Email us on righttrack@rssb.co.uk



no slip ups on station safety

Photo: ATOC / Paul Bigland

Stations are the public face of the railway – but what can we do to address the safety risks?

Andy Wallace

Station Safety Improvement Programme Manager, RSSB

Numbers game

Statistics show that the rail industry's safety record has improved steadily over time. We all know that a triumph can come before a fall, so we try to avoid complacency by keeping a close eye on the numbers – from as many different angles as possible.

Station safety is a classic example, as it was a regular RSSB stats report that highlighted a rise in risk at the platform-train interface.

150 million people a year use Liverpool Street station in London, with 500,000 passing through it every day, twice as many as Heathrow Airport, and with no separation of people arriving and departing.

At the same time a poignant dramatisation featured in the RED 28 DVD, soon after which the industry's Operations Focus Group (OFG) formed a dedicated group for station safety. This in turn led to the development of the Station Safety Improvement Programme.

As its programme manager, I visited a number of station operators to find out the 'state of the nation' in terms of compliance with recognised standards and procedures. I also wanted to identify the many good practice initiatives that exist within the station operator community. All the examples I found have been uploaded to the shared Station Safety Resource Area on Opsweb, which went live last year. This also holds a wealth of research and other relevant information.

RED 28 covered the risks at the platform-train interface. Copies are still available from RSSB – contact susan.cassidy@rssb.co.uk for details.



Workshop wonder

One of the best ways of getting the frontline staff perspective and promoting and sharing good practice is through face-to-face workshops. RSSB held one on station safety at the end of January, with delegates from 19 different organisations, representing mainline train operating companies, Network Rail and the Office of Rail Regulation.

The workshop featured a mixture of presentations and targeted questions to promote topical discussion. Its three main sessions focused on platform-train interface risk, slips, trips and falls, and event management/crowd control. Discussion groups considered the factors that influence risk in these areas, such as passenger demographics, passenger behaviour and seasonality. Delegates were also invited to share their personal experiences in managing these factors. The workshop concluded with a tabletop station hazard-spotting exercise, completed in small groups.

Session 1: Dispatching passenger trains safely – RSSB and First Great Western

After the usual donning of name badges and other necessary activities, the day began with John Abbott, RSSB's Director of National Programmes, welcoming the delegates and introducing me. I then gave an overview of the Station Safety Improvement Programme from inception to date.

The first presentation of the day saw operations specialist John Pullinger explain the methodology behind the introduction of a new Rail Industry Standard for passenger train dispatch and platform safety measures (RIS-3703-TOM). He also examined the practical application of the standard within a TOC. Operational learning expert Greg Morse then took the group through the key findings from several prominent passenger accidents that have occurred at the platform-train interface.

Michael Maddox of First Great Western (FGW) presented on the development of train dispatch risk assessments and method statements within FGW. Ian Gunn then took the group through a 'case study' which focussed on Reading station, which is undergoing substantial regeneration works.

Michael explained that one of the ideas FGW fed back to RSSB when the RIS was being worked on was that more emphasis was needed on the dispatch of slam-door stock and that the arrival of the train should be considered as part of the overall platform risk control arrangements.

Ian gave a practical example of how FGW assessed risk during the installation of the new passenger deck at the 'country end' of Reading's busy Platform 7. Hoardings have been erected 3.5 metres from the platform edge, extending for approximately 100 metres along the busiest part of the platform. Trials found that guards often lost sight of dispatch colleagues in the throngs of people making their way along the hoarded area. A decision was also made to supplement yellow dispatch tabards with full high-visibility orange jackets. Extra dispatchers were provided to increase the number of staff dispatching slam-door trains.

Outputs from the group discussion in this session suggest that the factors which impact most on safe passenger train dispatch are:

- The adequacy of train dispatch risk assessments
- A lack of clarity around individual roles and responsibilities
- Passenger behaviour

Delegates fed back that these risks can be controlled by involving staff and other operators in the risk assessment process and enhancing the quality of staff briefing arrangements (for example, by using face-to-face briefing sessions to make staff aware of the risks that exist at each location). Other ideas included better use of signage, announcements and information points to address common behavioural issues.

Session 2: Managing slips, trips and falls – Virgin Trains and East Midlands Trains

Session 2 examined some of the common causal factors that result in slips, trips and falls in railway stations and explained how Virgin Trains and East Midlands Trains are tackling the problem.

Virgin's Peter Bowes began by introducing their Slip, Trip and Fall Toolkit, which has contributed to a reduction in the number

of slip, trip and fall accidents that occur at their managed stations.

Claire Willets and Nigel Carlisle then provided an overview of East Midlands Trains' winterisation arrangements, explaining the background to the company's step-change approach to this important risk control. Early indications suggest that these changes have generated improvement, although further data analysis will be needed before any meaningful comparison of year-on-year performance could be drawn.

Delegates identified the elderly and infirm, and those under the influence of drugs or alcohol as the most likely groups to experience a slip, trip or fall accident. Station design, signage, the provision of information, robust cleaning/maintenance regimes and the use of 'hot spot' maps to identify and prioritise high-risk locations were all cited as good practice initiatives presently used to support the reduction of slip, trip and fall accidents at stations.

Session 3: Event management and crowd control – Network Rail

In Session 3, Peter Collins and Mike Carr gave an overview of the work associated with planning for the Olympics and the challenges of managing passenger flows in busy Network Rail Managed Stations.

Peter explained that the Olympics will place significant increased demand on London's transport network – by Day 7 King's Cross Station is expected to handle 6,000 extra passengers per hour during the morning peak. In order to manage this increased passenger flow safely, forward planning is essential. Station operators need to develop bespoke Customer Service Plans to support the existing 'business as usual' aspect of their operation. These should focus on providing information, managing queues and crowds, along with the protection of 'golden assets' (like signalling equipment) to ensure infrastructure continuity.

Mike explained that 'managed' stations aren't really any different from other stations – they just experience crowding more often as they traditionally handle more customers. Overcrowding during normal operation (such as peak travel times or regular events) can be predicted and planned for;

Continued on Page 6

Continued from Page 05
No slip ups on station safety

in doing so, the station 'system' relies on people, processes and technology working together.

Station hazard-spotting exercise – RSSB

The workshop ended with a tabletop 'Station Hazard Spotting Exercise'. Each group was provided with a map and operational information for a small, medium or large station, typical to the GB rail network. A series of prompts was provided to promote discussion amongst delegates upon the hazards that exist at each location, and the measures used to control the identified risks.

OFG's Station Safety Improvement Sub-group will discuss and – where practicable – progress the workshop outputs. A digest has also been produced to promote the transferrable lessons that came out of the sessions. This may be found in the Opsweb Station Safety Resource Area.

Andy Wallace is RSSB's Station Safety Programme Manager. He worked for East Coast before making the move to RSSB. andy.wallace@rssb.co.uk

Some of the ideas and initiatives from the Station Safety Workshop:

'It's important to identify high-risk passenger types and behaviours (elderly, children, etc)'

'We need to look at how staff are supported when dealing with alcohol-related issues'

'We should move from general instructions for guards to more specific risk-based instructions'

'There is a worry that multi-functional staff might lose focus on safety critical work (eg, dispatchers being trained in First Aid)'

'We should engage with local schools to help educate young people on safe behaviours'

'There should be driver awareness briefings on train dispatch risk'

mind the inner inter-car gap

Following an incident at Liverpool Street in February 2000, where a passenger was killed while trying to alight from an empty train via the interconnecting doors, a Prohibition Notice was served on London Underground (LU).

The Notice identified the risk from serious personal injury to passengers who try to alight from trains through the interconnecting doors and serves to ensure LU mitigates it by limiting the risk from over-carrying passengers into sidings or depots by either:

1. Walking along the platform and checking each car is empty before closing the passenger doors using the 'porter's buttons' at the end of each one; or
2. Any other equally effective means by prior agreement with the HM Inspector of Health & Safety.

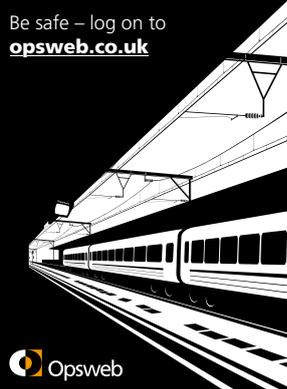
LU has complied with the Notice by physically checking every train prior to it entering a depot or siding to make sure each car is empty. This involves the train being checked by the train operator and up to two members of station staff, as necessary. Yet even with detrainment staff in position, over-carries still occurred, 52 being recorded on the Bakerloo Line between January 2008 and January 2011. Whilst none of the passengers involved tried to detrain via the interconnecting doors, this was clearly a risk.

In order to remove the requirement for supervised detrainment, the Bakerloo Line decided in late 2011 to retrofit inner inter-car barriers. These are similar to, and offer the same functionality as, those on the new Victoria Line trains – and those on the mainline railway. The design is undefeatable by passengers (as it is fixed), not readily removable and very robust (see photo). The barriers are positioned on both ends of the exterior of each carriage adjacent to the inter-car doors and extend to approximately the same height as the door.

The fitment of the inner inter-car barriers has wider safety benefits, as they will also prevent passengers from falling between carriages should they try to use the interconnecting doors under any circumstances. There have also been other associated benefits, including the reduction of trains blocking back at reversing/terminus stations whilst detrainments take place, thereby reducing the potential for SPADs.



Photo: London Underground



Be safe – log on to
opsweb.co.uk

Opsweb

 Opsweb

The station safety resource centre is now available to access on Opsweb

Log on at www.opsweb.co.uk

Opsweb is the website of the Operations Focus Group (OFG) a cross-industry programme facilitated by RSSB

understanding duty of care

A TOC perspective on dealing with PTI risk

Steve Pugh

Head of Operational Safety, Northern Rail

There are over 2,500 stations on the mainline network, from which more than a billion journeys begin and end each year – a number that looks set to rise. Stations are the public face of the railway – from the ticket office, to the retail outlets, from the concourse to the platform.

Most people arrive at a station, buy a ticket, maybe have a coffee, and get on a train with no trouble at all. But when the numbers of passengers are this big, it's obvious that we're going to have accidents from time to time.

Slips, trips and falls on stairs, concourses or platforms are the most likely accident types, and you can read what Network Rail is doing at Euston to combat them on page 8. However, incidents at the platform-train interface (PTI) are a growing area of concern.

It's a sobering thought that while no passengers have died as a result of a SPAD since Ladbroke Grove, in the ten years up to 2009, 36 people died at the PTI, and we know of many more cases since.

A question of duty

In July 2009, an important High Court appeal judgement was made about the 'duty of care' owed to passengers when boarding and alighting trains and when standing close to the platform edge.

The pivotal case involved a passenger who was under the influence of alcohol, and who fell between the train and platform while banging on the windows during departure. The person survived, but suffered serious injuries.

At the Court of Appeal, the train company involved was found to be liable for the negligence of its guard, as the passenger's 'foolhardy behaviour' had started while the guard was still on the platform.

The Court concluded that, as the guard was aware of the person's behaviour, the guard should not have closed the doors and given the 'right away'.

In summary, 'a duty of care' was still owed. It's also worth noting that the same would apply where platform staff are provided for dispatch purposes; they too need to bear in mind the behaviour of the public and its potential consequences when carrying out their safety critical duties.

Everyone owes a duty to everyone else to take reasonable care so as not to cause them foreseeable injury.

What does 'duty of care' mean?

The 'Legal Dictionary' says that 'duty of care' is a requirement that a person act toward others and the public with the watchfulness, attention, caution and prudence that a reasonable person would in the circumstances. Putting that into the context of dispatching a train, it means that, providing a member of staff has...

- Carried out the correct dispatch procedure in a safe way,
- Made sure they've been mindful of vulnerable groups, and
- Halted the dispatch procedure if they've seen anything that jeopardises safety and not re-commenced until it's safe to do so,



Photo: ATOC / Paul Bigland

...they'll have carried out their 'duty of care'.

At Northern, we ask that our dispatch staff make sure that when they're dispatching a train, that they look at the whole scene, in terms of the personal safety of those on the platform and on the train. We ask that they only dispatch the train when they're sure it's safe to do so.

What's being done?

The answer is plenty, and Andy Wallace's feature on page 4 deals with much of the thinking that's emerged in the last 18 months or so on this subject. Many train companies are doing other things, like improving platform markings, making mods to train doors and reviewing door closing times.

Our efforts as an industry have significantly reduced the SPAD problem (see SPADtalk, page 19); if we can work together and apply the same resolve to the PTI issue, we could see similar results over the next few years.

Steve Pugh is Northern Rail's Head of Operational Safety. This article has been adapted from one that appeared in the Winter 2012 issue of CABS – Northern's own safety magazine, which is available on Opsweb.



euston we had a problem

Tackling slips and trips at a major London rail hub

Mike Carr

National Operations Safety Manager, Network Rail

With an annual footfall of over 70 million, London Euston is the fourth busiest station in the country. As you might expect, we experience many passenger accidents on the concourse, around the forecourt...and on our 18 platforms. In 2010, slip, trip and fall accidents here were averaging 12 a month. With investigations failing to identify root causes, local managers knew where the accidents were happening, but couldn't say exactly why. Clearly, a new approach was needed.

Three steps to success

Data gathering

We found that our investigations into slip, trip and fall accidents were not thorough and stopped at the immediate cause. To help our team, we arranged detailed accident investigation/root cause analysis training for everyone involved in the

investigation process. This sharpened the senses of all and helped ensure that future investigations identified the basic causes and any lack of management steer that might lay behind them.

We also found that near misses were occurring across the station with no common way for any staff (be they train operator, Network Rail, retail, or contract) to report them. A dedicated local 24-hour 'hotline' was launched by Steve Lewis, station manager, along with an accompanying awareness campaign, to encourage people to report near misses and hazards whenever they occur.

Data analysis

When we looked at where accidents were happening, we found a natural split between concourse/platforms and escalators. To help clarify the situation, we conducted two separate analysis streams

to consider location, time of day, floor surface, gender, age, weather, lighting, and so on.

The escalator analysis highlighted that one particular escalator (from the taxi set down area) was causing 90% of escalator accidents and that most of these were related to the carrying of luggage.

The results for concourse/platforms showed accidents occurring at all times of the day, in all weathers, involving both genders and all age groups. The only commonality that could be observed was people were mostly losing grip.

In order to understand how safe the floor surfaces were, the Network Rail purchased a commercially available measuring device called 'SlipAlert'.



Visual of the 'SlipAlert' device



We conducted tests on all the surface types we have at Euston. The results were concerning, to say the least. In most cases, the risk from slipping on a dry floor was moderate-to-low. However, as soon as the surface became wet the risk increased to moderate-to-high in all cases.

Taking action

Escalators

When we monitored human behaviour around the escalator, we quickly found that people were getting out of taxis with large amounts of luggage, walking straight past the lifts and struggling up the escalator. In the majority of cases, when people were asked about using the lifts, they were unaware of their existence, despite having walked past them.

Clearly, the lifts needed advertising and so signage was changed and increased. To compliment this, a motion sensor voice module was installed that announced the location of the lifts and asked people not to take luggage on the escalator. This led to a reduction in accidents.

Further analysis showed that the remaining accidents were occurring outside peak hours and involved leisure travellers. A trial was then launched that saw the escalator switched off outside of the morning and evening peaks, thus forcing people to use the lift or negotiate a fixed staircase.

The result was that no accidents occurred in the area at all (either on the escalator or the stairs). The action has remained in place for 7 months and, to date, accident levels have remained at zero.

Concourse/platforms

Having identified the hazardous characteristics of the floor surfaces at Euston, we contacted BonaSystems, who specialise in the enhancement of slip resistance factors.

Bonasytems completed a series of pendulum tests to confirm the SlipAlert results and help them understand the full extent of the problem. This helped them identify which chemical solution could be used to bring the slip resistance level back to its original value.

The next phase of testing involved working out the most effective chemical concentration level. These tests were conducted on all different surface types. The results were recorded and analysed.

Having determined the concentrations and the area of each surface type, BonaSystems worked with our cleaning contractor, Rentokil Initial, to agree a method of working that would see all station surfaces treated across 14 nights.

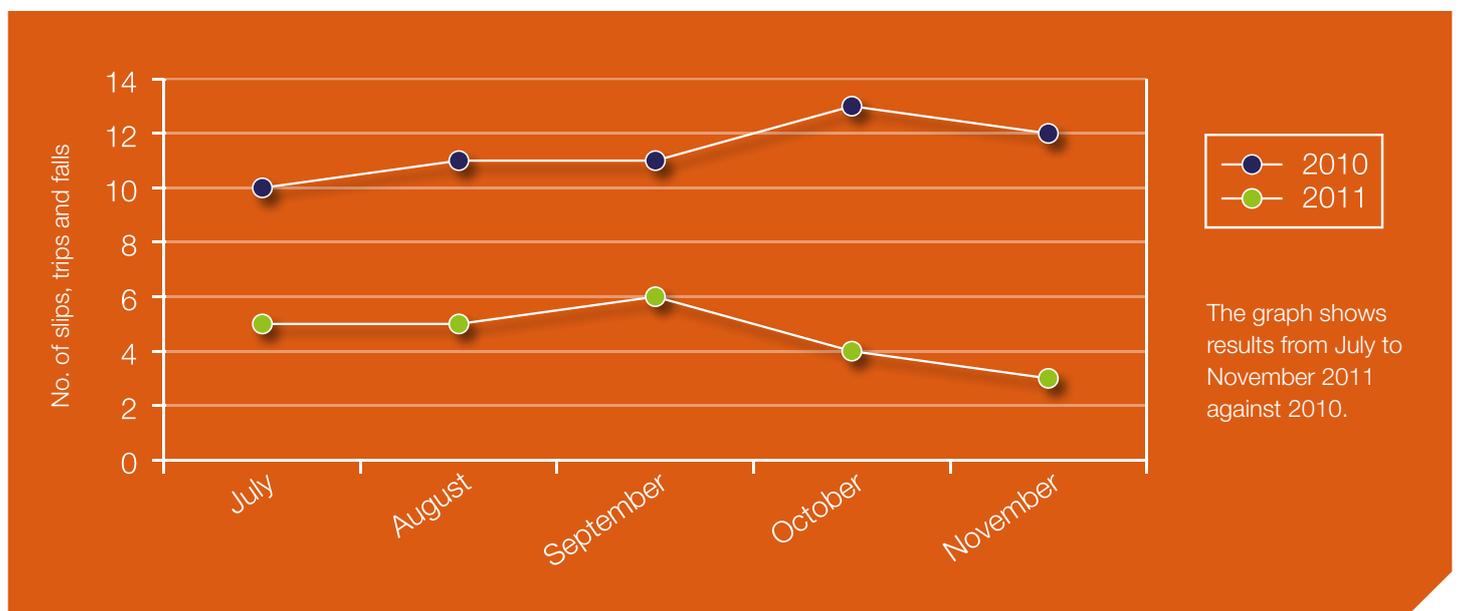


In conclusion

By taking a structured approach to the problem, Euston has been able to gather data, analyse it and take targeted actions that have already seen a 60% reduction in accidents (see graph below).

As the work programme continues, we expect the figures to fall further. Our experts will go on monitoring and analysing the situation.

Mike Carr is Network Rail's National Operations Safety Manager.



The graph shows results from July to November 2011 against 2010.



mobile phones and marijuana

The rail industry understands the risks presented by drugs and mobile phone use – but accidents can still occur, as seen recently in Canada

Greg Morse

Operational Feedback Specialist, RSSB

Drug taking has long been known as an enemy of safety critical work. The mobile phone issue is a younger problem, but it's one that our industry has tried hard to tackle in the aftermath of the SPAD and subsequent collision at Chatsworth, California, in September 2008. This doesn't mean that incidents never occur, but they do remain rare in Britain. An accident in Canada last March was to prove even rarer...

Collision at KC

At around 14:10 (local time) on 3 March 2010, an eastbound freight passed a signal at danger and struck the middle of a westbound consist that was crossing to an adjacent line at KC Junction, British Columbia.

Three locomotives and 26 wagons were derailed by the impact, which caused considerable damage to rolling stock and goods. The driver and conductor of the eastbound train also sustained minor injuries.



Between June 1998 and July 2009, distraction through mobile phone use was identified as a factor in at least 37 SPADs (from a total of 4,602) on Network Rail managed infrastructure.

Loaded train

The Transportation Safety Board of Canada (TSBC) and the operator – Canadian Pacific (CP) – both launched investigations.

One of the major contributors to why the eastbound train passed the signal at danger was that the crew had been taking drugs whilst on duty.

Although no traces of drugs or alcohol were found on the guard, the driver was worried that traces of marijuana might be detected in his urine. His fears led him to drink almost 10 litres of water, in an attempt to flush any traces of the drug from his system. This caused hyponatremia (water intoxication), which in turn led him to lose consciousness.

After a night in hospital, the driver was formally tested for drugs and alcohol. The results suggested – but could not confirm – that he had been exposed to marijuana prior to the accident.

But it wasn't just the drugs: both crew had made extensive use of their mobiles in the three hours leading up to the accident. While talking and texting, they worked

the train, negotiated level crossings, analysed hot box detector broadcasts, and responded to signals.

At least, they did until they came up against the one protecting a switching move...

Evidence from the mobile phone itself and a nearby communications mast showed that the driver had used his phone twice just before the collision.

Aftermath

The TSBC's report – coupled with CP's own investigation – led the freight operator to dismiss the driver and guard. The driver later pleaded guilty to a charge of 'Dangerous Operation of a Vehicle'. He was fined \$500 and ordered to pay a victim surcharge of 15%. He also apologised to the people of Golden for the inconvenience his actions caused them.

A CP spokesman said that the accident was caused by crew errors and served as 'a clear reminder' why the safety of its employees, passengers and neighbours 'must be an ongoing commitment.'

'A detailed safety investigation was completed by our company,' he went on, 'which reinforced that CP should continue with a number of Crew Resource Management initiatives to reduce in-cab distraction, enhance communication and focus attention on critical tasks to maintain situational awareness and safe train operations'.

The drugs problem – GB

On 8 January 1991, a passenger train collided heavily with the hydraulic buffer stops at Cannon Street, killing 2 and injuring over 500. Officially, the collision was due to the inability of the driver to operate the train brake successfully. The investigator was 'unable to reach any firm conclusion as to the reasons' for the driver's actions, nor whether his 'use of cannabis as the cause.' Nevertheless the report recommended that legislation be introduced to make it an offence for railway employees with safety responsibilities to be impaired by the consumption of alcohol or drugs (hitherto, only alcohol had been covered). This came into force under the Transport and Works Act 1992.

According to local rules, the use of communication devices must be restricted to matters pertaining to railway operations, and mobile phones must not be used when normal railway radio communications are available.

Continued on Page 18

The mobile question – GB

On 12 September 2008, a commuter service passed a protecting signal at danger and collided head-on with a freight train in Chatsworth, California, at a closing speed of around 85mph. Twenty-five people lost their lives, including the commuter driver himself.

On the day of the accident, he had sent and received several text messages while on duty, the last of which came just 22 seconds before the collision. He had received warnings about improper mobile phone use while in the cab on two previous occasions.

As a result of the accident, the US Federal Rail Agency banned the use of electronic devices in cabs.

In the UK, much work was done, including the development of a new Railway Industry Standard and a train driver education programme on mobile phone risk. For further details, see RSSB's Operational Feedback Update, which may be located by logging in to Opsweb and searching on Chatsworth.



Continued from Page 11
Mobile phones and marijuana

However, in response to the KC Junction accident – and ten further collisions – CP has revised the rules, which now say that employees are prohibited from using personal electronic devices, and that they must be turned off (with any ear pieces removed) and stored out of sight in a location not on their person.

Regarding the drug situation, the CP spokesman added that the company ‘meets or exceeds all regulations in place to ensure safe train operations, [including] pre-employment screening and post-incident drug testing’. However, ‘at present, under Canadian law, no companies (including CP) can administer random drug testing.’

The TSBC’s full report may be found by accessing its website, www.tsb.gc.ca, and searching for report R10V0038.

What can I do with my phone?

Apart from the obvious, you could try...

- Letting friends and family know you can’t use your mobile while working – make arrangements to contact them at a safe and convenient time.
- Setting up a voicemail message. That way, people can contact you and you can retrieve their messages once you’re off duty.
- Switching your phone off and keeping it out of reach. Leaving it on vibrate is a sure way to make it hard to ignore when it does go off!

Of course, it’s not just mobiles – MP3 players, iPods and games consoles offer the same distraction dangers. But don’t complain too loudly about their existence – you’ll sound old fashioned!



looking again at SPADs

Richard Farish
 Operations Standards Manager,
 First Capital Connect

Do you double check signal aspects? At First Capital Connect, we’ve started to identify a recurring feature during some of our SPAD investigations. Drivers do check the signal aspect initially and, for whatever reason, convince themselves that it is showing a proceed aspect. This can be caused by a number of factors, such as the signal normally displaying a proceed aspect.

In response, we’ve developed new posters (shown here) to help remind drivers of the need to double check the signal aspect – to be sure that they’re seeing what’s actually there in front of them.

Our train drivers are proud of their high level of professionalism and competence, and mistakes are very rare. This poster campaign is more of a subtle reminder to help draw attention to the risks from not double checking signal aspects.

These posters are available to download from Opsweb (www.opsweb.co.uk) for anyone who wants to use them for their own operation or route.

For further information contact me on Richard.Farish@firstgroup.com.

SPADtalk with Roger Badger

In 2011, there were 281 category A SPADs across the GB rail network – an improvement of almost 8% on 2010.

High-profile accidents like Southall (1997) and Ladbrooke Grove (1999) have ensured that 'SPAD' is now firmly in the dictionary. In the aftermath of these incidents, our industry took a closer look at the causes of SPADs, the precursors to SPADs and the risks that surround them. Groups were set up nationally and locally to monitor the situation and implement various initiatives to bring the risk down. When this work began, we were seeing over 500 SPADs a year. We now see fewer than 300. The many driving policies and practices brought in by the operating companies have played a crucial part in this, combining with the massive success of TPWS.

We work with a range of signalling technology – from nineteenth-century semaphores and 1930s colour light signals to 1960s multi-aspect colour lights and 1980s radio electric token block equipment.

At the newest end of the signalling spectrum is the European Rail Traffic Management System (ERTMS), which has been in operation on the Cambrian Line in Wales since October 2010. Off Network Rail infrastructure and on to High Speed 1, there's another in-cab signalling system for drivers to deal with.

This makes six different systems that all interface and work together on the network, but which nevertheless present challenges to the maintenance and improvement of the good progress that has been made in SPAD risk management.

But when you think that...

- Only one SPAD occurs for around every 50,000 red signals approached;
- The vast majority of train journeys are therefore SPAD-free; and
- Only a small minority of drivers are ever involved in a category A SPAD...

...it's clear that the professionalism of the driver has been key to this improvement too!

A journey through time

A SPAD was at the root of Britain's second worst accident: Harrow & Wealdstone (1952), when 112 people lost their lives in a three-train collision. First, a sleeper train passed a signal at danger and struck a stationary commuter service. The situation was worsened when an express ploughed into the wreckage.

In more recent times, SPADs at Purley (1989), Bellgrove (1989), Newton (1991), Cowden (1994), Watford (1996) and Southall (1997) have all resulted in train collisions and fatalities. The landmark incident was Ladbrooke Grove, which occurred on 5 October 1999, when a commuter service passed SN109 signal on the approaches to Paddington and collided head-on with an HST at a closing speed of about 130mph. Thirty-one people lost their lives.

The resulting public inquiry made recommendations in signalling design, train crashworthiness, staff training and the need for an independent investigation body. It

Jargon-beater...

...Risk is basically a number obtained from multiplying the number of times something happens by a value given to the likely consequences.

also hastened the introduction of TPWS, which was brought forward by a year, fitment being largely complete by the end of 2003.

Count on it

The graph at the bottom of the page shows that the numbers of SPADs have fallen each year since 1999, but have now levelled out to a rate of approximately 300. More recently, a relatively benign autumn, as well as a decrease in SPADs over the winter, has contributed to this trend.

According to RSSB's latest figures, SPADs now make up a very small portion (0.6%) of all railway risk. In fact, the risk from SPADs has decreased over the past few years and is now around a third of its level five years ago.

But the potential for a category A SPAD to result in a serious incident remains, and as Ladbrooke Grove showed us, it only takes one SPAD. Take care to avoid becoming the next SPAD statistic. Or worse.

Roger Badger joined BR as a signaller in 1982. His career progressed through various signalling, supervisory and managerial positions, before he was appointed to the post of Regional Signalling Inspector, Eastern Region. He is now a Senior Safety Analyst with RSSB, specialising in SPADs and TPWS.





Photo: Peter R Foster IDMA / Shutterstock.com

RAIB

report brief

High-speed passenger train derailment at East Langton, 20 February 2010

In January, the Rail Accident Investigation Branch (RAIB) published its report into the high-speed derailment near East Langton that occurred on 20 February 2010.

What happened?

The Saturday afternoon journey had been uneventful. A prompt departure from St Pancras had let the seven-car East Midlands Trains service keep good time – so much so that Market Harborough was passed three minutes early. After clearing the local speed limit, the driver accelerated the unit to 85 mph and, on reaching the next speed board at Great Langton curve, accelerated further, intending to bring the train up to 100 mph.

At around ten-to-four, the second (powered) wheelset of the fourth vehicle began to behave abnormally, leaving irregular marks on the rail head. The driver felt a slight ‘snatch’, which he associated at the time with temporary engine fuel starvation. Believing all to be well, he continued to accelerate.

However, the carriages behind him had started to sway violently, causing magazines, papers and bags to fly from luggage racks, and composure to fly from passengers, who became increasingly alarmed at the rough ride. The operating

console flashed a warning, suggesting a bogie fault. The driver interrogated the on-board train management system (TMS) and found a hot axle box to be the most likely cause. He knew that Meridians had been suffering from false hot box warnings of late, but more warnings were followed by more warnings and a passcom activation from a worried passenger.

The driver knew he had to stop the train, but hoped to get through the approaching cutting at East Langton. But as the oscillation grew worse, stopping within it became inevitable.

RAIB’s investigation confirmed that one axle had broken as the train was travelling at 94 mph. This caused it to derail and ‘ride the sleepers’. It had run for almost two miles in this state before coming to a stand. It had remained coupled, upright and in line throughout. There were no injuries among the 190 passengers and 5 crew, although there was damage to the track and the train, including a loss of diesel fuel.

What did RAIB say?

RAIB reported that the derailment was triggered by the complete fracture of the powered trailing axle of the bogie in question (see right).

The fracture occurred underneath the gear-side output bearing of the final drive and was caused by this bearing stiffening up so that it couldn’t rotate properly. This generated a lot of frictional heat between the axle and bearing, which resulted in the axle being locally heated to a high temperature and weakened to the point that it could no longer carry its normal loading.

Key evidence about the condition of the bearing and its fit onto the axle was destroyed in the accident. RAIB interpreted the available evidence and concluded that the most likely cause was a loose fit between the gear-side output bearing and the axle.

The Branch noted that the effect of the interference fit of the gear wheel on the ‘gear end’ output bearing was not identified during the design stage. The fact that there were no records of previous failures of this type also meant that – to some extent – they were ‘off the radar’. In addition, the refresher training on alarm handling provided to drivers and on-board train crew

Desborough

On Saturday 10 June 2006, an exterior door on a St Pancras–Sheffield service came open while the train was moving just north of Kettering, causing the train’s brake to apply automatically. However, the driver initially overrode this, as indications in the cab of the ‘Meridian’ unit were ambiguous, and he wasn’t sure what had happened.

When the driver realised the situation, he made a controlled brake and brought the train to a stand at Desborough summit. The door was then closed and secured.

There were no injuries or material damage as a result of the incident. However, the fact that the door was open while the train was moving presented a real and unprotected risk to those on board.

after the incident at Desborough in June 2006 ‘did not adequately cover handling safety critical alarms and out-of-course situations.’



RAIB made four recommendations, two of which relate to the need to review the design and overhaul procedures for final drive gearboxes on Meridians, including a consideration how overheating output bearings are detected. Another recommendation relates to the oil sampling regime used for the Meridian fleet, while the fourth deals with the provision of practical, simulation-based alarm handling training for drivers and train crew.

What did the TOC do?

One of the things East Midlands Trains (EMT) did after the accident was take another look at the operating instructions it gives to drivers about what to do when the TMS returns an alarm and displays a red 'bogies fault' lamp. The original instruction, to stop the train at the first suitable location, did not prevent drivers from proceeding to the suitable location at high speed. Consequently, EMT clarified the instruction as follows:

'In the event of a bogie fault light illuminating, an audible level 3 alarm will activate. On receiving this warning, the driver must bring the train to a stand immediately. If the location at which the train would come to a stand is not considered to be safe and suitable (as defined within the Rule Book), then the driver must reduce speed to no more than 10 mph in order to bring the train to a halt at the first safe and suitable location that does meet this criteria.'

East Langton also formed the main incident reconstruction in RED 32, which also featured interviews with the driver himself, the customer host, the train manager and the head of operations strategy and implementation at EMT.



Article prepared by Greg Morse



The lowdown: Dave Bennett

Name: Dave Bennett

Position: ASLEF Health and safety advisor

Describe a typical day for you:

That is a difficult question! It can vary: sometimes I respond to enquiries from ASLEF Reps – by telephone, email or 'snail mail'; sometimes I write reports for the ASLEF Executive Committee. I also attend meetings on behalf of ASLEF and organise training sessions – from booking the venue, to arranging release, and writing and delivering the training.

You're a key member of the industry's Operations Focus Group. What does that involve?

My main task is to make sure that the view of ASLEF and our Train Driver Reps and members is always taken into consideration during discussions.

How long have you worked for the railway?

I have worked for ASLEF for 20 years. However, my father worked for British Rail (BR) at Woking Electric Control, as a telephone operator. My grandfather and great-grandfather worked at the Midland City Depot, just down the road from the ASLEF Head Office. One was a carter, and one a checker.

I also grew up in the 'Southern Railwaymen's Home for Children and Old People', from 1965 to 1974. So all in all I have a continuous family history on the railways since the 1870s!

You must've seen a few changes since then:

The main change has been privatisation. The Government subsidy is now three times more than it was under British Rail. What would have the railway been like if BR had been given that kind of investment?

Where do you see the railway in five years' time?

Still expanding, with more trains, more passengers and, I trust, more freight.

In ten?

Again, still expanding. It's going to be interesting to see what part new technology is going to play in the future, such as ERTMS, or even 'driverless trains'. What I can predict, though, is that an ASLEF member will still be on the front end!

Finally, describe your most memorable railway experience:

The Ladbroke Grove rail crash of 5 October 1999, and the subsequent inquiries (at which I gave evidence).

Until that day, I worked on both industrial relations and health and safety matters for ASLEF. Since that day, I have concentrated on health and safety alone.

Ladbroke Grove

On 5 October 1999, a Paddington–Bedwyn passenger service passed SN109 signal at danger and collided with an incoming high-speed service. Thirty-one people were killed and over 400 were injured. A public inquiry, led by Lord Cullen, highlighted issues with signal sighting, driver training, vehicle crashworthiness, the use of automatic train protection systems and recommended the establishment of an independent Rail Accident Investigation Branch.



delivering the goods on possessions

Photo: DB Schenker

A FOC perspective on keeping both the freight moving and everyone safe

Nick Edwards

Professional Head of Drivers, DB Schenker

Engineering possessions are an integral part of our industry in the 21st century and, as we move towards the ‘seven day’ railway, the safe and punctual delivery of possessions becomes even more important.

Possessions usually go unnoticed by the general public, unless they are travelling at weekends and find their train replaced by a coach – never welcomed as warmly as a rail-borne vehicle. They also notice when things go wrong and they are late for work as a result!

The principles of a safe railway – that trains are kept apart by signals and that people and trains are kept apart from each other – are turned around within possessions.

In a possession, trains are not solely

controlled by signals, but also by radios and hand signals. People have to be closer to trains and road vehicles in order to carry out the majority of tasks on site.

Over time, various initiatives and rules changes have taken place to help eliminate the problems that can be encountered during engineering work. However, incidents are still occurring all-too-frequently.

One of the main reasons for incidents is the driver not getting permission to pass the protecting signal before proceeding to the possession limit boards (PLB). The proximity of the PLBs to the signal and the presence of a hand signaller can result in the driver being misled by instructions from that hand signaller. And of course, the hand signaller cannot give permission to pass the

signal at danger - only the signaller can do this.

In some complex areas (or other locations where authorised), what is known as ‘substandard protection’ can be placed. This is where the 400 metres between the signal and the PLBs cannot be achieved. This type of protection is identified in Section B of the Weekly Operating Notice (WON) with a hash symbol (#). In some cases, the PLBs may be just a few metres from the signal and the hand signaller may be using the signal post telephone to contact the signaller. In all cases, the driver must contact the signaller to obtain permission to pass the signal at danger.

Trains passing through possessions towards the PLBs often encounter different types of level crossings. Before starting



the movement, the PICOP will instruct the driver what actions must be taken at a level crossing. In most cases, this happens without incident however CCTV controlled level crossings have proven problematic. If no attendant is provided and the signal is at danger, the driver must contact the signaller before proceeding.

Leaving both the worksite and the possession can also be problematic if communications are not carried out correctly. Although there are fewer incidents, the impact on the safe railway can be great as engineering trains could enter the 'live' railway without authority. On occasion, the protection has been missing and drivers have continued beyond where it should have been and effectively entered the 'live' railway. The location of the protection and protecting signals are shown in the WON and if drivers are in doubt they should stop and contact the signaller.



Photo: Network Rail

Making movements within a worksite can also increase risk. The proximity of trains to people and equipment means that staff have to establish what is expected very clearly. All movements are made under the authority of the Engineering Supervisor (ES). World-class communications are essential to ensure safety. Adhering to methods of control are also vital as just a couple of seconds can make the difference between safety and an incident. When movements are to be controlled by radio, both parties must be very clear about what their identities are, and if any confusion occurs the movement must be brought to a stand immediately and not restarted until a clear understanding has been reached. Movements must be made at a very low speed.

The preparation of trains in worksites and possessions is also made more difficult by site conditions. Trains often have to leave the site before the main activity has finished; therefore staff should be aware

of any activity of machinery that may be taking place. The nature of the loads can also cause problems. Some of the main issues to have arisen are overloaded trains, incorrectly loaded or secured material and incorrectly prepared plant. It's often very difficult to check the contents of vehicles from the ground, so suitable and safe vantage points (such as overbridges, station platforms) should be considered when checking trains. Always refer to loading patterns when preparing trains conveying track panels and ensure that any residual ballast is removed before the train departs. Specialist plant and equipment that may be in the train formation should be made ready for hauling by the operators, however if staff are in doubt they must seek advice before moving it.

In summary, the keys to safe possession working are world-class communications and attention to detail. Remember who is in control of movements and, even though there may be pressure, always take time to make sure that safety is paramount.

Nick Edwards is Professional Head of Drivers at DB Schenker as well as chair of OFG.

For full information refer to Rule Book Module T3. However the key authorities are shown below:

Passing the protecting signal and moving towards PLBs	Signaller
To pass the PLBs and enter possession	PICOP
To pass worksite marker boards and enter worksite	ES
To pass worksite marker boards and enter possession	PICOP
To pass PLBs and leave the possession	Signaller

USA – 25 January: Staff member falls to death from bridge in St Louis

A Terminal Railroad of St. Louis employee fell through a walkway while working on the MacArthur Bridge in St. Louis, Missouri. The walkway had been loosened for removal; a cone had been placed to prevent usage. The employee sustained fatal injuries.

UK – 28 January: 15-year-old girl killed at footpath crossing

A teenage girl was struck and killed on Johnson's red/green footpath crossing, near Bishops Cleeve, after she walked into the path of a passenger train. RAIB is investigating.

UK – 2 February: Class 90 derails at Bletchley South Junction, driver injured

At 02:28, a light locomotive derailed at Bletchley South Junction while crossing from the Up Slow to the Up Fast line, ending up foul of the Down Fast. The driver was injured and needed medical attention. There was significant damage to the OHLE and track. Both Fast lines were also displaced laterally. In all, over 23,000 minutes' delay was accrued. RAIB's preliminary examination found that the derailment occurred because the locomotive was driven significantly faster than the permitted speed of 15mph over the junction.

Argentina – 22 February: 49 killed in Buenos Aires buffer stop collision

On 22 February 2012, a passenger train struck the buffer stops at Once station in Buenos Aires, during the morning rush hour. At least 49 people were killed and more than 600 were injured. The collision occurred at around 12mph (20km/h), destroying the front end of the train and causing the carriages to 'override' in similar fashion to those involved in the Cannon Street accident of 1991, in which two were killed and 542 were injured when a train of three EMUs (two of Mk I design, one a hybrid based on older stock) collided with the buffer stops at around 10mph.



an alternative route to success

The sectional appendix has been a ‘one-size-fits-all’ paper document for many years – but all that could be about to change...

Paul Sutherland

Operations Principles and Standards Manager, Network Rail

During 2011, we reviewed the Sectional Appendix for the new Wales Route. Rather than simply extract the Table As and associated instructions from the Western Appendix and republish them under another cover, we decided to look at the format, which – in terms of content and general presentation – hasn’t changed since the late 80s, unlike me...

The first thing we did was ask ourselves: ‘could we do better?’ Could we turn the Appendix into a document that’s fit for the modern era, where information is available in multiple formats, including electronic ones?

At the same time, Operations Focus Group (chaired by Nick Edwards of DB Schenker) was looking at how we could improve Route Information. A way forward for sharing data was clearly needed, so we asked whether a new form of Sectional Appendix could provide the answer.

After various discussions, we came up with two main objectives:

1: Increased route information without additional costs whilst retaining duty holder control

By using an electronic format for Table A, we found we could add layers to the pages, similar to Google Earth or other mapping

programs, which would enable us to give additional information to front line staff.

The current paper copy of the Sectional Appendix only lets us provide very basic information on Table A, but electronic formats give the flexibility to view a lot more detail. Extra information about locations, and so on, is already available, but from other websites. We wanted to combine this by putting links to these websites in the Table A. By having these layers and links on each page, extra data regarding a particular location is just a click away – simple! And you don’t have to be an expert in IT to make it work...



Stage One of the project is to make changes to the electronic software to enable NESAs to link with external websites like Opsweb (providing data such as multi-SPAD occurrences), which will be linked to the location on the relevant Table A.

We are currently working to solve some IT issues, but we'll be in a position to start testing the electronic links very soon.

2: More flexible printing arrangements (if required) and lower costs for all duty holders

Printing is an expensive business, so in view of the new electronic format and all the advantages that come with it, do we need to or want to print this new version of the Appendix? Not only is printing expensive, it also means you cannot instantly update the Appendix as you can with a purely electronic copy.

What do you do?

Do you prefer to look at the Appendix on a PC screen or maybe print it yourself on A3, A4, or A5 paper?

We asked ourselves if we could revise the documents and the printing amendments.



We look to build flexibility into the changes so we no longer produce a printed version for you the customer to buy. Instead we will provide you with the document in any format for which the content is available (eg for Table As we could provide a PDF or picture files).

Next steps

In January 2012, Nick Edwards and the Operations Focus Group, who are working on resolving issues with the project, presented our vision for the new Sectional Appendix to the OPSRAM in Wales and they fully support our plans.

We are now looking to produce this new style of Appendix for Wales by June 2012 ready for formal rollout in September. Major changes of this nature usually take years to come to fruition, but I have challenged my team to do this in six months from start to finish. This is not to cut corners, but to recognise we have an opportunity to update and change what we do for the benefit of all who work on the operational front line.

Paul Sutherland is Network Rail's Operations Principles and Standards Manager.



Have a look at these screenshots for an idea of what we are hoping to change. I'm sure you'll agree that this is all radical stuff – especially for a document that is older than me and has certainly changed less than me! More information will be available on Opsweb soon – www.opsweb.co.uk

UK – 16 February: Train strikes van on Pikins UWC

In the early afternoon, a passenger train struck a van on Pikins user-worked crossing, near Talerddig, causing the van to overturn into a ditch. The train remained upright. There were no reported passenger injuries, although the train driver suffered shock. The road vehicle driver sustained serious, but not life-threatening, injuries.

Canada – 26 February: Passenger train derailed after overspeeding on crossover

At around 15:30 (local time) on 26 February 2012, a passenger train derailed on a crossover near Burlington, Ontario. Five carriages left the rails; the locomotive turned onto its side and struck a lineside building. Three members of the crew were killed. Forty-five passengers and one crew member were injured. Investigators have revealed that the train ran through the 15 mph crossover at around 67 mph. They are currently seeking confirmation that the approach signals were working as designed.

UK – 5 March: Transport Police prepare for Olympics at Keighley

On March 5-6, ten members of the BTP's 'policing at heights' team underwent training on the Keighley & Worth Valley heritage railway in readiness for the Olympics. The training involved removing protesters from carriage roofs.

Ireland – 6 March: Dets go off in cab, driver injured

Whilst a metro train was standing at Bray station, a number of detonators exploded in the driver's kit bag, injuring the driver's hands and possibly damaging his hearing. Iarnród Éireann (IÉ) drivers carry ten dets; stocks are replaced every five years; those in question had been replaced just over 12 months ago. A spokesman for IÉ confirmed that the dets had been correctly stored by the driver. As a precaution, it has withdrawn all that were replaced in January 2011. An investigation is under way.

are we on the ^{RIGHT} track?

This is the first ever edition of Right Track – and we hope you enjoy it.

But we want to make sure you're getting something that's interesting and worth reading!

Have we covered the right sort of news and initiatives?

Has this given you some new insights?

What would you like to see in future issues?

Have we set the right tone?

Please get in touch with the production team at Right Track, email

righttrack@rssb.co.uk

we'd love to hear from **you** ...whoever you are!



Don't stay silent,
talk to

CIRAS

the rail industry's confidential reporting system

WHAT IS CIRAS?

CIRAS is an alternative way for rail industry staff to report safety concerns confidentially. If you've tried company channels, or don't feel that you can, CIRAS offers another way of reporting.

WHO CAN REPORT?

CIRAS is available to anyone who works in the rail industry, whether you're operational staff, office based, on-site, trackside, overground or underground.

"Confidentiality has never been compromised"

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www.ciras.org.uk