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Making sure Clapham's lessons aren't hidden

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12 December 2018 will be the 30th anniversary of the Clapham accident. Have we forgotten what we learnt?

Eight minutes. Eight minutes from Clapham to Waterloo. I am on a train. Everything seems normal. It always does. I travel into the city with a million Reginald Perrins and Nicola Borings every day. We always get to our offices. We always moan. But back in 1988 we might not have made it at all. Back in 1988, a wrongside signal failure led to a multi-train collision that killed 35 people. Eight minutes from Clapham to Waterloo. Eight minutes, yet it's also thirty years. All-too-easy to forget what we knew thirty years ago…

Clapham resulted from an under-trained, over-worked technician leaving a bare wire dangling instead of cutting it back, tying and insulating it. A fortnight later – on 12 December 1988 – further work jolted the wire, causing it to touch a terminal, make a connection and prevent a signal from returning to danger after the passage of a train.

Later that morning, a crowded passenger train collided with the rear of another that had stopped at a

signal just south of Clapham Junction. Another collision then occurred with an empty train travelling in the opposite direction. Thirty-five people died; 484 more were injured.

As we all know – or should know – Clapham was subject to a public inquiry. That inquiry, chaired by Anthony Hidden QC, would reveal issues around fatigue, training, reorganisation, communication channels and a complacent attitude to safety.

The inquiry had barely begun when there were two more fatal train accidents, just two days apart in March 1989. This time, signals passed at danger (SPADs) were the cause: at Purley, where 5 people were killed and 88 were injured, and Bellgrove Junction, where the driver and a passenger were killed, and 53 more were hurt.

As Hidden would write: 'the appearance of a proper regard for safety was not the reality. Working practices, supervision of staff, the testing of new works […] failed to live up to the concept of safety. They were not safe, they were the opposite'. Reorganisation had not caused the situation, but failed to 'come to grips' with it.

Regarding fatigue, the technician had undertaken constant, repetitive work and excessive levels of overtime, both of which had 'blunted his working edge'. To be more explicit, he'd had one day off in the previous 13 weeks. Among the report's many recommendations was one to 'ensure that overtime is monitored so that no individual is working excessive levels of overtime'. This led to the development of criteria for what was considered acceptable levels of working and a process to monitor it. New processes and instructions were also introduced regarding the installation and testing of signalling works.

Regarding safety culture, it was recommended that 'British Rail continue to press ahead with its Total Quality Management Initiative and the application of British Standard BS5750'. Originally termed 'Organising for Quality', this led to a greater focus on business-led 'profit centres' within BR's Sectors, but also (to quote historian Terry Gourvish) 'involved the identification of very clear lines of responsibility for safety […] validated by the Safety & Standards Directorate'. BR's 'holistic' structure made this a relatively straightforward process and thus a generally safe railway was handed over when Railtrack took control of the track and signalling at the start of privatisation in 1994. As 35 had died and as the British Railways Board was fined £250,000 for breaching the Health and Safety at Work Etc Act, we might say these lessons were hard won. Hard won lessons tend to stick.

And yet, corporate memory exists only while we remember it, and over the Christmas and New Year period of 2016/17, we seemed to forget. At this time, extensive resignalling and track remodelling work was being carried out in and around Cardiff Central. Some of the new layout was brought into use on 29 December. At 08:37 that day, the driver of a Treherbert service noticed that the points his train was about to take were not in the correct position. He stopped the train just before reaching them.

RAIB would conclude that the points had been left in this 'unsafe condition' because they hadn't been identified as needing to be secured by the point securing team. Furthermore, no one had checked that all the points that needed to be secured during the works over the Christmas period had actually been secured. Route proving trains had also been cancelled, and a work group culture had developed between long standing members of the project team that led to 'insular thinking about methods of work and

operational risk', meaning that team members 'relied on verbal communications and assurances'. The Branch also felt ineffective fatigue management to be a possible underlying factor.

Simon French, RAIB's Chief Inspector, drew a clear line from Cardiff back to Clapham, pointing out 'how easily things can go wrong when railway infrastructure is being upgraded and renewed,' pointing out the importance of managing the working hours of people doing the job 'when organising intensive periods of commissioning work'. 'Back in 1988,' he went on, 'the disastrous collision at Clapham Junction happened in part because working for weeks on end without any days off was part of the culture in some areas of the railway'. The events at Cardiff showed 'how easy it is to forget the lessons of Clapham and slip back into those habits under the time pressures of a big commissioning'.

One can only agree. But there's more… A few months later – in August 2017 – a train departed Waterloo on a green, but was incorrectly routed and collided with an engineer's train on the adjacent line. Luckily the driver saw the way the points were set and managed to brake, meaning the collision occurred at low speed and resulted in no injuries. Modification to the wiring of the point detection circuits meant that a 'desk' set up to aid testing no longer simulated the detection of the points in question correctly…because it hadn't been modified to account for changes made to the detection circuit.

On the weekend of 12/13 August 2017, while trains had been stopped from running on the lines leading to the points, a temporary wiring "mod" was made in the relay room in an attempt to restore the correct operation of the relevant switch on the test desk. But the mod wasn't reviewed by a signalling designer and was wrongly left in place when the railway was returned to operation on the morning of 14 August.

Not only could we quote Mr French again here, we could quote Mr Hidden again too. In short, it's all about understanding and managing risk. Hidden suggested BR had become almost blind to the risk from wrongside failures, contrasting it with its focus on SPAD risk. BR was probably right to put proportionately more focus on SPAD risk in the late 1980s, but not to the exclusion of wrongside failures (or any other hazard, come to that). Indeed, there'd been a number of "Claphams in the making" that a greater emphasis on learning from operational experience might have highlighted. More specifically, there'd been a 'cluster' of wrongside failures in November 1985, during the installation of new signalling. Most worryingly, a signal at Oxted had shown green when it should not have done, because a relay had been energised irregularly, a fault which would have been discovered by a wire count, but – as with Clapham three years later – no such count had been undertaken. Worse still, the resulting 'flurry of paperwork' provided important information, but was shared with very few people and therefore did not feature in anyone's thinking during the work at Waterloo.

We all know we can increase the accuracy of our risk picture by collecting, analysing and learning from information, not just about accidents but also their precursors and the activities that prevent them. The thing is, as Cardiff and Waterloo remind us, data and information – from the past and the present – are only any use if we analyse results, understand what they mean and act on them…out on the railway, not just on paper…