



Annual SPAD count down to 294.

Introduction

This is a four-page summary of the category A signal passed at danger (SPAD) and train protection and warning system (TPWS) activity Q1-2009 report. For further information please refer to www.opsweb.co.uk. All Rail Safety and Standards Board (RSSB) publications are freely downloadable from the RSSB website at www.rssb.co.uk.

Key Facts: Q1-2009

Quarter 1:	59 category A SPADs during Q1, which is 31 fewer than Q1 2008, which is 34% better. Q1-2009 was also 20% better than the three-year average of 74.
Risk ranking:	18 SPADs were risk ranked 16 or above (Two of which were risk ranked 20+). This compares to 22 in 2008 (of which five were risk ranked 20+).
TPWS:	Nine TPWS interventions (TPWS applied the brakes before, or in the absence of, driver action). 25 TPWS activations (the driver initiates braking before the system). There were no 'reset and continue' events.
Multi-SPADs:	17 SPADs by multi-SPAD drivers (two or more since qualifying as a driver), Five of which register within the current five-year period. 15 SPADs at multi-SPAD signals (two or more within the current five-year period).

All category A SPADs

In Q1-2009 there were 59 SPADs, equalling the lowest figure for that quarter. This compares with 90 during Q1-2008, which represents a 34% improvement. It is also 20% better than the three-year average of 74.

Chart 1 - All category A SPADs – monthly variation

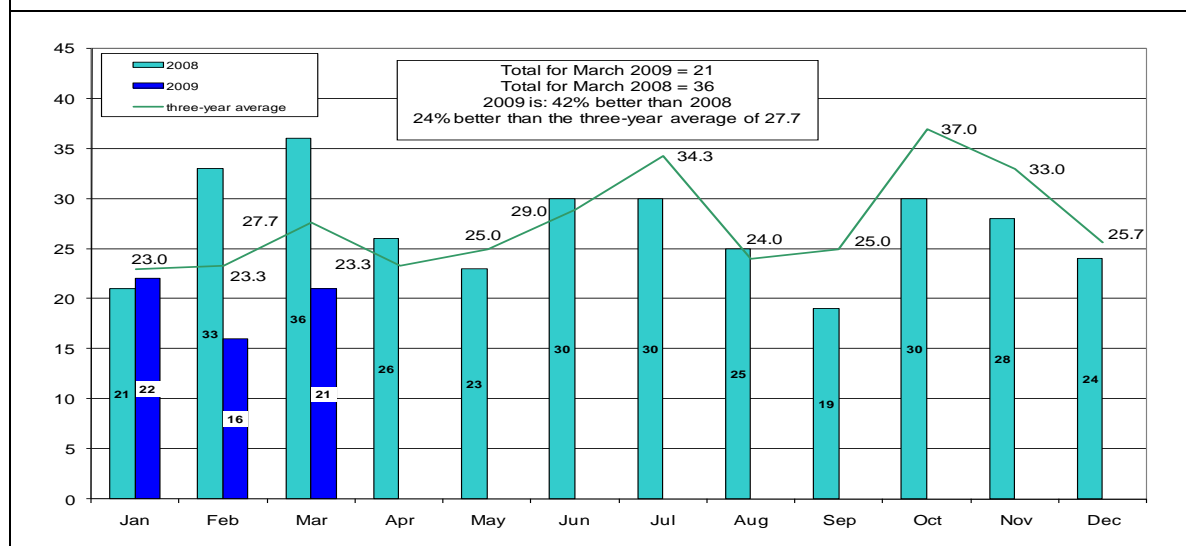
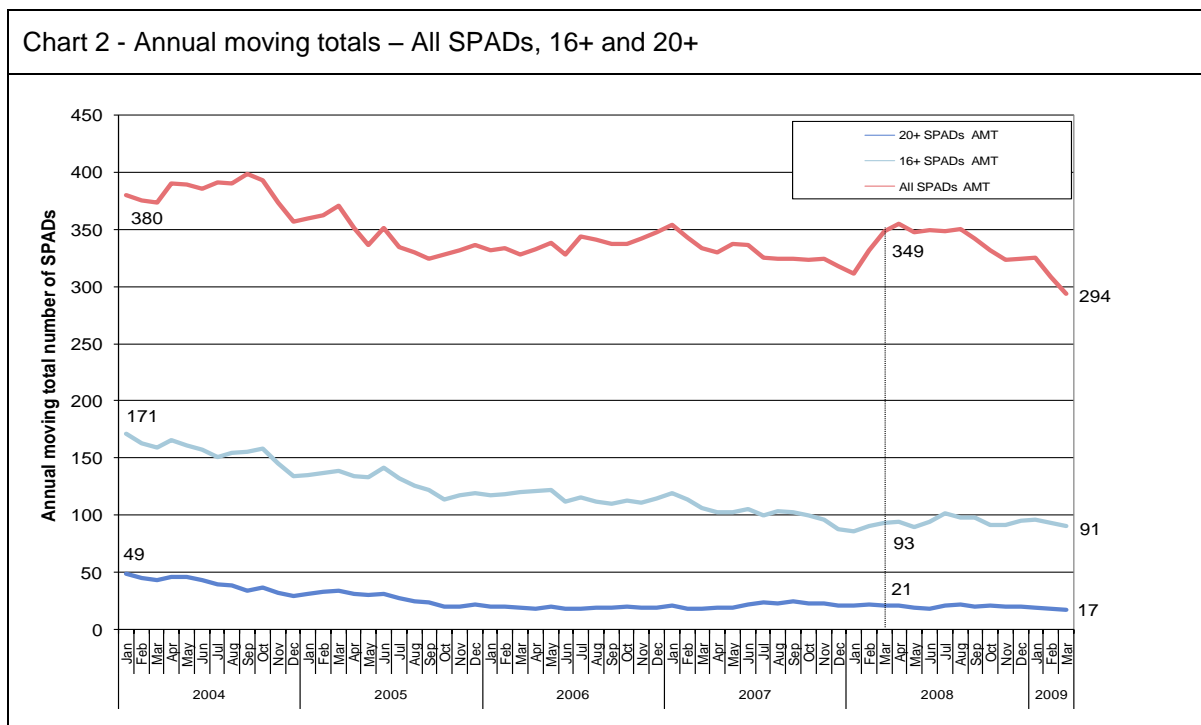


Chart 1 shows the marked increase in SPAD numbers during the early part of 2008, which has been discussed in previous editions of this report. SPAD numbers in Q1 2009, however, were more in keeping with normal expectations and were the same as during Q1-2007.



Comparison of annual moving totals

It may be seen from Chart 2 that the annual moving total (AMT) for ‘all SPADs’ has been decreasing since reaching a peak, following the sharp upturn during the early part of 2008. As at the end of Q1 2009 this AMT had fallen to 294, which is the lowest recorded figure.

Ten years ago, at the end of the financial year 1998/9 and prior to the Ladbroke Grove collision, the total had increased slightly to 681 (having previously reached a peak of 881 at the end of December 1989). This equates to a 57% reduction in SPAD numbers over the ten years 1999-2009.

After a four year period where the industry experienced a 22% reduction in Category A SPADs, it is disappointing that the year end total for 1998/99 has seen a reversal of this trend with a 6% increase from 639 SPADs for 1997/98 to 681 SPADs for 1998/99.¹

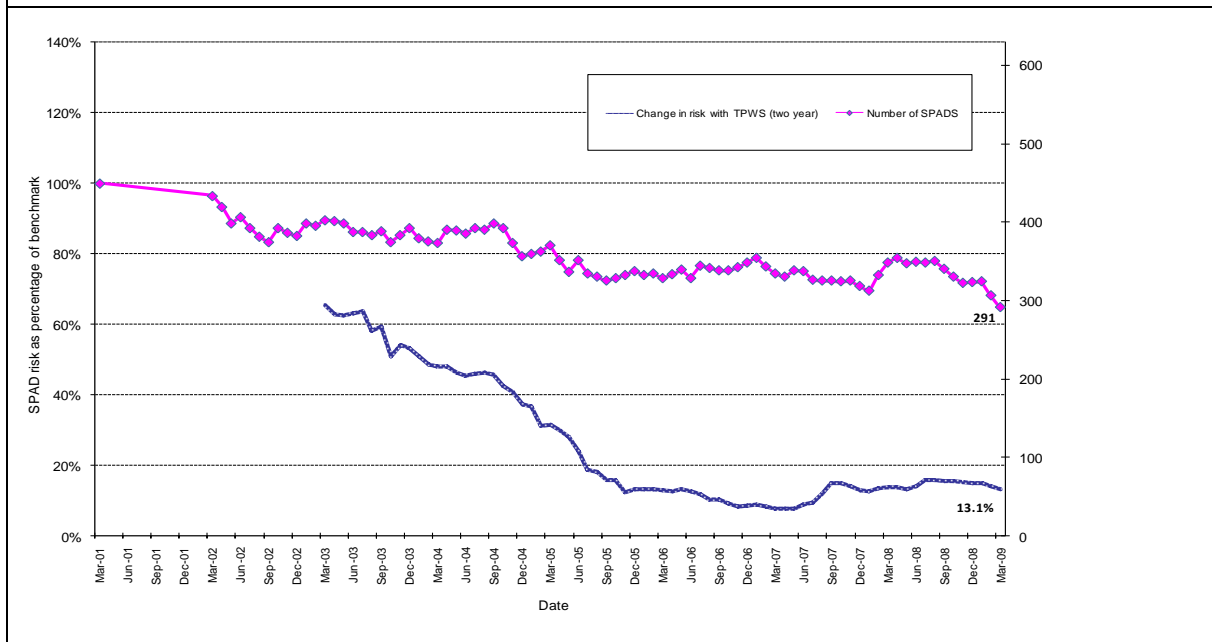
The normalised SPAD rate was 2.67 at that time, and is 0.67 for Q1-2009. This normalised figure gives a more meaningful indication of the reduction in SPADs over the past decade, representing a 75% improvement.

SPAD risk.

Chart 3, which shows the change in SPAD risk over time, is based on all available SPAD rankings up to 31 March 2009. At the end of 2008, the level of risk was 15% of the March 2001 baseline, having risen from 13% over the year 15%. As at the end of Q1-2009, it has decreased to 13.1%.

¹ Cited from *Red Alert Number 6*, June 1999

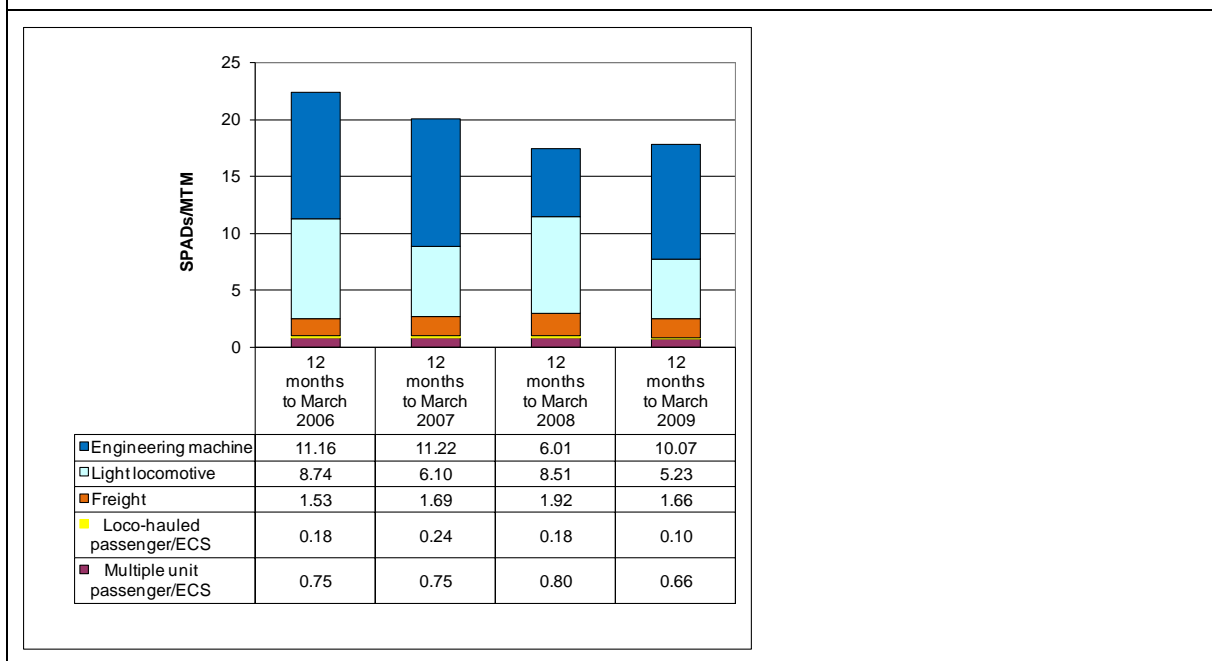
Chart 3 - Change in SPAD risk over time



SPADs by Traction Type

Chart 4 shows the number of SPADs, for each year of the last four years, by traction type, normalised by million train miles. It shows that multiple unit (MU) stock has the smallest SPAD rate, despite having the greatest numbers of SPADs. Those involving Freight trains have a rate higher than passenger stock, whereas those involving light locomotives and engineering machines have the highest SPAD rates when compared to other traction types.

Chart 4 - SPADs by traction type - normalised by train miles



SPAD performance by Route

Table 1 shows the average annual moving total number of SPADs for each route, for both 'all SPADs' and 16+ SPADs, and makes a comparison with the same point last year. The decreases in all SPADs shown by London North Eastern, Scotland and Western Routes, as well as the increases in 16+ SPADs shown by London North Western and Anglia Routes, are all statistically significant at the 90% confidence level.

Table 1 SPAD performance by Route

AMA	Route	Annual moving total March 2009	Annual moving total March 2008	Difference in annual total	%age change in annual rate	Annual change significant?
All SPADs	Anglia	30	39	9	30%	-
	Kent	42	28	-14	-33%	-
	London North Eastern	62	43	-19	-31%	Yes
	London North Western	59	70	11	19%	-
	Midland and Continental	13	11	-2	-15%	-
	Scotland	39	21	-18	-46%	Yes
	Sussex	13	12	-1	-8%	-
	Wessex	33	31	-2	-6%	-
	Western	58	39	-19	-33%	Yes
16+ SPADs	Anglia	5	15	10	200%	Yes
	Kent	10	10	0	0%	-
	London North Eastern	13	11	-2	-15%	-
	London North Western	13	24	11	85%	Yes
	Midland and Continental	4	1	-3	-75%	-
	Scotland	11	9	-2	-18%	-
	Sussex	3	2	-1	-33%	-
	Wessex	14	8	-6	-43%	-
	Western	20	11	-9	-45%	-

TPWS 'reset and continue'

There have been no post-SPAD 'reset & continue' incidents during Q1-2009.

As at the end of March the proportion of the last 50 interventions which were 'reset and continue' events stood at 4%.

Further information:

Please refer to www.opsweb.co.uk for further data. The site contains a spreadsheet containing every SPAD event since 1998, and is updated monthly.

If you would like to discuss any of the material contained in the SPAD report, please contact: Roger Badger, Senior Safety Intelligence Analyst, roger.badger@rssb.co.uk