



## *SPAD numbers improve, but SPAD risk increases.*

### Introduction

This is a four-page summary of the category A signal passed at danger (SPAD) and Train Protection and Warning System (TPWS) activity report for quarter 3 (July – September) 2008. For further information please refer to [www.opsweb.co.uk](http://www.opsweb.co.uk). All Rail Safety and Standards Board (RSSB) publications are freely downloadable from the RSSB website at [www.rssb.co.uk](http://www.rssb.co.uk).

### Key Facts: July - September 2008

Overall:	75 category A SPADs during Q3, which is seven fewer than Q3 2007. 245 SPADs, against 219 to the same point last year. 345 SPADs in the 12 month period ended 30 September 2008, compared to 325 the previous year.
Risk ranking:	27 SPADs were risk ranked 16 or above (nine of which were risk ranked 20+). This compares to 22 in 2007 (of which six were risk ranked 20+).
TPWS:	11 TPWS interventions (TPWS applied the brakes before, or in the absence of, driver action). 28 TPWS activations (the driver initiates braking before the system). Three where the TPWS involvement is unknown. There were no 'reset and continue' events. * <sup>1</sup>
Multi-SPADs:	17 SPADs by multi-SPAD drivers (two or more since qualifying as a driver), 4 of which register within the current five-year period. 22 SPADs at multi-SPAD signals (two or more within the current five-year period).

### All category A SPADs

Chart 1 shows that there were 19 SPADs in September 2008, following 30 and 26 during July and August respectively. This was nine fewer than in September 2007: a 32% improvement. It was also 34% better than the three-year average of 29.0.

The total for the year to date (January to September) 2008 is 245, which compares to 219 at the same point in 2007, representing an increase of 12%.

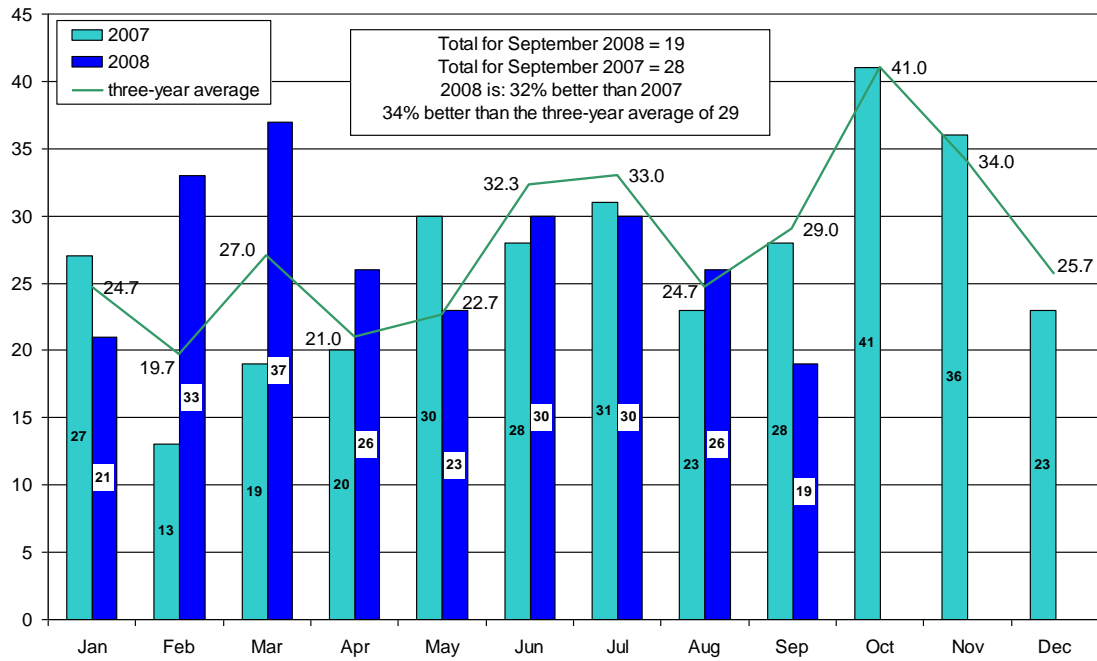
Following the increase in SPADs during the earlier part of this year, monthly SPAD numbers have been more in keeping with normal expectations.

### Overall comparison of annual moving totals

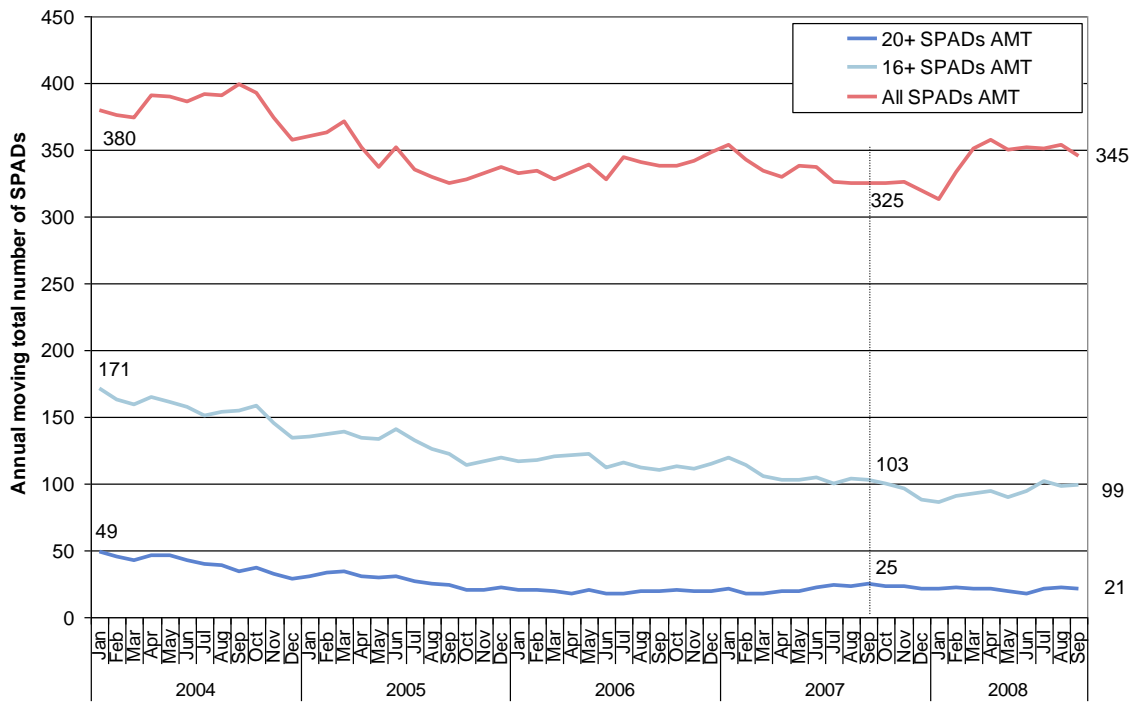
Chart 2 (also on the following page) shows that the annual moving total trend-line for All SPADs, which showed a sharp increase at the start of 2008, has now levelled off, and more recently shown a slight fall. The trend-lines for SPADs risk ranked 16+ and 20+ are remaining generally level. This indicates that the increase in SPAD numbers in early 2008 was predominantly low-risk events.

*Note: \*<sup>1</sup> Although it is not within the scope of this report, it should be noted that there were two reset and continue SPADs during October. These were the first such incidents recorded during 2008.*

**Chart 1 All category A SPADs – monthly variation**

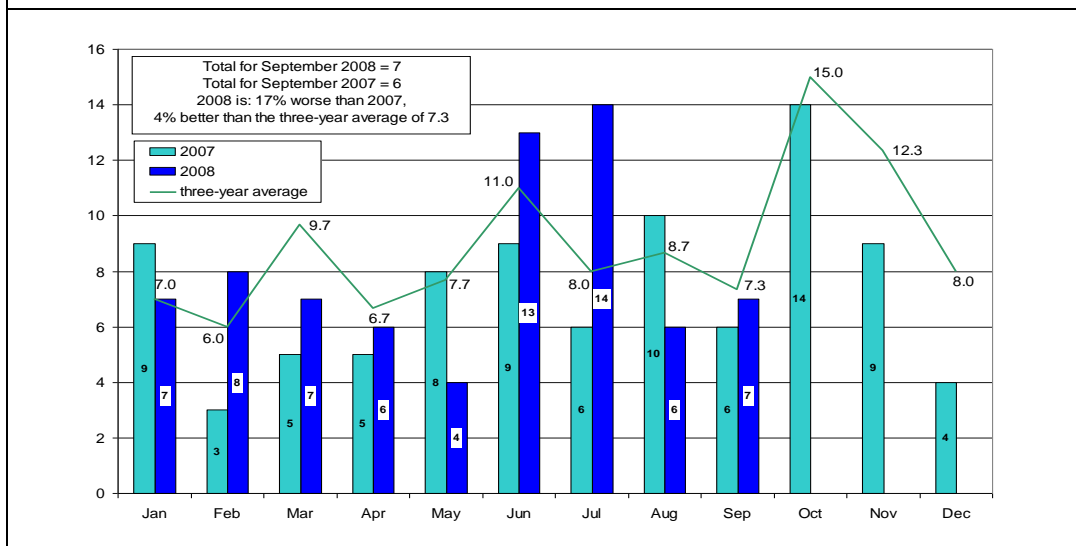


**Chart 2 Annual moving totals – All SPADs, 16+ and 20+**



## SPADs risk ranked 16+

**Chart 3 SPADs with a risk ranking of 16+**



There were 14 SPADs with a risk ranking of 16+ during July, six of which were risk ranked 20+. There were six and seven during August and September respectively. The total number for Q3 was 27 (nine of which were risk ranked 20+). This compares to 22 in 2007 (of which six were risk ranked 20+).

## SPAD performance by route

Chart 3 shows the average annual SPAD rate for each route, for both 'all SPADs' and 16+ SPADs, and makes a comparison with the position as at September last year. The increase in 16+ SPADs shown by Midland and Continental is statistically significant at the 90% confidence level.

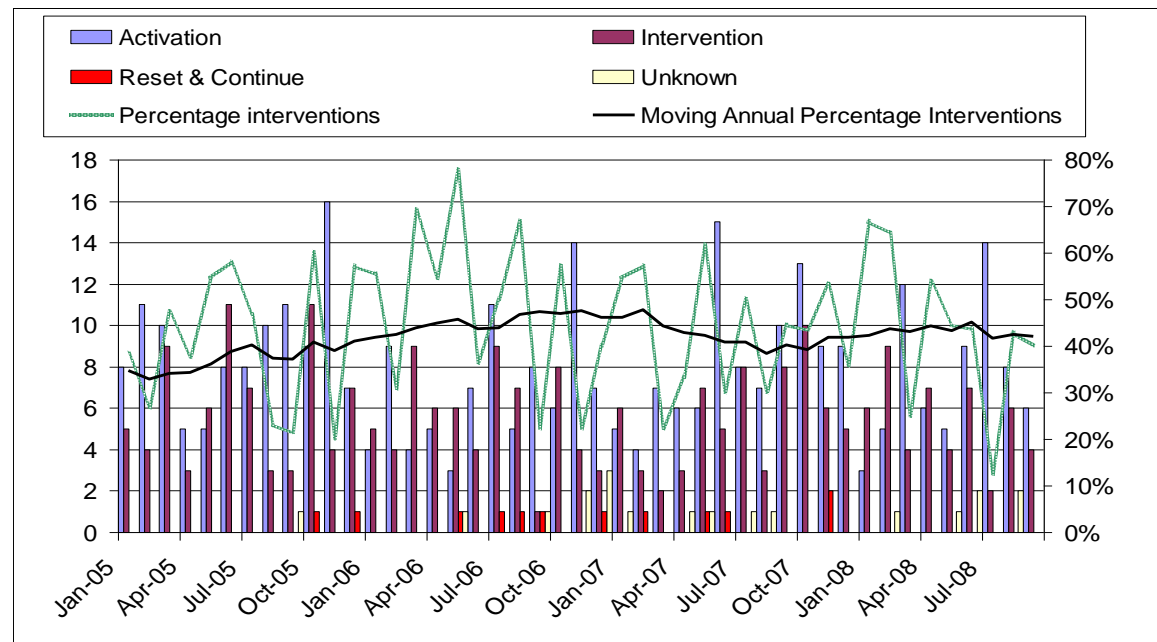
**Chart 4 SPAD performance by route**

AMA	Route	Annual monthly moving total September 2007	Annual monthly moving total September 2008	Difference in annual total	%age change in annual rate	Annual change significant?
All SPADs	Anglia	32	34	2	6%	-
	Kent	37	34	-3	-8%	-
	London North Eastern	52	53	1	2%	-
	London North Western	59	66	7	12%	-
	Midland and Continental	7	15	8	114%	-
	Scotland	36	30	-6	-17%	-
	Sussex	20	13	-7	-35%	-
	Wessex	33	40	7	21%	-
	Western	49	59	10	20%	-
16+ SPADs	Anglia	10	6	-4	-40%	-
	Kent	7	13	6	86%	-
	London North Eastern	15	8	-7	-47%	-
	London North Western	22	18	-4	-18%	-
	Midland and Continental	0	5	5	-	Yes
	Scotland	9	13	4	44%	-
	Sussex	6	1	-5	-83%	-
	Wessex	15	16	1	7%	-
	Western	19	19	0	0%	-

## TPWS brake demands at category A SPADs

Chart 5 shows the numbers of TPWS activations and interventions at category A SPADs. From this it may be seen that the monthly percentage varies considerably, month on month.

**Chart 5 TPWS brake demands at category A SPADs**



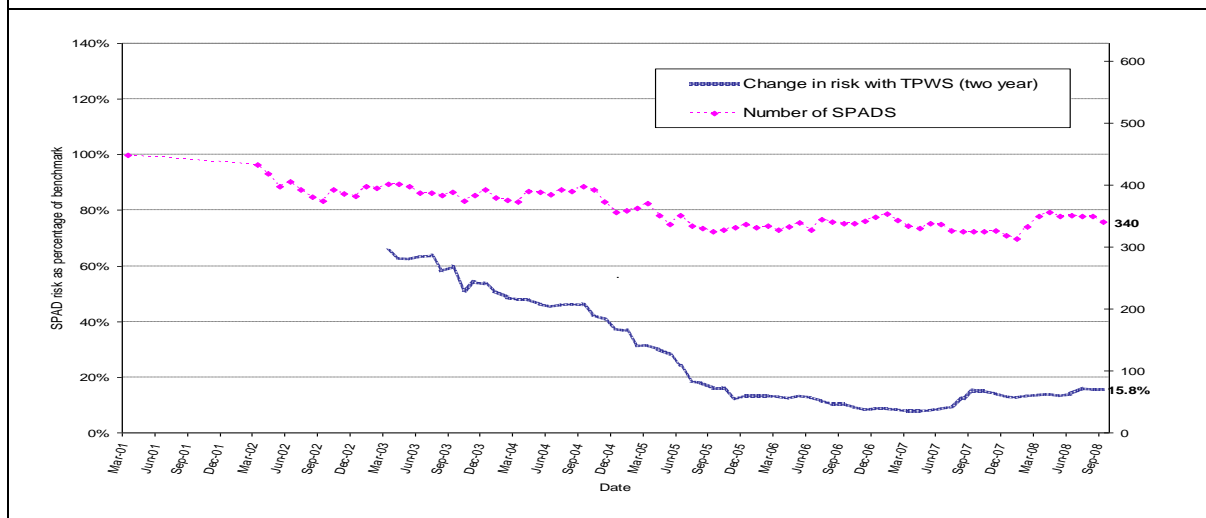
**TPWS ‘reset and continue’ SPADs**

There were no ‘reset & continue’ incidents during January to September 2008. At the end of this period the proportion of the last 50 interventions which were ‘reset and continue’ events stood at 0%.

**SPAD risk**

Chart 6 shows that as at September 2008 SPAD risk stood at 15.8% of the March 2001 benchmark, whereas it was 14% at the end of June. This increase has been caused by the higher numbers of 16+ and 20+ SPADs.

**Chart 6 SPAD risk as at 30 September 2008**



**Further information:**

Please refer to [www.opsweb.co.uk](http://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, Safety Intelligence Analyst, [roger.badger@rssb.co.uk](mailto:roger.badger@rssb.co.uk)