



## *SPAD numbers down to new low<sup>1</sup> of 293*

### **Introduction**

This four-page summary is the April 2009 report for category A signal passed at danger (SPAD) performance and Train Protection and Warning System (TPWS) activity. For further information please refer to [www.opsweb.co.uk](http://www.opsweb.co.uk). All RSSB publications are freely downloadable from [www.rssb.co.uk](http://www.rssb.co.uk).

### **Key Facts: April 2009**

Overall:	25 category A SPADs, which is one fewer than April 2008. 293 SPADs in the 12 months to the end of April, against 355 in 2008.
Risk ranking:	Four SPADs were risk ranked 16 or above (One of which was risk ranked 20+). This compares with six during April 2008 (One of which was risk ranked 20+).
TPWS:	Eleven TPWS interventions (TPWS applies the brakes before, or in the absence of, driver action). Six TPWS activations (the driver initiates braking before the system).
Multi-SPADs:	Seven SPADs by multi-SPAD drivers (two or more since qualifying as a driver, inc. this event), three of which register within the current five-year period. Three SPADs at multi-SPAD signals (two or more within the current five-year period).

### **All category A SPADs**

There were 25 category A SPADs during April: four more than March but one fewer than in April 2008. It is slightly higher than the three-year average for April of 22.7.

This brings the annual monthly moving total, as at the end of the month, to 293 compared to 355 at the same point in 2008. This is the lowest annual monthly moving total since the systematic collection of SPAD data began in 1985 and the second month running it has been below 300.

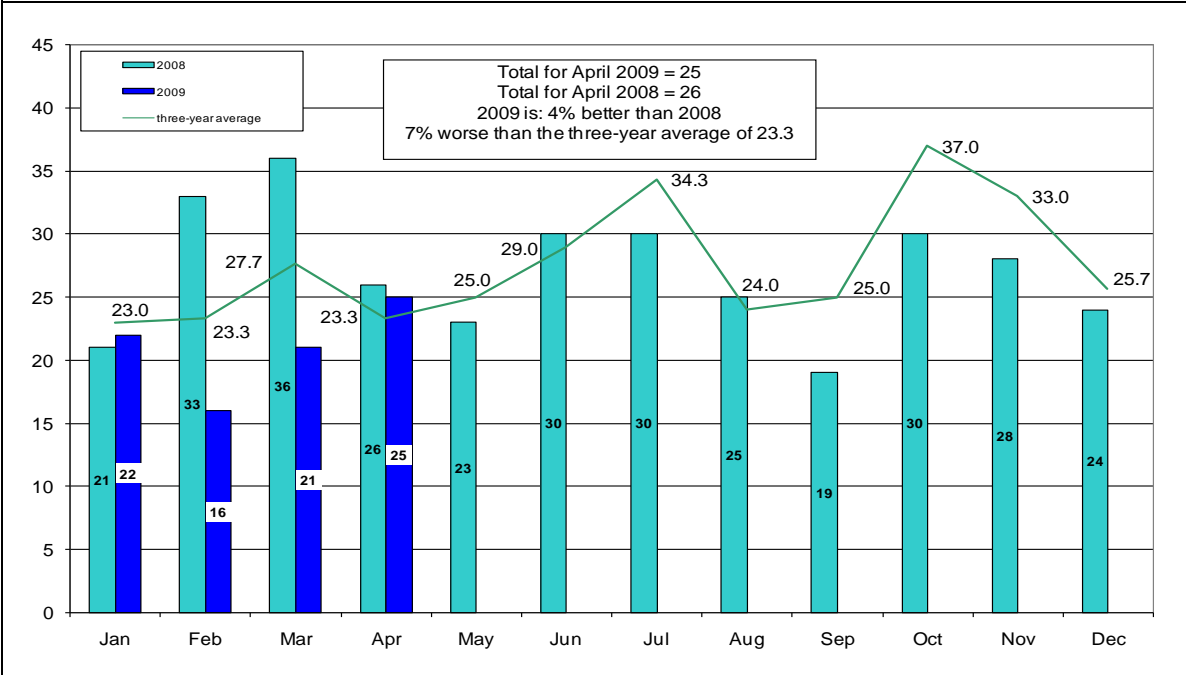
There were four SPADs risk ranked 16+ during April, one of which was 20+ (The first such since January).

### **TPWS 'reset and continue' SPADs**

There have been no 'reset & continue' incidents during 2009. The most recent incident was on 21 October 2008.

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

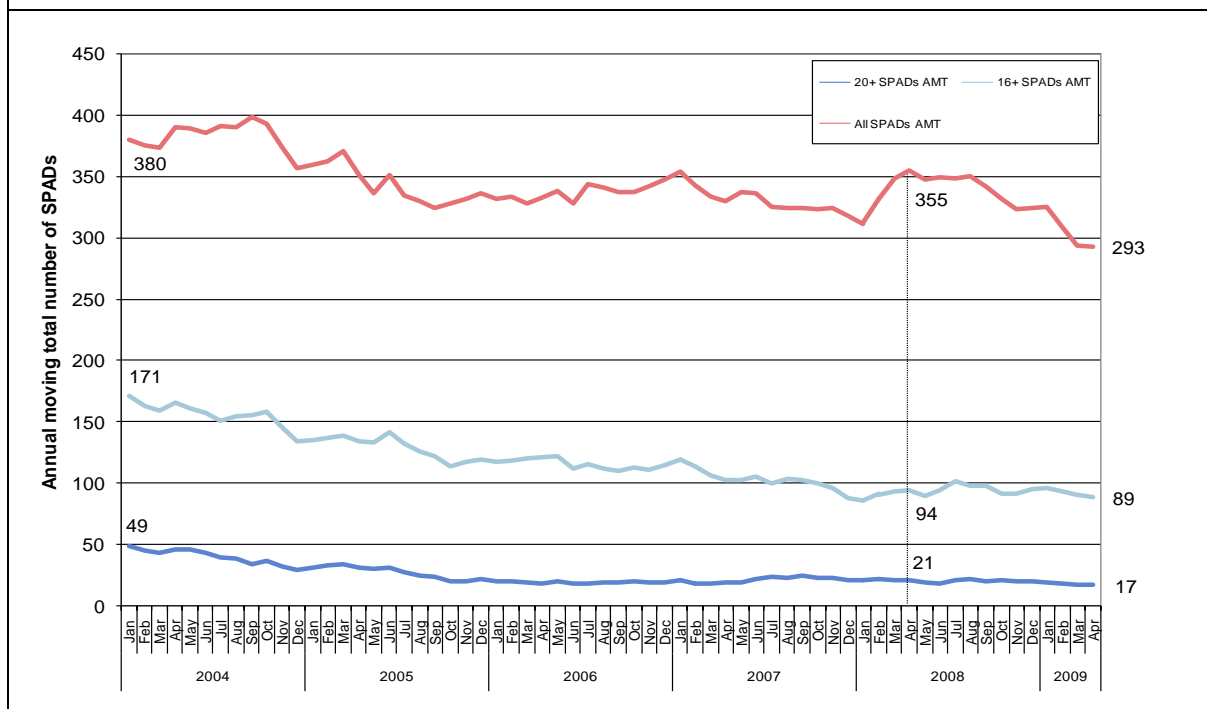
**Chart 1 All category A SPADs – monthly variation**



**Overall comparison of annual moving totals**

Chart 2 shows that the annual moving total for All SPADs, along with that for those risk ranked 16+ and 20+. It may be seen from this chart that the total has been below 300 for the past two months, and that as at the end of April, this figure was at its lowest<sup>1</sup> point.

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



## SPADs risk ranked 20+

There was one SPAD with a risk ranking of 20+ during April. Details are as follows:

- SPAD risk ranking 20 - On 21 April, a passenger train passed A7 signal at danger on the Up line at Sole Street (Kent) by 44 yards. The main reasons for the high risk ranking of this SPAD are that: (a) the probability of a collision was high because, in the absence of TPWS being fitted at the signal, the probability of the train reaching the conflict point was governed solely by driver action and (b) the consequences, had a collision occurred, could have been high due to the possibility of a collision between two heavily loaded passenger trains where the permissible speed is 80mph.

## SPAD risk

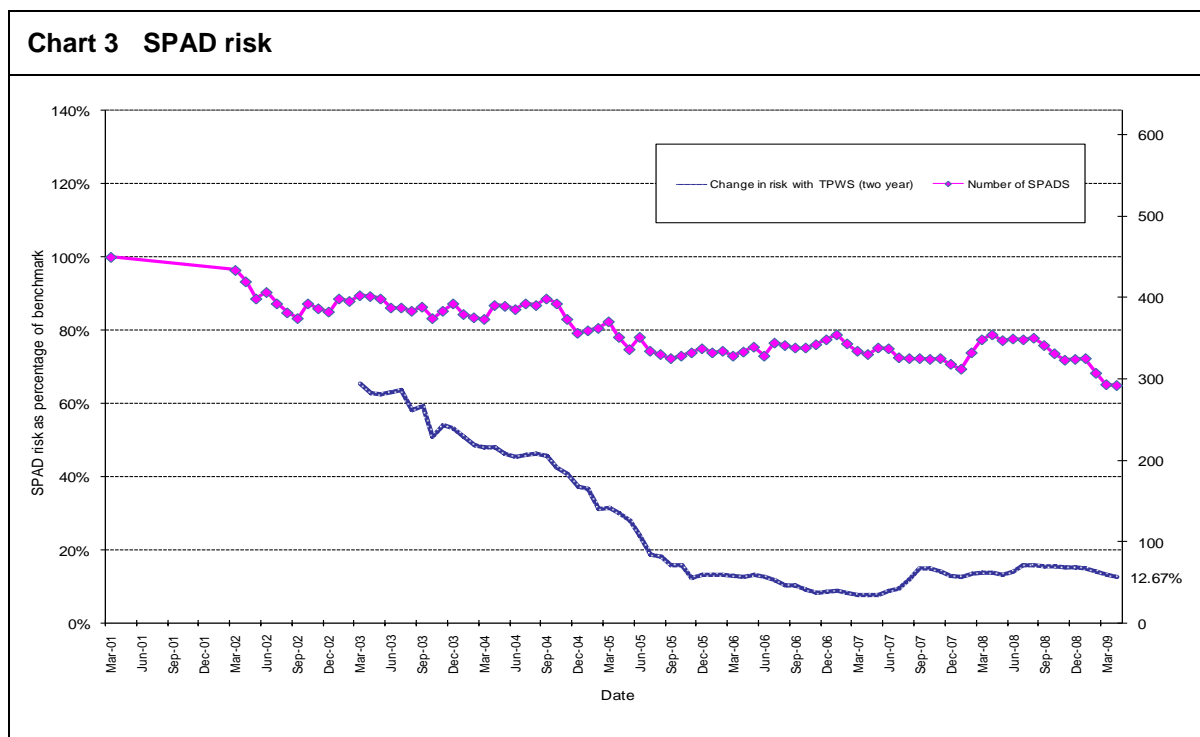


Chart 3 shows the annual monthly moving total (AMMT) number of SPADs since March 2001 and the risk from SPADs over the same period. It may be seen that the AMMT has fallen over recent months. This has been mainly due to the raised SPAD numbers which were experienced during Q1-2008 having now been removed from the AMMT figure.

The risk from SPADs has continued to decrease and is now 12.67% of the March 2001 benchmark level. It is, however, higher than its lowest level of 7.74%, which was achieved at the end of March 2007.

It should be noted that Chart 3 includes SPADs which come within the definition of 'On or affecting a running line'. This is a slightly different set of SPADs to those reported on elsewhere.

## SPAD performance by Railway undertaking

Chart 5 shows the SPAD performance of each of the Railway Undertakings (RUs), normalised by million train miles run. This allows a comparison of RU SPAD performance over time, between RUs and national SPAD rates at the top of the table.

Chart 4 SPAD performance by Railway Undertaking																		
Data as at the end of April 2009																		
National rate	Rate per MTM all						Rate per MTM 16+						Rate per MTM 20+					
	2004	2005	2006	2007	2008	2009	2004	2005	2006	2007	2008	2009	2004	2005	2006	2007	2008	2009
Total	1.01	0.96	0.97	0.93	0.94	0.71	0.37	0.34	0.32	0.25	0.28	0.19	0.08	0.06	0.05	0.06	0.06	0.03
Passenger/freight train operators	Rate per MTM all						Rate per MTM 16+						Rate per MTM 20+					
	2004	2005	2006	2007	2008	2009	2004	2005	2006	2007	2008	2009	2004	2005	2006	2007	2008	2009
Arriva Trains Wales	0.43	0.59	0.58	0.29	0.49	0.21	0.23	0.12	0.11	0.14	0.14	0.00	0.00	0.00	0.00	0.04	0.04	0.00
c2c	1.25	1.49	0.26	0.00	0.49	0.70	0.50	0.50	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chiltern Railways	0.19	0.74	0.00	0.34	0.50	0.48	0.00	0.19	0.00	0.17	0.17	0.00	0.00	0.19	0.00	0.17	0.00	0.00
CrossCountry	0.56	0.45	0.28	0.50	0.32	0.30	0.34	0.28	0.11	0.11	0.16	0.00	0.00	0.06	0.00	0.00	0.00	0.00
DB Schenker	2.57	2.27	2.31	2.10	2.78	2.60	0.57	0.63	0.58	0.26	0.52	0.80	0.08	0.04	0.27	0.11	0.17	0.20
Direct Rail Services	1.21	0.00	0.00	1.29	2.49	1.93	0.00	0.00	0.00	0.64	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
East Midlands Trains	0.95	0.92	0.76	0.27	1.04	0.00	0.41	0.31	0.30	0.00	0.32	0.00	0.00	0.15	0.15	0.00	0.08	0.00
Eurostar	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
First Capital Connect	0.74	0.48	0.74	0.87	0.74	1.16	0.12	0.21	0.14	0.20	0.14	0.39	0.00	0.00	0.00	0.13	0.00	0.00
First GB Railfreight	2.07	0.77	2.72	2.45	1.65	2.98	0.00	0.00	2.04	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
First Great Western	0.54	0.36	0.55	0.94	0.69	0.34	0.27	0.12	0.24	0.27	0.27	0.00	0.12	0.00	0.00	0.04	0.08	0.00
First Hull Trains	1.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
First ScotRail	0.83	0.78	0.95	1.08	0.53	0.58	0.58	0.21	0.25	0.29	0.20	0.00	0.08	0.04	0.04	0.12	0.04	0.00
First Transpennine Express	0.24	0.25	1.15	0.55	0.31	0.60	0.12	0.12	0.46	0.00	0.21	0.60	0.00	0.00	0.12	0.00	0.10	0.00
Freightliner	2.01	1.37	1.58	1.00	1.80	0.57	0.83	0.53	0.32	0.20	0.38	0.28	0.12	0.00	0.00	0.00	0.09	0.00
Gatwick Express	0.66	0.00	0.67	0.00	0.00	0.00	0.66	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heathrow Connect	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heathrow Express	0.99	5.19	2.14	0.00	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
London Midland	0.00	0.00	0.00	4.41	0.74	0.63	0.00	0.00	0.00	1.89	0.16	0.00	0.00	0.00	0.00	0.63	0.08	0.00
London Overground	0.00	0.00	0.00	21.08	1.40	0.00	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
London Underground	3.34	2.82	2.73	2.33	1.71	1.42	0.00	0.47	0.91	0.47	0.29	0.71	0.00	0.00	0.45	0.00	0.29	0.00
Merseyrail	1.59	1.38	1.66	1.38	1.08	1.60	1.06	0.28	0.28	0.00	0.00	0.00	0.27	0.28	0.00	0.00	0.00	0.00
National Express East Anglia	1.08	1.02	1.06	0.91	1.09	1.18	0.22	0.31	0.35	0.25	0.40	0.44	0.00	0.05	0.05	0.10	0.10	0.00
National Express East Coast	0.42	0.35	0.26	0.51	0.08	0.24	0.34	0.26	0.09	0.26	0.00	0.24	0.08	0.17	0.00	0.00	0.00	0.00
Nexus	2.88	0.56	0.00	1.14	0.56	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Northern Rail	1.94	1.19	0.61	0.65	0.90	0.52	0.78	0.61	0.23	0.19	0.15	0.21	0.19	0.15	0.00	0.00	0.04	0.00
Serco Metrolink	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Serco Rail Operations	0.00	0.00	0.00	0.00	5.79	0.00	0.00	0.00	0.00	0.00	1.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
South West Trains	0.62	0.89	1.26	1.18	1.00	0.59	0.21	0.28	0.65	0.49	0.36	0.12	0.04	0.04	0.08	0.08	0.16	0.00
Southeastern	1.13	1.36	1.49	1.48	1.14	0.94	0.31	0.63	0.32	0.47	0.31	0.31	0.05	0.10	0.00	0.11	0.00	0.31
Southern	0.85	0.80	0.56	1.23	0.66	0.97	0.40	0.29	0.22	0.33	0.20	0.14	0.11	0.17	0.06	0.11	0.00	0.00
Victoria Westlink Rail	12.66	10.20	7.85	0.00	0.00	0.00	12.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Virgin West Coast	0.49	0.50	0.43	0.21	0.36	0.28	0.16	0.36	0.14	0.14	0.24	0.00	0.16	0.07	0.00	0.07	0.00	0.00
West Coast Railway	0.00	12.84	5.99	10.06	0.00	0.00	0.00	0.00	0.00	5.03	0.00	0.00	0.00	0.00	0.00	5.03	0.00	0.00

This table is divided into three sections: All SPADs, 16+ SPADs and 20+ SPADs. The national SPAD rates for each risk ranking band are also shown, highlighted in yellow. Those RUs which have a SPAD rate which is lower than the national rate for both 'all SPADs' and for '16+ SPADs' are coloured green. Those with one such rate lower than the national rate, and one higher are coloured orange, whereas those with both rates higher than the national rate are coloured red. The '20+ SPAD' rates are not reflected in the colour coding.

### 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, Senior Safety Intelligence Analyst, [roger.badger@rssb.co.uk](mailto:roger.badger@rssb.co.uk)