



SPAD risk down to new low: 6.1% of benchmark

Introduction

This is a four-page summary of the category A signal passed at danger (SPAD) and train protection and warning system (TPWS) activity Q3-2009 report. For further information please refer to www.Opsweb.co.uk. All RSSB publications are freely downloadable from www.rssb.co.uk.

SPADs Q3-2009

	Current SPAD Figures	Comparison with 2008
SPAD risk	September 2008 - 15.6% September 2009 - 6.1% (Compared to the March 2001 benchmark)	<ul style="list-style-type: none"> ■ 9.5% better: Representing a ■ 61% improvement over the year
All SPADs	September 2009 - 26 Q3-2009 - 86 12-months to Sept 2009 - 286	<ul style="list-style-type: none"> ■ 37% worse ■ 16% worse ■ 16% better
16+ SPADs	September 2009 - 8 Q3-2009 - 23 12-months to Sept 2009 - 84	<ul style="list-style-type: none"> ■ 33% worse ■ 12% better ■ 14% better
20+ SPADs	September 2009 - 3 Q3-2009 - 4 12-months to Sept 2009 - 14	<ul style="list-style-type: none"> ■ Worse (0 in September 2008) ■ 50% better ■ 30% better

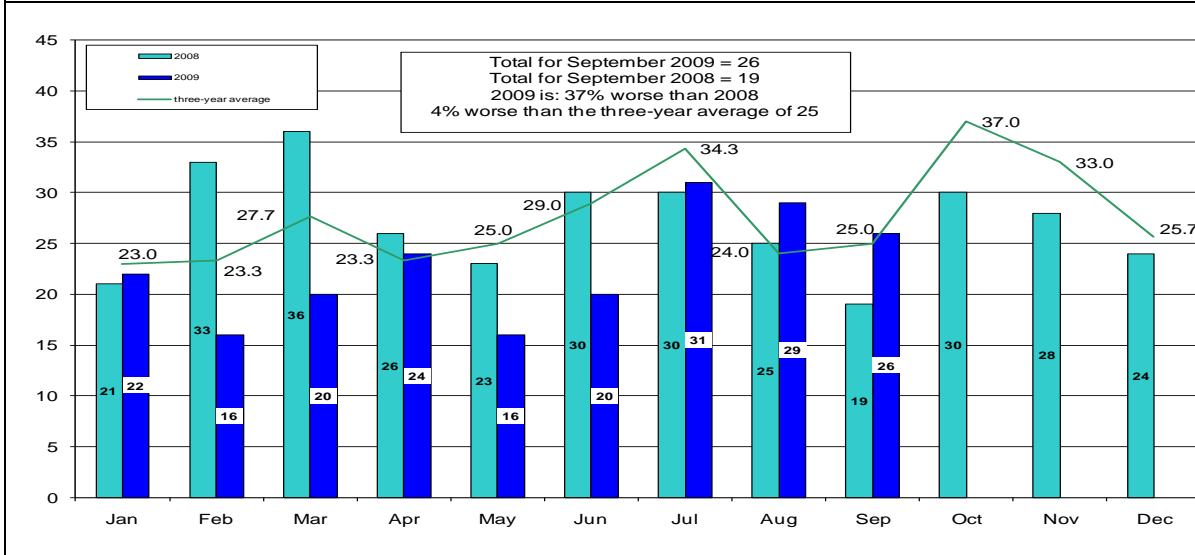
All category A SPADs

During Q3 there were 86 SPADs, which compares with 74 during the same period in 2008. This is 16% worse and also 3.1% worse than the three-year average of 83.3.

The moving annual total number of SPADs at the end of Q3-2009 was 286, compared to 342 at the same point in 2008. This represents a 16% improvement.

Although SPAD numbers have increased during Q3 (see Chart 2), the risk from SPADs has dropped to 6.1% of the benchmark level (see Chart 3). Given the vulnerability of this measure to one high-risk SPAD, RSSB is currently exploring alternative measures of SPAD risk. The metrics under consideration are all based on the SPAD risk ranking tool (so would continue to reflect changes in both frequency and potential consequence) but the aim is to identify a more robust method for identifying changes in the underlying risk.

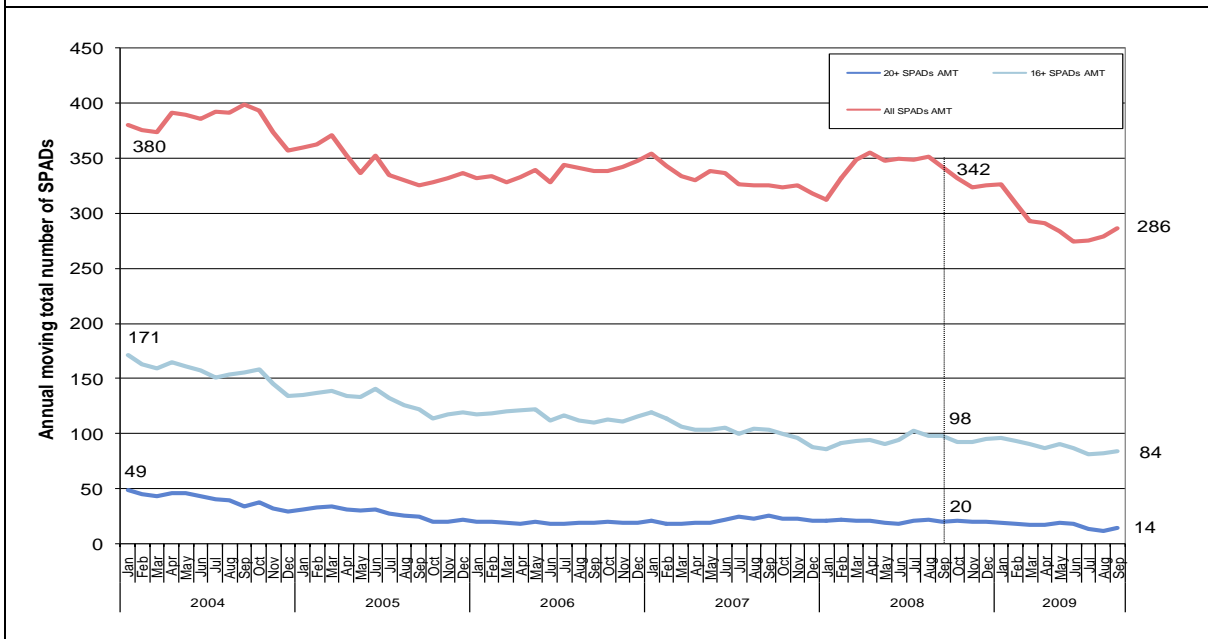
Chart 1 - All category A SPADs – monthly variation



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 in April 2008. As at the end of June this AMT had fallen to 274, which is its lowest recorded figure¹. Although this figure has subsequently increased during Q3 to 286, the change over the past 12 months is a decrease of 56.

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



When train miles are taken into account, the national SPAD rate ten years ago (prior to the Ladbroke Grove collision) was 2.67 per million train miles. In comparison, the current rate of 0.75 represents a decrease of 72% over the intervening period.

¹ Since the systematic collection of SPAD data started in 1985.

SPAD risk

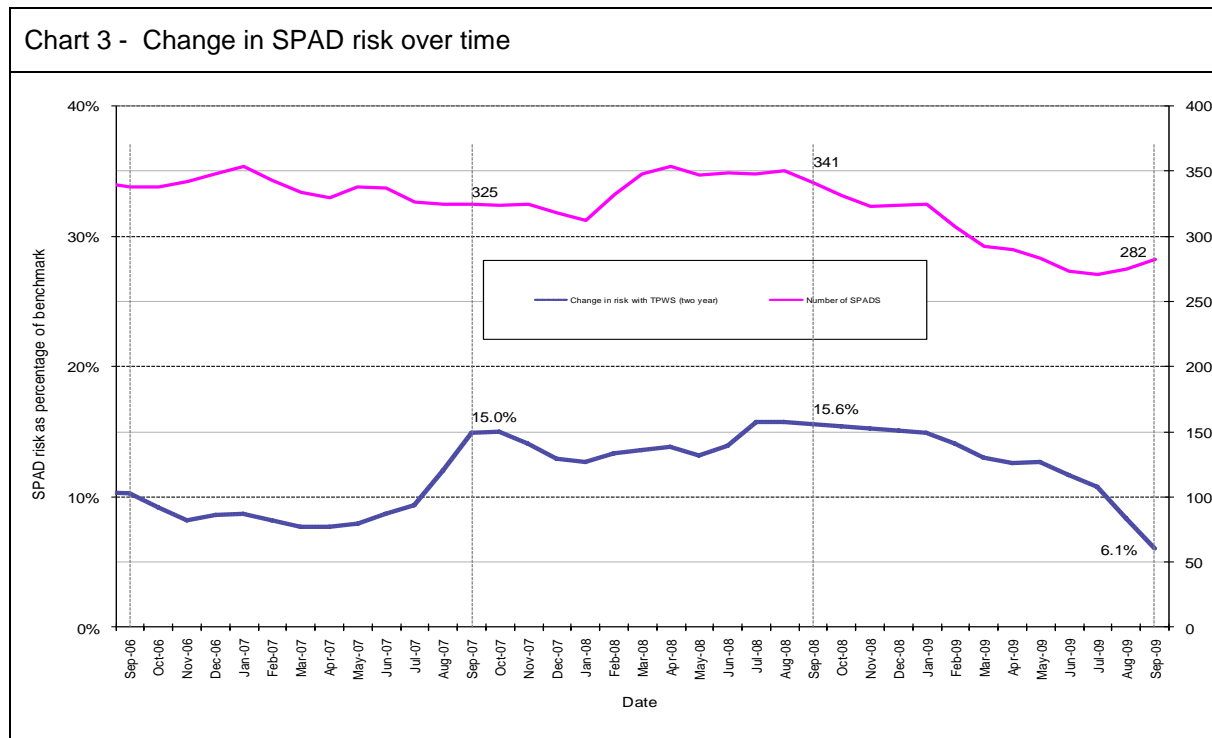


Chart 3 shows that the risk from SPADs increased between April 2007 and August 2008, but has decreased since then. During the past 12 months, the level of risk has decreased from 15.6% of the baseline to 6.1%. This 9.5% change represents a 61% decrease in SPAD risk over that period: 6.1% is the lowest level which this measure has fallen to since its inception. As with any moving average, this figure is affected by those events which are dropped from the calculations, as much as it is by the new events which are added. Part of the recent decrease is due to the removal of two high-risk SPADs, which occurred in August 2007.

Given the vulnerability of this measure to one high-risk SPAD, RSSB is currently exploring alternative means of assessing whether a change in SPAD risk ranking results represents any underlying change in risk rather than volatility, to understand SPAD risk scores. The metrics under consideration are all based on the SPAD risk ranking tool (so would continue to reflect changes in both frequency and potential consequence) but the aim is to identify a more robust method for identifying changes in the underlying risk.

TPWS 'reset and continue'

There were no post-SPAD 'reset & continue' incidents during Q3-2009. The most recent such incident was in October 2008.

Multi-SPAD signals

A multi-SPAD signal is defined as one which has had two or more SPADs in the preceding five years.

Chart 4 shows that the number of signals listed as being multi-SPAD has been decreasing throughout the first half of 2009. Following a slight increase in June and July, the number has remained generally constant during August and September. As at 26 September there were 153 signals on the list.

On 8 October 1999, the then Health & Safety Executive (HSE) issued two improvement notices relating to multi-SPAD signals. The first of these notices applied to the 22 'most SPADed' signals (including SN109, the passing of which led to the Ladbroke Grove collision); the second notice was applied to a further 206 multi-SPAD signals. Of the 22 signals on the first notice (the 'Top 22') three remain classified as multi-SPAD. Of the 206 signals on the second improvement notice (the 'IN' signals), 192 have been removed; 14 signals remain on the list (see table 1).

Chart 4 Multi-SPAD signals – 52 weeks up to week ending 26 September 2009

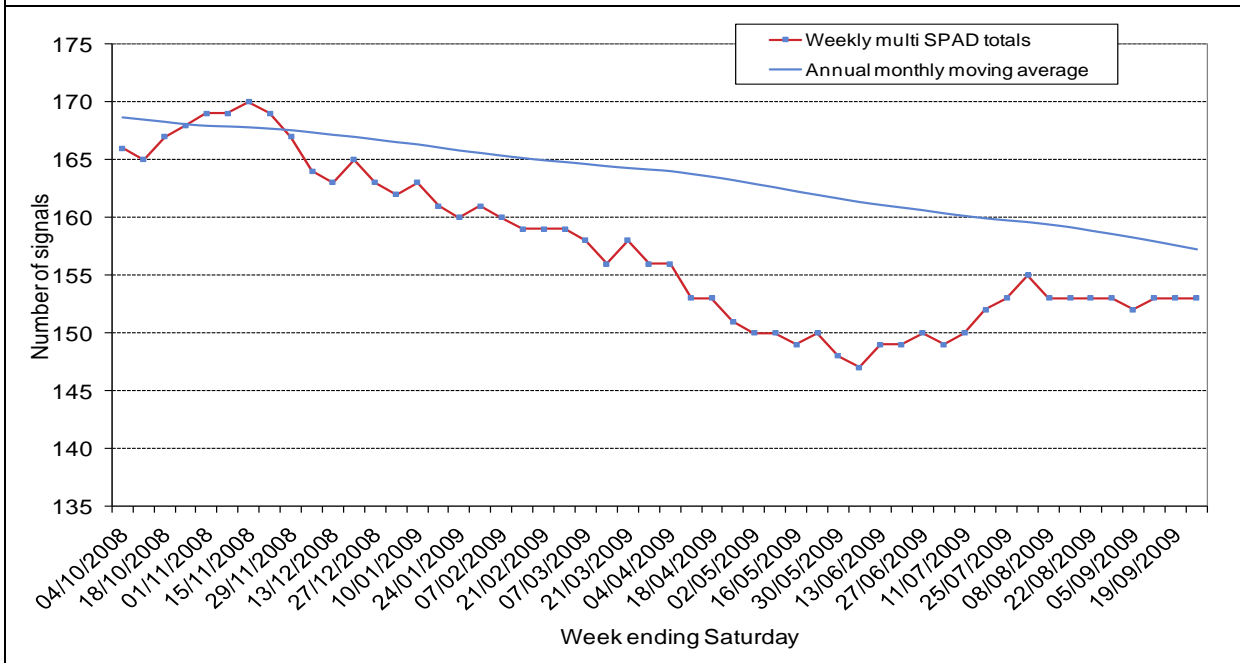


Table 1 Improvement notices' signals remaining multi-SPAD as at 26 September 2009

Multi-tag	Route	Signal	Line	Location	Signalbox	Date of latest SPAD	Events since 1985	Events in current five years
T22	A	CO328	Up/Dow n Low estoft (Up Dir)	East Suffolk Jn	Colchester	27/04/2009	13	2
	A	L100	Up Suburban	Bethnal Green	Liverpool Street	18/01/2008	13	2
	W	SN63	Line 4 (Dow n Direction)	Subway Jn	Slough	18/02/2008	14	3
IN	LNE	P84	South Up Departure	Peterborough	Peterborough	19/12/2007	8	2
	LNE	S79	Dow n Main	Sheffield	Sheffield	23/12/2007	7	2
	LNW	DJ502	Outbound Line	Deansgate Jn	Deansgate Jn	12/03/2007	6	2
	LNW	DJ505	Outbound Line	Deansgate Jn	Deansgate Jn	14/03/2009	10	4
	LNW	ML31	Dow n Southport	Paradise Jn	Merseyrail	20/04/2006	7	2
	LNW	WS21	Dow n Dc	Kensal Green	Wembley Mainline	20/08/2009	14	2
	LNW	WS35	Dow n Dc	Stonebridge Park	Wembley Mainline	07/03/2009	15	7
	LNW	WS37	Dow n Dc	Stonebridge Park	Wembley Mainline	03/10/2006	14	2
	LNW	WS55	Dow n Dc	Harrow & Wealdstone	Wembley Mainline	05/03/2008	10	3
	Sc	STOP BOARD CL1	Dow n Line	Crianlarich	Banavie	12/07/2006	6	2
	A	L491	Dow n Electric	Shenfield	Liverpool Street	06/12/2007	7	3
	K	L120	No 6 Up Line	London Bridge	London Bridge	06/10/2007	9	2
	Sx	T332	Up Main	Copyhold Jn	Three Bridges	11/11/2008	8	2
Wx	W6	Up Main Relief	Waterloo	Wimbledon	24/12/2006	9	2	

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