



OFFICE OF RAIL REGULATION



**Office of Rail Regulation investigation
report: Disruption caused by
December 2014 engineering overruns**

**Supplementary report - Summary of
passenger delay and performance
analysis**

12 February 2015

1. Summary

1. This supplementary report provides a summary of the analysis conducted by ORR in support of the investigation into the disruption caused due to the possession overruns on 27 and 28 December. We have estimated the number of passengers that were delayed and impact the overruns had on performance.
2. Over the weekend of 27 and 28 December we estimate that more than 115,000 people were delayed in some way by this disruption. This estimate is based on analysis of data received from East Coast and First Great Western; we did not receive passenger data from the other operators affected.
3. The estimated level of passenger delay caused by the King's Cross possession overruns on 27 and 28 December was disproportionate to the performance impacts, largely as a result of the trains being more crowded than an average weekend.
4. The estimated passenger delay impact of the Paddington overrun while still significant, were proportionately less due to less people travelling on the day (driven by reduced demand for London Thames Valley services).
5. Section 2 of this report presents the data used to calculate the estimates of passengers delay.
6. In terms of the impact on performance, our analysis shows that the delays caused by the possession overruns had a marginal impact on the moving annual average (MAA) of both the Public Performance Measure (PPM) and Cancellations Significant Lateness (CaSL) levels achieved by affected train operators. Section 3 of this report gives our detailed assessment of the impact in relation to performance targets.

2. Passengers delayed

7. The train operators covered by this analysis are East Coast and First Great Western; we did not receive passenger data from the other operators affected. We estimate that around 57,000 passengers on trains run by East Coast were delayed and 60,000 passengers on First Great Western.
8. Our analysis is based on delay caused to passengers who travelled or intended to travel on 27 and 28 December. Passengers who were on services that met their PPM requirement (i.e. within 5 or 10 minutes of scheduled arrival) were assumed to have suffered no delay.

East Coast

9. We received data from East Coast showing the number of seat reservations on each service for the affected days, along with the number of minutes delay for each service at destination.
10. For passenger numbers, we have assumed that all those with a seat reservation travelled with an additional 20% of walk-up passengers. This 20% has been estimated from guard counts and seat reservation data for the six weeks leading up to Christmas 2014. Furthermore, we have assumed that the number of minutes delay at destination applies to all passengers on the service, regardless of where they alighted the service.
11. Given that we do not have precise punctuality details for each of the trains run by East Coast, we have applied the following rules in terms of minutes delay:
 - Trains within PPM have no passenger delay associated with them;
 - Trains part or wholly cancelled are assumed to have 60 minutes delay;
 - Trains significantly late are assumed to have 45 minutes delay;
 - Trains between 10 and 30 minutes late are assumed to have 20 minutes delay
12. For trains that were cancelled, we have assumed that passengers boarded the next available service so their 'delay' is based on the number of minutes wait to board the next service and the number of minutes delay for that service.
13. To compare this with an 'average' weekend, we looked at the distribution of performance from the six weekends leading up to 27-28 December 2014. The metrics used to calculate the distribution were:
 - Number of trains planned;

- Number of trains within PPM;
- Number of trains significantly late;
- Number of trains part cancelled;
- Number of trains wholly cancelled; and
- Number of trains between 5/10 mins and 30 mins late.

14. The main findings for East Coast are:

- Number of passengers delayed was 565% worse than on an average weekend
- Number of minutes of passenger delay was 1385% worse than on an average weekend
- The average minutes delay for each delayed passenger was 57 minutes on the 27 and 28 December compared to 26 minutes for each delayed passenger on an average weekend.

EAST COAST	27-28 Dec	Average weekend	% change
Total passengers	84,000	76,000	11%
Total passengers delayed	57,000	9,000	565%
Total passenger delay minutes	3,265,000	220,000	1385%
Delay minutes per passenger delayed	57	26	123%

Table note: Figures are rounded. Percentage change and delay mins are calculated using unrounded numbers.

15. The estimated level of passenger delay caused by the King's Cross possession overruns on 27 and 28 December was disproportionate to the performance impacts, largely as a result of the trains being more crowded than an average weekend.

First Great Western

16. First Great Western operates three different types of service; High Speed Services (HSS), London & Thames Valley (LTV) services and Regional services. For the purposes of this investigation, Regional services have been excluded as they do not originate or terminate at Paddington.
17. The average number of passengers per train is based on data provided by First Great Western; guard counts for HSS and automated train counts for LTV services on 27 and 28 December.

18. Given that we do not have precise punctuality details for each of the trains run by First Great Western, we have applied the following rules in terms of minutes delay:
- Trains within PPM have no passenger delay associated with them;
 - Trains part or wholly cancelled are assumed to have 60 minutes delay;
 - Trains significantly late are assumed to have 45 minutes delay;
 - Trains between 5 and 30 minutes late on LTV services are assumed to have 17.5 minutes delay; and
 - Trains between 10 and 30 minutes late on HSS are assumed to have 20 minutes delay
19. We followed a similar process to the one used for East Coast to derive performance on an ‘average’ weekend, see above for metrics used.
20. Passenger numbers for the weekends leading up to Christmas are from passenger counts for HSS and, for LTV services, a weighted average for travel on Saturdays and Sundays based on the volume of passenger journeys, number of trains planned and a weekend travel factor¹.
21. The main findings for First Great Western are:
- Number of passengers delayed was 79% worse than on an average weekend
 - Number of minutes of passenger delay was 232% worse than on an average weekend
 - The average minutes delay for each delayed passenger was 49 minutes on the 27 and 28 December compared to 26 minutes for each delayed passenger on an average weekend.

FIRST GREAT WESTERN (HSS & LTV)	27-28 Dec	Average weekend	% change
Total passengers	158,000	242,000	-54%
Total passengers delayed	60,000	34,000	79%
Total passenger delay minutes	2,929,000	884,000	232%
Delay minutes per passenger delayed	49	26	85%

Table note: Figures are rounded. Percentage change and delay mins are calculated using unrounded numbers

22. The estimated passenger delay impact of the Paddington overrun while still significant, were proportionately less than at Kings Cross due to less people travelling on the day (driven by reduced demand for London Thames Valley services).

¹ For LTV services, assumption is there is half the amount of travel of a weekday.

3. Performance

23. As part of our analysis we have looked at the impact on punctuality, specifically PPM and CaSL impact on franchised operators and assessed what the PPM and CaSL MAAs would have been at the end of period 10 if the overruns had not occurred. We have also analysed the total delay minutes caused by the possession overruns on the affected operators.

Performance Regulatory Framework for CP5

24. Network Rail's worse than expected performance in Control Period 4 (CP4) meant that it entered Control Period (CP5) at a lower performance point than anticipated. As a result, Network Rail confirmed that it would not be able to meet its national regulated targets in England and Wales for the first two years of CP5. ORR concurred and agreed that Network Rail would submit a plan (the CP5 Performance Plan) to return performance to targeted levels by 1 April 2016. ORR accepted this plan and is monitoring its delivery through quarterly reports submitted by Network Rail. ORR uses these reports to assess whether Network Rail is doing everything reasonably practicable in the circumstances to recover performance to the levels specified in the final determination.
25. We are continuing to hold Network Rail to account for delivery to passengers as specified in Performance Strategies bilaterally agreed with operators. The CP5 Final Determination states that ORR will investigate if:
- PPM for a franchised operator falls 2 percentage points (pp) short of the target set in the Performance Strategy at the end of any year in the Control Period or if;
 - CaSL for a franchised operator exceeds the year-end target set in the Performance Strategy by 0.2pp.
26. PPM and CaSL year-end targets for non-franchised operators are treated as indicators by ORR.
27. National freight performance, as measured by the Freight Delivery Metric (FDM) remains an annual regulated target throughout CP5.

Recent Performance of train operators affected by the possession overruns

28. ORR's Network Rail Monitor covering the first 6 months of 2014-15 recognised that recent performance on the East Coast Mainline has been strong and significantly up in the levels achieved in 2013-14. In particular, the long distance operators running on this route are performing better than their CaSL and PPM targets. Performance for Govia Thameslink Railway (GTR) has been below expectations and we believe that there is a strong likelihood it will miss its year-end PPM and CaSL Performance Strategy targets; Network Rail's performance delivery to GTR has consequently been placed on the Regulatory Escalator.

29. We also believe that there is a strong likelihood that FGW will miss its year-end PPM and CaSL Performance Strategy targets and are separately meeting with NR to discuss our concerns.

Impact of King's Cross and Paddington overruns on train and freight operators PPM and CaSL MAA period 10 targets

30. To assess the performance impact of the overruns at King's Cross and Paddington, we have adjusted the period 10 PPM and CaSL values for East Coast, FGW and GTR on 27 and 28 December 2014 based on a 5 year average for those individual days². Christmas day and Boxing day have been excluded from the dataset as no trains run on these days.

2014-15 P10	PPM			PPM MAA		
	Actual	Adjusted	Variance	Actual	Adjusted	Variance
East Coast	81.1%	83.4%	2.2pp	87.0%	87.1%	0.1pp
FGW	86.6%	87.1%	0.5pp	87.7%	87.7%	0.0pp
GTR	80.1%	81.3%	1.2pp	85.2%	85.3%	0.1pp

2014-15 P10	CaSL			CaSL MAA		
	Actual	Adjusted	Variance	Actual	Adjusted	Variance
East Coast	7.5%	5.7%	1.8pp	4.6%	4.5%	0.1pp
FGW	4.1%	3.6%	0.5pp	3.5%	3.5%	0.0pp
GTR	8.3%	7.2%	1.2pp	4.2%	4.1%	0.1pp

Table note: Figures rounded to 1 decimal place

31. From the analysis we have undertaken, we have estimated that the possession overruns have had a:
- 0.1pp impact on the period 10 PPM MAA and CaSL MAA for both East Coast and GTR
 - Minimal impact on the period 10 PPM MAA and CaSL MAA for FGW.
32. Based on this analysis we therefore believe that the possession overruns at King's Cross and Paddington have had marginal impact on Network Rail's performance targets for 2014-15.
33. FDM MAA at the end of period 10 stands at 94.1%, 1.6pp better than the annual target of 92.5% and a 0.1pp improvement on period 09. Our analysis has concluded that freight performance was not impacted by the possession overruns, this has been confirmed by the Rail Freight Group.

² All data to be treated as provisional as calculations based on system generated cancellations so figures may differ slightly to period 10 figures elsewhere. Number of CaSL trains based on trains planned and daily CaSL value. Number of trains within PPM based on trains planned and daily PPM value.

Analysis of delay minutes associated with possession overruns

34. The possession overrun at King's Cross caused 8,659 delay minutes to the operators affected. Based on current data, this was the joint 2nd biggest incident in the previous year affecting London North Eastern (LNE) route, the largest being 9,112 minutes on 17th December 2013, caused by a cable fault.
35. The Paddington overrun caused 5,215 delay minutes to First Great Western and Heathrow Express. This incident is currently the 11th biggest incident in the last year on the Western Route³.

³ Delay minutes and ranking based on periodic snapshots of data. Figures correct at time of publication.



© Crown copyright 2015

This publication is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. To view this licence, visit nationalarchives.gov.uk/doc/open-government-licence/version/3 or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: psi@nationalarchives.gsi.gov.uk.

Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

This publication is available at orr.gov.uk

Any enquiries regarding this publication should be sent to us at orr.gov.uk