



Network Rail Performance Recovery Plan 2013/14 Q3 Report

Independent Reporter Field Tests
Report of Findings

Assessment of the Effect of the
Use of Emergency Timetables in Q3

21 August 2014
FINAL Report



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Introduction

This is the Final Report from the Q3 Field Trial investigations undertaken by Nichols as the Independent Reporter (IR) for mandate CN026. The subject of the Filed Trial was to assess the effects of using Emergency Timetables during Quarter 3 2013/2014.

Remit

The final remit for the Field Trial agreed between the ORR, NR and the IR comprised the following objectives:

1. To investigate the extent to which Emergency Timetables (ETTs) were used in Q3 2013/14.
2. To provide an order of magnitude estimate of the cumulative impact of the use of ETTs on overall PPM.
3. To establish the processes which led to the operation of ETTs on a number of instances and to compare these with formally agreed processes.
4. To identify where further work could usefully be done on behalf of the industry to improve the processes associated with the use of ETTs.

At the kick-off meeting on 31 March 2014 attended by representatives of the ORR, NR and the IR, it was confirmed that the remit should focus mainly on the use of ETTs in response to 'extreme weather events' only (i.e. not the use of ETTs in response to any other effect) in Q3 and that the main requirement of the ORR was to establish an estimate of the PPM which would have been reported if extreme weather and the use of ETTs had not occurred in Q3.

Methodology

The methodology agreed between the ORR, NR and the IR was as follows:

- Obtain data from NR about ETT usage by TOCs in Q3 (periods 8, 9, & 10).
- Obtain data and analyse each instance in terms of daily PPM achieved (up to 10 instances).



- Meet with ORR & NR to agree method to assess impact of using ETTs.
- Use method to assess overall impact and produce order of magnitude estimate of what PPM for Q3 would have been had extreme weather and extensive use of ETTs not occurred.
- Write up field-trial report.

Clarification of Scope

The remit required the IR to focus on the use of *ETTs in response to 'extreme weather events'*. This was further clarified for the purpose of this remit, as:

'Any Contingency Timetable, including a zero timetable (i.e. no schedule at all uploaded on Day A for Day B), operated on Day B and necessitated by major planned cancellations made on Day A (for Day B), in response to a forecast of extreme bad weather likely to occur on Day B'.

For clarity, the scope of investigation therefore *excluded* detailed analysis of the use of Contingency Timetables (CTTs) implemented as a result of:

1. Emergency planned engineering works within the T-12 cut-off
2. Amended Christmas and New Year schedules
3. Forecast crew or stock shortages
4. Forecast adverse weather conditions not deemed extreme (according to the definitions contained in the National Task Force – Operating Group paper dated 24 May 2013)
5. Non-availability of the network as a result of major operational incident (e.g. derailment, infrastructure failure, equipment out of use, etc) whether or not the incident was caused by extreme weather.



Approach to the Field Trial Investigation

Objective 1

Data was supplied by NR for each TOC for each of the 84 days of Q3 (13 October 2013 to 04 January 2014) giving (1) the number of trains planned, (2) the number of trains which actually ran and (3) the number of PPM passes achieved. This allowed the IR to plot for each TOC, the number of trains planned each day against the number of trains planned on a notional normal day so that the days when major planned cancellations were implemented could be clearly seen.

NR confirmed that they considered only 2 days, on Monday 28 October and Thursday 5 December, as having suffered 'extreme weather events', and these are referred to as 'extreme weather days'.

From the plots referred to above, it was then possible to derive the TOCs which had implemented Contingency Timetables on the two 'extreme weather days'.

Objective 2

The effect on Q3 PPM reported by these TOCs due to 'extreme weather days' was then estimated using the following steps:

- By removing the planned trains and the PPM passes for the two extreme weather days (i.e. nil if a 'zero timetable' was used) and then recalculating the overall Q3 PPM based on the remaining 82 days of Q3. This calculation yielded an estimate of the PPM which would have been reported in Q3 if the extreme weather and the use of Contingency Timetables had not occurred
- By adding back, as PPM failures, the trains which were planned cancellations on the two extreme days and then recalculating the overall Q3 PPM. This calculation yielded an estimate of the PPM which would have been perceived by passengers who experienced the major planned cancellations on the two extreme days



Objective 3

NR supplied copies of the current industry-wide agreed processes for *Contingency Planning Day A for Day B* (and other associated documents) and details of when the national Ops Planning teams had been asked to take part in the implementation of the Day A for Day B process. This information was used during site visits as the basis of comparisons between the agreed processes and the actual processes used during five specific cases of the use of ETTs in response to extreme weather. The site visits were made on 22 April to teams representing NR Anglia and NR South East (Kent & Sussex).



Findings

Objective 1 – Analysis of Occasions of Major Planned Cancellations

From the plots of normal v planned trains (see examples in Attachment A) there appeared to be a total of around 95 occasions during Q3 up to 23 December when there was a major reduction (5% or more) in the number of planned trains by a TOC when compared with a notional normal day.

The 95 occasions is split down into:

- 73 were on either Sundays or Saturdays, which we have assumed to be for planned engineering works built into the T-12 timetable
- 22 were on weekdays and we have assumed to be major planned cancellations on Day A for Day B. Of these 22 occasions, the national Ops Planning teams took part in the process on five occasions and the remaining 17 were managed by local Control Offices

We have also assumed that the time period after 23 December 2013 is outside the scope of this remit as it would not have been possible to establish a notional normal day for the holiday period. It was therefore not investigated.

The 22 weekday occasions were necessitated by a mixture of causes, including forecast 'extreme weather event', as well as the five reasons excluded from the scope as set out in the section previously 'Clarification of Scope'.

Taking NR's view that 'extreme weather' occurred on only two days (Monday 28 October and Thursday 5 December), there were only 11 occasions when major planned cancellations, out of the 22 total weekday occasions, that align with these 2 days. Note that if a tighter definition of major planned cancellations, as 2.5% of notional normal timetable were to be adopted, the number of occasions when a contingency timetable was used for extreme weather would increase by two.

Examples of the plots of normal v planned trains are given in attachment A and the schedule of weekday occasions when major planned cancellations by a TOC were implemented is set out in Table 1.



No.	Date of Day B	TOC	Notional normal trains for Day B	Planned trains for Day B	Number of trains that ran on Day B	% of planned cancellations	Reason for major planned cancellations	PPM reported for Day B after 'wash-up'
1	28 Oct	Greater Anglia	1925	12	12	99.4%	Extreme weather	83.3%
2	29 Oct	Greater Anglia	1925	1810	1412	16.0%	Weather	47.1%
3	06 Dec	Greater Anglia	1931	1823	1767	5.6%	Weather	75.2%
4	31 Oct	Grand Central	16	14	14	12.5%	Other	92.9%
5	28 Oct	FCC	1166	346	128	89.0%	Extreme Weather	30.9%
6	23 Dec	FCC	1171	715	624	38.9%	Other	59.2%
7	28 Oct	LOROL	946	741	316	21.7%	Extreme weather	40.6%
8	23 Dec	LOROL	807	528	526	34.6%	Other	98.9%
9	23 Dec	EMT	476	420	413	11.8%	Other	82.6%
10	05 Dec	First Scotrail	2277	843	278	63.6%	Extreme Weather	25.3%
11	28 Oct	East Coast	155	101	18	34.8%	Extreme Weather	10.9%
12	05 Dec	East Coast	155	108	63	30.4%	Extreme Weather	34.3%
13	23 Dec	East Coast	155	127	125	18.1%	Other	36.2%
14	23 Dec	Virgin Trains	301	268	219	11.0%	Other	42.5%
15	28 Oct	Hex	144	123	123	14.6%	Extreme Weather	91.1%
16	23 Dec	Hex	144	120	118	16.7%	Other	81.7%
17	28 Oct	c2c	354	1	1	99.7%	Extreme Weather	100.0%
18	29 Oct	c2c	354	289	278	18.4%	Weather	85.1%
19	28 Oct	Southeastern	2075	935	680	54.9%	Extreme Weather	47.0%
20	28 Oct	Southern	2267	1627	642	28.2%	Extreme Weather	16.1%
21	28 Oct	SSWT	1667	1028	544	38.5%	Extreme Weather	41.0%
22	11 Dec	Hull Trains	14	13	13	7.1%	Other	92.3%

Table 1. Instances of Major Planned Cancellations in Q3 (weekdays only before 24 December)



Objective 2 – Estimated Impact on Q3 PPM

The estimated impact on Q3 PPM calculation for the individual TOCs affected by extreme weather and for the overall sector and national reported PPM is set out in Table 2 below.

TOC	Q3 PPM reported	Q3 PPM with all days removed when a contingency timetable was used for extreme weather (28 Oct & 05 Dec)	Q3 PPM with all contingency timetable cancellations for extreme weather days added back as PPM failures
Greater Anglia	87.65%	87.65% (28 Oct only)	86.47% (28 Oct only)
FCC	79.66%	79.86% (28 Oct only)	78.90% (28 Oct only)
LOROL	94.69%	95.18% (28 Oct only)	94.46% (28 Oct only)
First Scotrail	86.61%	86.92% (05 Dec only)	85.86% (05 Dec only)
East Coast	77.59%	78.65% (both dates)	76.89% (both dates)
HEx	90.91%	90.91% (28 Oct only)	90.74% (28 Oct only)
c2c	95.93%	95.93% (28 Oct only)	94.58% (28 Oct only)
Southeastern	80.81%	81.02% (28 Oct only)	80.20% (28 Oct only)
Southern	78.67%	79.27% (28 Oct only)	78.37% (28 Oct only)
SWT	83.50%	83.86% (28 Oct only)	83.08% (28 Oct only)
LSE Sector	84.29%	84.56% (both dates)	83.76% (both dates)
Long Dist Sector	82.15%	82.15% (28 Oct only)	82.09% (28 Oct only)
Regional Sector	86.12%	None	
E&W	84.66%	84.82%	84.32%
Scotland	86.61%	86.92% (05 Dec only)	85.86% (05 Dec only)
National	84.86%	85.04%	84.48%

Table 2. Effect of Use of ETT in response to Extreme Weather in Q3



Objective 3 - Investigation of Cancellation Processes Applied

We investigated further a sample of five specific occasions of when major planned cancellations had occurred. This was conducted via site visits to meet with relevant NR staff at:

1. Greater Anglia on Monday 28 October
2. C2c on Monday 28 October
3. Southeastern on Monday 28 October
4. Southern Trains on Monday 28 October
5. Greater Anglia on Thursday 5 December

The detailed findings from the site visits are set out in attachment B



Conclusions

In Q3 (up to 23 December) Emergency Timetables were used in response to 'extreme weather' on 11 of the 22 occasions when major planned cancellations occurred for a TOC on a weekday; this included 9 TOCs on 28 October and 2 TOCs on 5 December. Some other TOCs were impacted by the extreme weather on 28/10 and 5/12 but no major planned cancellations were implemented. There appears to be fall out on Day C for some TOCs from the extreme weather on Day B, which we have not investigated.

The other 11 occasions when major planned cancellations occurred were assumed to be a mixture of responses to emergency engineering works, forecast resource shortages, forecast adverse (not extreme) weather, infrastructure failure and possibly other reasons.

The IR's estimated effect on reported PPM through the use of ETTs in response to 'extreme weather' in Q3 is as follows:

1. 85.04% - The estimated PPM for Q3 that would have been reported if ETTs and extreme weather had not occurred on Monday 28 October and Thursday 5 December,
2. 84.86% - The PPM actually reported for Q3
3. 84.48% - The PPM perceived by passengers and which would have been reported for Q3 if all of the major planned cancellations on the two days had been recorded as PPM failures.

The IR considered the question "What PPM would have been reported if no planned cancellations and no ETTs had been implemented during the days of extreme weather?" i.e. if the normal timetable had been implemented. The IR's view, which has been discussed with NR is that the PPM reported would most likely have been worse than that stated in (3) above. In addition, there would undoubtedly have been safety issues associated with attempting to run early morning passenger services before route-proving and inviting over-crowding by advertising a full-capacity timetable which it would not, on the day, have been possible to provide.



The national Ops Planning teams were asked to take part in the formal Day A for Day B process for 5 of the 11 occasions and this was far fewer than the IR expected, from previous experience and on two occasions it was simply to cancel the entire schedule for the TOC for Day B with no replacement.

The cancellation of entire Day B schedules for multiple TOCs with no replacement schedules is unprecedented in the GB heavy rail industry (with the possible exception of some industrial action events). The IR's view is that the decision to do so was justified on the occasions in question, and will be justified again in future if there is a real probability that the network will be widely inoperable for large parts of Day B as a result of major asset damage (including trees damaging assets and obstructing lines) and that the unpredictability of the pattern of damage means that it is practically impossible for NR to reasonably accurately forecast the available capacity on the network and thus allocate it to Operators in advance.

Based on the sample of five cases investigated by site meetings, our conclusions on the processes followed are:

- The processes that took place leading up to Monday 28 October and Thursday 5 December were driven by considerations for passenger safety (given the potential for major obstructions on the network, overcrowding as a result of a significantly reduced service) rather than to protect the quarterly PPM target.
- Strict adherence in practice to the agreed industry-wide Day A for Day B process cannot be confirmed as it simply did not apply to the five cases reviewed. Two of the cases involved the cancellation of the entire schedule for Day B with no replacement timetable, and the other three occasions involved the cancellation of major parts of the schedules for Day B and replacement by locally implemented Contingency Timetables or part-day timetables.



Recommendations

Objective 4 of the remit was “To identify where further work could usefully be done on behalf of the industry to improve the processes associated with the use of ETTs”. The following actions are recommended:

Reference	Recommendation Description and benefit	Evidence required to close	Target Date
CN026-Q3-1	Consider reviewing the occasions when major planned cancellations occurred in Q3 for reasons other than forecast extreme weather. This would provide a better basis for reviewing the effectiveness of the industry-agreed Day A for Day B process than this piece of assessment work has been able to do	A clear statement as to when further reviews will be complete, and if further review are not to be carried out, a statement of the reasons why not.	End of June 2014
CN026-Q3-2	Formalise the Day A for Day B process (including the conditions which justify a zero timetable on Day B) and the manner of adjusting regulatory PPM targets, to be applied on occasions when there is near total uncertainty, as a result of forecast extreme weather, of the extent and timing of network availability on Day B.	A joint statement by NR and ORR of the processes which will apply in future.	End of September 2014 (in time for extreme autumn/winter weather).
CN026-Q3-3	Implement a real-time process for logging up and agreeing whether, and where, extreme weather has been triggered so that, in future, NR and ORR can more easily retrospectively agree the effect of extreme weather on reported PPM. Alternatively, consideration could be given to revisiting the NTF-OG paper and using simpler, commonly available measures (e.g. the issuing of Met Office weather alerts) as triggers for extreme weather.	To be included in the same joint statement referred to in the last recommendation.	End of September 2014.

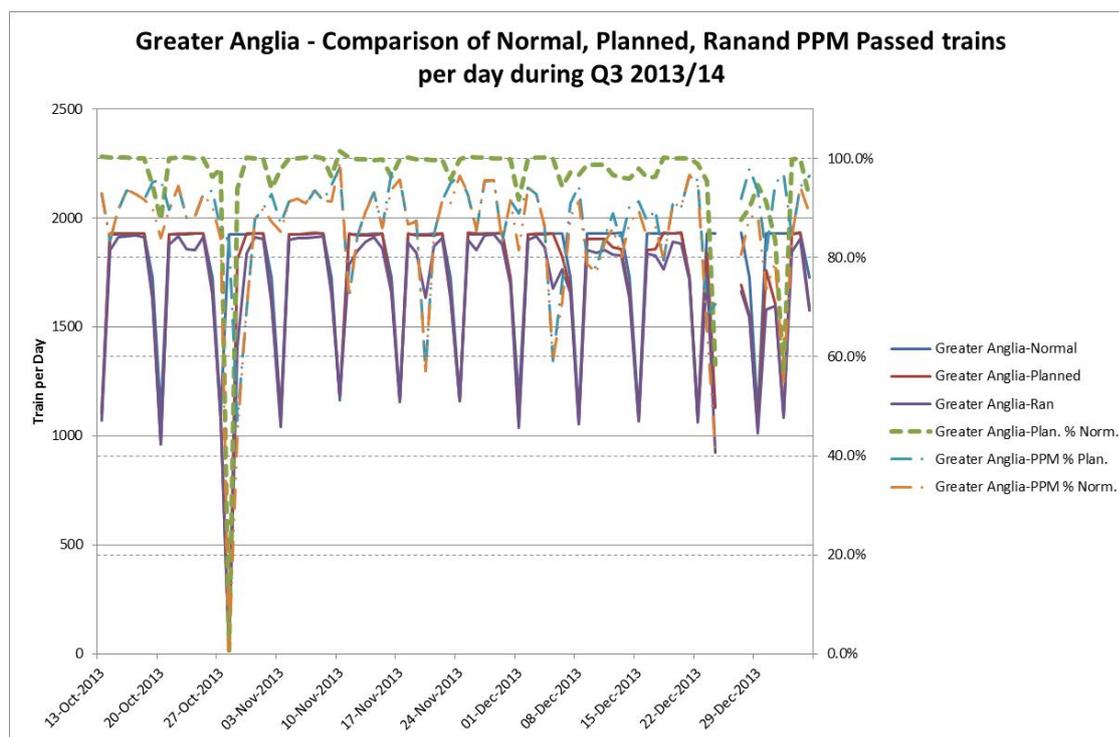


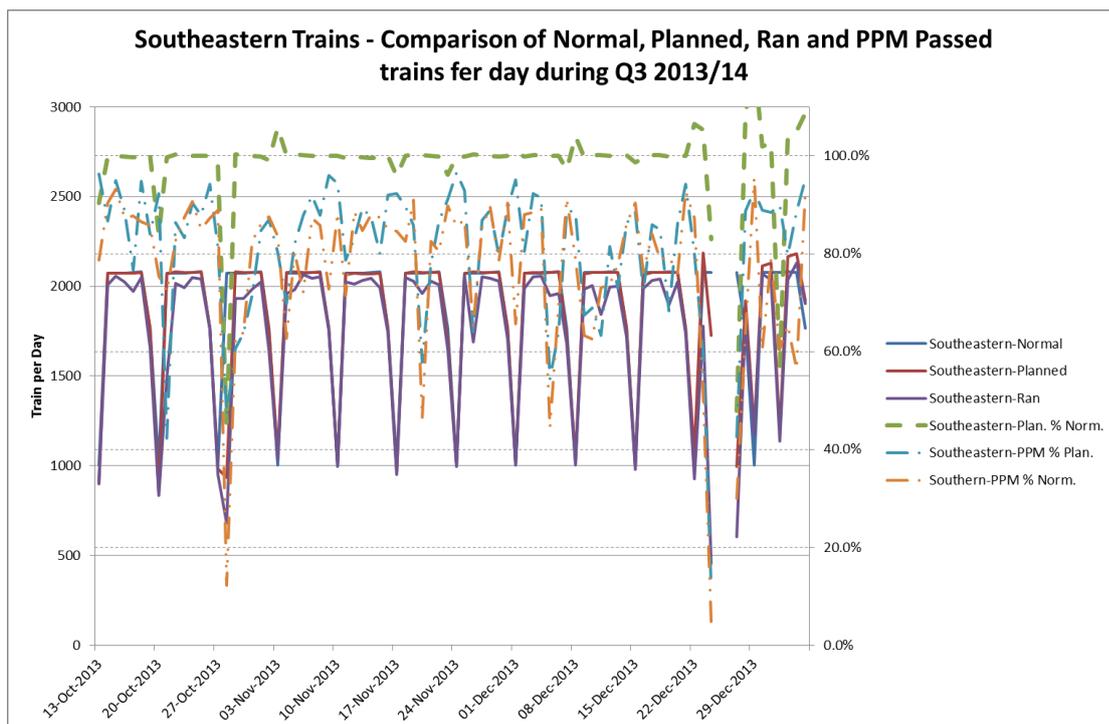
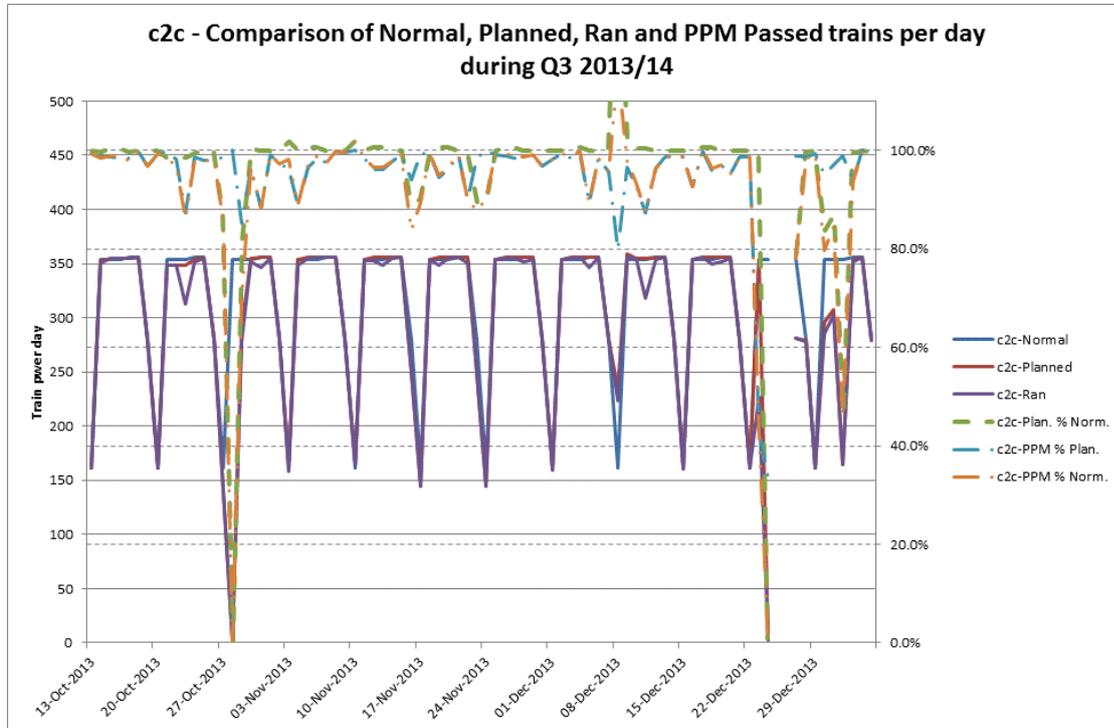
Reference	Recommendation Description and benefit	Evidence required to close	Target Date
CN026-Q3-4	<p>Consider expanding the assessment (of the effect of the use of emergency timetables in Q3) by adding in (1) the effect of extreme weather on 28/10 and 5/12 on TOCs where no major planned cancellations took place on those days and (2) the effect beyond Day B of major asset damage caused by the extreme weather of 28/10 and 5/12. This will give a fuller and more realistic measure of the overall effect on PPM of the extreme weather regardless of whether or not an ETT was implemented.</p>	<p>A clear statement as to when an expanded assessment will be complete, and if an expended assessment is not to be carried out, a statement of the reasons why not.</p>	<p>End of June 2014</p>

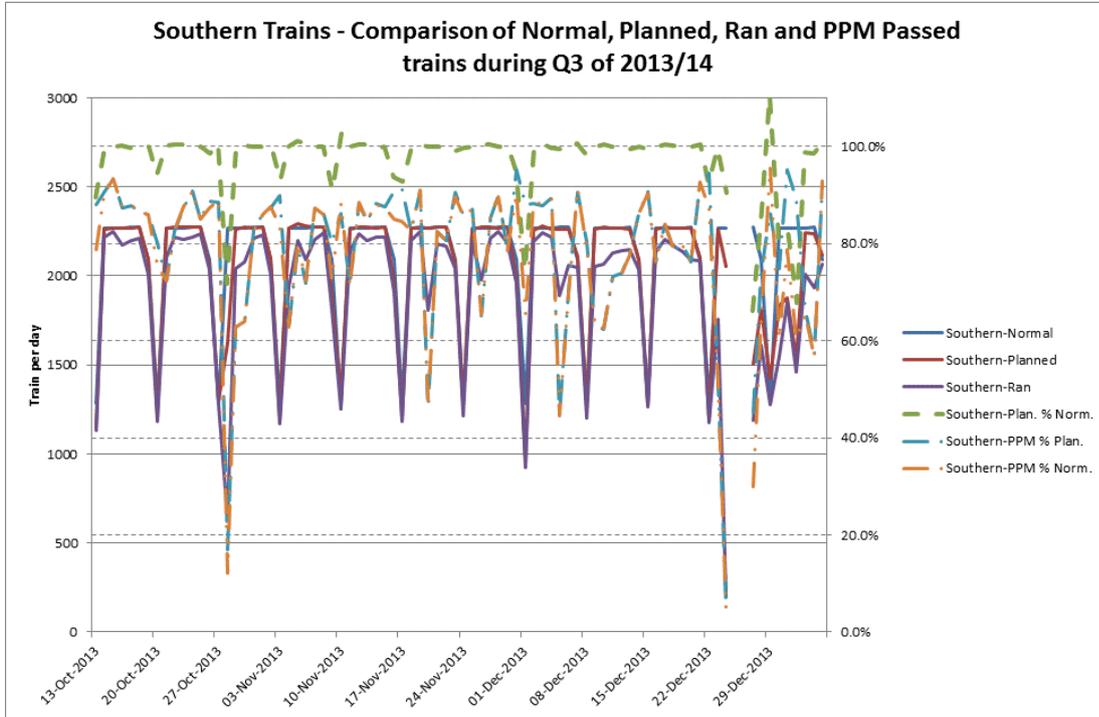


Attachment A

Examples of Plots of 'Normal v Planned Trains' for a TOC









Attachment B

Site Visit to Review Cases of Major Planned Cancellations in Q3

Review no. 1 of 5 – Greater Anglia on 28/10

Review carried out by: Jon Wiseman (IR), David Hicks (IR), Alison Hockett (NR)

Date (of Day B): Mon 28/10 2014

Reason for major cancellations: Forecast of potential for major disruption as a result of asset damage caused by very high winds ('St. Jude storm')

EWAT dates & times: Fri 25/10 1030hrs and 1530hrs, Sun 27/10 1030hrs and 1900hrs

Decision to make major cancellations first proposed taken by NR or TOC and when?: Initial proposal made by NR Anglia to GA on Sat 26/10 to reduce service.

Final decision to go definitely ahead with major cancellations taken by NR or TOC and when?: Final decision taken by NR Anglia at 1900hrs on Sun 27/10, a formal letter was sent from Andy Boyle (Gold Command) Route Performance Manager on behalf of the Route Managing Director Anglia to Ruud Hackett Managing Director AGA informing him Network Rail would be taking a full possession of the entire network until such time as Network Rail could safely authorise the running of trains.

Major cancellations made in systems by who and when? Entire schedule cancelled by NR Anglia Control Office between 1900hrs 27/10 and 1500hrs 28/10. Additional resources supplied from Performance team to assist in the cancellation of the entire day's service as informed to Abellio Greater Anglia on the 27/10.

Emergency TT selected for Day B? Joint agreement reached with TOC to upload no timetable at all on Sun 27/10 for Mon 28/10 and to await successful route-proving on Mon 28/10 before uploading the normal WTT for the remainder of the day.



Emergency TT uploaded by who and when? No WTT uploaded on Mon 28/10 and entire GA service for Mon 28/10 run by VSTP process

NTFOG definition of extreme weather triggered? Yes.

Weather and damage experienced on Day B? Very strong winds arriving from the SW around 0600hrs causing trees and branches on the line, dewirements, damage to station buildings and other railway assets across all GA routes

Train service start-up on main routes on Day B? Route-proving complete on Ely – Peterborough/Kings Lynn/Cambridge at 1010hrs, Liv St – Shenfield DML 1050hrs, Ilford – Liv St UML/UEL 1125hrs, Liv St – Chingford 1215hrs, Ipswich – Ely 1300hrs. Then by 1800hrs Liv St – Cheshunt, all 4 lines to Shenfield, Shenfield – Southend Victoria, Norwich – Lowestoft/Great Yarmouth/Sheringham/Cambridge, Shenfield – Manningtree, Walton – Thorpe le Soken, Ipswich – Felixstowe and Colchester Clacton all were confirmed as clear.

Approx. no. of trains planned for TOC on ‘normal’ Day B? 1925

No. of trains recorded as actually planned within systems for Day B? 12

No. of trains which ran on Day B? 12

PPM reported for TOC for Day B? 83.33%%

PPM reported for TOC for Day C? 47.13%%

Review no. 2 of 5 – c2c on 28/10

Review carried out by: Jon Wiseman (IR), David Hicks (IR), Alison Hockett (NR)

Date (of Day B): Mon 28/10 2014

Reason for major cancellations: Forecast of potential for major disruption as a result asset damage caused by very high winds (‘St. Jude storm’)

EWAT dates & times: Friday 25/10 1030hrs and 1530hrs, Sunday 27/10 1030hrs and 1900hrs

Decision to make major cancellations first proposed taken by NR or TOC and when?: Initial proposal made by NR Anglia to c2c on Sat 26/10 where c2c were originally planning to have a special snow service uploaded by Milton Keynes Train Planning Unit.



Final decision to go definitely ahead with major cancellations taken by NR or TOC and when?: Final decision taken by c2c at c.14.30 on Sun 27/10 directly to Milton Keynes Train Planning Unit to cancel all c2c services for the entire day Monday 28/10 October 2013.

Major cancellations made in systems by who and when? Entire schedule cancelled by NR Ops Planning between on Sun 27/10 (unable to confirm what time but trains removed from systems).

Emergency TT selected for Day B? Joint agreement reached with TOC to upload no timetable at all on Sun 27/10 for Mon 28/10 and to await successful route-proving on Mon 28/10 before running entire c2c service for Mon 28/10 by VSTP process.

Emergency TT uploaded by who and when? No ETT uploaded.

NTFOG definition of extreme weather triggered? Yes.

Weather and damage experienced on Day B? Very strong winds arriving from the SW around 0640hrs causing trees to fall on the line, a dewirement between West Ham – Fenchurch Street and objects on the OHLE across all c2c lines.

Train service start-up on main routes on Day B? Route-proving complete on LT&S mainline by 1530hrs and services running 1B33 1550hrs from Shoeburyness and 1B26 1530hrs Fenchurch Street which started from Barking due to the dewirement. Pitsea – Grays ran as a shuttle service from 1530hrs at 00 and 30 past the hour.

Approx. no. of trains planned for TOC on 'normal' Day B? 354

No. of trains recorded as actually planned within systems for Day B? 1

No. of trains which ran on Day B? 1

PPM reported for TOC for Day B? 100.00%%

PPM reported for TOC for Day C? 85.12%%

Review no. 3 of 5 – Southeastern on 28/10

Review carried out by: Jon Wiseman (IR), David Hicks (IR), Rene Tym (NR)

Date (of Day B): Mon 28/10 2014

TOC: SET



Reason for major cancellations: Forecast of potential for major disruption as a result asset damage caused by very high winds ('St. Jude storm')

EWAT dates & times; Fri 25/10, 11:00 and 15:00, Sun 27/10, 11:30

Decision to make major cancellations first proposed taken by NR or TOC and when?; Initial proposal agreed by NR Kent and SE on Fri 25/10

Final decision to go definitely ahead with major cancellations taken by NR or TOC and when?; Final decision taken by NR Kent at 11:30 on Sun 27/10

Major cancellations made in systems by who and when? Entire schedule cancelled by NR Ops Planning at request of KICC for Sun 27/10

Emergency TT selected for Day B? Joint agreement reached with TOC to run no trains 'before daybreak', internally with a view to commencing route proving at around 07:00, but advertising to the public no trains before 09:00 (other than on HS1, which was planned slightly earlier) – thereafter a simplified off peak and shuttle service planned for the remainder of the day

Emergency TT uploaded by who and when? SE off-peak with modification – most notably shuttles on HS1 and up the Tonbridge to Hastings line and some variations to stock

NTFOG definition of extreme weather triggered? Yes, although no formal record kept

Weather and damage experienced on Day B? Very strong winds arriving from the SW around 02:00 and with peak gust occurring until around 08:00 causing approximately 30 significant trees to fall and various other obstructions on the line, with canopy damage to several stations across all SE routes

Train service start-up on main routes on Day B? Due to the number of obstructions on the line on multiple routes, clearance and route-proving was on-going throughout almost the whole day, with SE mainline routes having a 50mph speed restriction and the Maidstone East and Hayes branches closed until later in the evening (around 17:00) – Initial planned High Speed trains were able to run on HS1 at reduced speed, before normal working could be resumed

Approx. no. of trains planned for TOC on 'normal' Day B? 2075

No. of trains recorded as actually planned within systems for Day B? 935

No. of trains which ran on Day B? 680

PPM reported for TOC for Day B? 46.95%%



PPM reported for TOC for Day C? 60.58%%

Review no. 4 of 5 – Southern Trains on 28/10

Review carried out by: Jon Wiseman (IR), David Hicks (IR), Rene Tym (NR)

Date (of Day B): Mon 28/10 2014

Reason for major cancellations: Forecast of potential for major disruption as a result asset damage caused by very high winds ('St. Jude storm')

EWAT dates & times; Friday 25/10 at 10:00 and 14:00, Sun 27/10 at 10:00

Decision to make major cancellations first proposed taken by NR or TOC and when?; Initial proposal made by NR Sussex to Southern on Fri 25/10

Final decision to go definitely ahead with major cancellations taken by NR or TOC and when?; Final decision taken by NR Sussex at 10:00 on Sun 27/10

Major cancellations made in systems by who and when? Entire schedule cancelled by NR Sussex Control Office for Mon 28/10 on Sun 27/10

Emergency TT selected for Day B? Joint agreement reached with TOC to operate, after successful route-proving, expected by 09:00, a pre-planned Sussex Coast contingency TT on the Brighton Mainline involving simplified shuttle working to/from key nodes, with reduced splitting and attaching and a half hourly Gatwick Express. Advice also that 50mph blanket speed restriction likely to be in force from 02:00

Emergency TT uploaded by who and when? Emergency TT uploaded by Sussex Control Office on 27/10 in the form of pre-planned contingency TT

NTFOG definition of extreme weather triggered? Yes, although no formal record kept

Weather and damage experienced on Day B? Very strong winds arriving from the SW around 01:00 causing around 20 significant trees and other obstructions across all Sussex routes, including damage to Battersea Park Station

Train service start-up on main routes on Day B? West London and Tattenham lines open by 09:00, with other routes staggered and route-proving complete on BML by mid-afternoon and services running through to Brighton by 11:00, although subject to significant alterations

Approx. no. of trains planned for TOC on 'normal' Day B? 2267



No. of trains recorded as actually planned within systems for Day B? 1627

No. of trains which ran on Day B? 642

PPM reported for TOC for Day B? 16.11%

PPM reported for TOC for Day C? 62.81%

Review no. 5 of 5 – Greater Anglia on 05/12

Review carried out by: Jon Wiseman (IR), David Hicks (IR), Alison Hockett (NR)

Date (of Day B): Mon 06/12 2014

TOC: GA

Reason for major cancellations: Forecast of potential for major disruption as a result asset damage caused by high winds and exceptional storm surge (largest for 60 years)

EWAT dates & times: First conferences started 04/12 1630hrs

Decision to make major cancellations first proposed taken by NR or TOC and when? Speed restrictions put in place on 05/12 mainly on the Northern Outer areas of the Anglia Route as a result of the high winds.

Final decision to go definitely ahead with major cancellations taken by NR or TOC and when? 06/12 major cancellations were put in place as a result of major infrastructure damage to the track due to flooding.

Major cancellations made in systems by who and when? All alterations were made within the Anglia Integrated Control Centre on the day 06/12/13

Emergency TT selected for Day B? No ETT existed for this scenario; the service alteration was jointly agreed between Network Rail and AGA on the day once the extent of the storm surge damage was reported.

Emergency TT uploaded by who and when: All alterations were made locally by the Anglia Integrated Control Centre.

NTFOG definition of extreme weather triggered? Yes

Weather and damage experienced on Day B? 60mph wind gusts recorded on 05/12 which preceded the storm surge which affected the coastal areas of Norfolk and Suffolk. On 06/12 significant infrastructure damage was identified as a result of the storm surge. 6 major track 'wash away' incidents were identified



between Lowestoft and Reedham. There were divers inspecting bridge supports at Wickham Market and a line blockage at Manningtree as a result of earthwork concerns at Wilkinsons Brook.

Train service start-up on main routes on Day B? As a result of the track and signalling damage at Lowestoft services were replaced with buses until 1450hrs on 07/12.

Approx. no. of trains planned for TOC on 'normal' Day B? 1928

No. of trains recorded as actually planned within systems for Day B? 1823

No. of trains which ran on Day B? 1678

PPM reported for TOC for Day B? 59.08%

PPM reported for TOC for Day C? 75.22%