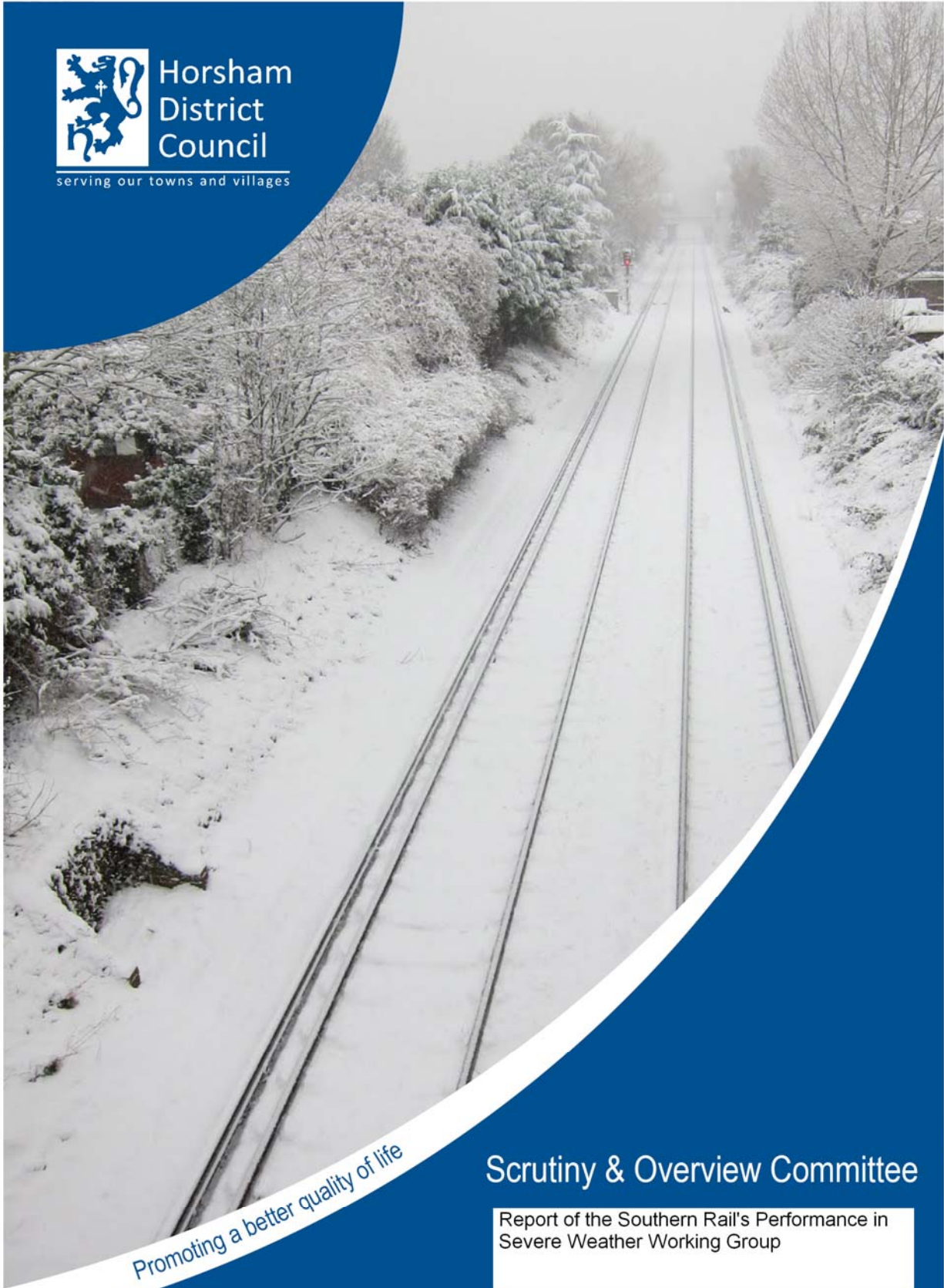




Horsham
District
Council

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Scrutiny & Overview Committee

Report of the Southern Rail's Performance in
Severe Weather Working Group

REPORT OF THE SOUTHERN RAIL'S PERFORMANCE IN SEVERE WEATHER WORKING GROUP

1. Introduction

A Horsham District resident (a former Horsham District Councillor) had raised concerns about Southern Rail's performance following disruption to rail services because of severe weather conditions in December 2010. He contacted the Council with details of his experience and, in particular, three main concerns: the reliability of Southern Rail and Network Rail, the inability of Southern Rail to maintain its performance in times of severe weather, and communication issues.

The Scrutiny and Overview Committee agreed that this was a valid topic for review. The Southern Rail's Performance in Severe Weather Working Group was established to undertake the review and Councillor Roy Cornwell was appointed as its Chairman.

2. Membership

Councillors Roy Cornwell (Chairman), Philip Circus and Jim Sanson.

3. Objectives of the Review

Scope

At the first meeting of the Working Group the scope and terms of reference of the review were agreed.

The review would identify how severe weather had affected the rail services in Horsham District and consider what action the Council could take. For the purposes of the review, severe weather included rain, ice, snow and hot weather.

The Working Group met on 16 July, 28 August, 2 October and 31 October 2012.

Terms of Reference

1. To examine the problems which occur during icy or severe weather which causes the trains to fail
2. To consider what action Southern Rail and Network Rail have taken since last winter's delays

Report of the Southern Rail's Performance in Severe Weather Working Group

3. To consider what safeguards are in place to deal with the disruption, especially at peak times, when trains do fail as a result of the severe weather
4. To identify Southern and Network Rail's methods of communication to staff and passengers at times of disruption
5. To examine to what extent any action by Horsham District Council is appropriate

4. Summary of the Research Undertaken

The Working Group decided to consider the rail services affecting stations in the Horsham District (including Amberley, Billingshurst, Christ's Hospital, Faygate, Horsham, Littlehaven, Pulborough and Warnham).

Following the Working Group's first meeting on 16 July 2012, Parish and Neighbourhood Councils were informed about the Working Group's establishment, its review, and were invited to comment and to attend a Working Group meeting if they wished to contribute to its work.

The Council issued a press release on 3 August 2012 (see attached as Appendix 1); users of local railway stations and services were invited to submit their comments about their experiences while travelling with Southern Rail during periods of severe weather.

The Working Group decided to interview representatives of the West Sussex Rail Users Association and officials from Southern Rail and Network Rail. Members compiled a list of questions to present to Southern Rail and Network Rail which were categorised under the following headings: severe weather conditions, network engineering, operator performance, and communications (see attached as Appendix 2).

The Working Group noted that the Cabinet Member with the portfolio for Highways and Transport at West Sussex County Council had written in December 2010 to the then Sussex Route Director at Network Rail to pass on the criticisms expressed to him by residents of West Sussex at the disruption to rail services in the county that month, and asking what lessons had been learnt. Network Rail's response was noted; it outlined a number of mitigation plans that would address the issues and changes that were being implemented (see attached as Appendix 3).

Report of the Southern Rail's Performance in Severe Weather Working Group

The Working Group was keen to investigate whether any progress had been made against those plans and a letter was sent to Network Rail requesting an update.

The Working Group considered the information provided by the following attendees or contributors to its meetings.

West Sussex Rail Users Association (WSRUA)

Representatives: Monica Edmonds, Chair and Trevor Tupper, Treasurer, of the West Sussex Rail Users Association

Meetings between WSRUA and Southern Rail and Network Rail were scheduled to discuss Southern Rail's preparations for winter 2012/13.

WSRUA suggested greater use of Twitter by rail companies to communicate messages to passengers. It had been a key method of communication to keep passengers updated when the emergency train timetable was introduced during periods of heavy snowfall.

WSRUA felt that overall Southern Rail was reasonably efficient at providing current and up-to-date information on its website which was useful for those with internet access.

Southern Rail had told WSRUA that its ice clearance machines would be serviced regularly to prevent a repetition of previous mechanical failures.

WSRUA felt that Southern Rail and Network Rail had sufficient equipment to cope with average summer and winter conditions but did not appear to have resources to deal with heavy snowfall which was an irregular occurrence.

WSRUA, when it received any relevant news from Network Rail and Southern Rail, emailed that to its membership and added it to its website along with links to any associated information.

Parish Councils' comments

Comments were received from councillors at two parish councils. The Working Group considered the issues raised by them were not directly relevant to the review about Southern Rail's performance in severe weather. References, however, to the need for better communication by the rail company, by means of sufficient and accurate information and an up-to-date website and contact telephone numbers for local railway stations, were noted.

Public comments

One member of the public, a resident in Southwater, had provided details of his journey during a period of snow and how Southern Rail's website had advised that trains would be operating on a revised service but no trains were running when he arrived at the railway station.

Southern Rail

Representatives: Colin Morris (Head of Trains), Mark Searle (Service Delivery Manager), Yvonne Leslie (Stakeholder Relations)

Southern Rail representatives attended the Working Group meeting on 2 October 2012 and provided an in-depth presentation to explain what action had been taken by Southern Rail to improve its services and prevent future disruption.

Southern Rail acknowledged that it had fallen short in the service it had provided during the exceptional bad weather in winter 2010. It had subsequently reviewed what had gone wrong and taken significant actions to try to prevent a repeat of that.

Newer, more modern trains were now in operation and they possessed higher technical equipment to deal with snow and ice. Since 2010, train drivers had been trained to respond to severe weather, drive in adverse conditions, and deal with faults that may occur.

Southern Rail had developed two plans to deal with periods of severe weather which would be enacted depending on the severity of the weather conditions. One of the plans was for a reduced train service and passengers would be informed when a limited service was operating.

Improvements to communication had also been implemented (see the paragraph on communication below).

Network Rail

Representatives: Simon Chapman (Route Enhancement Manager, Sussex), Andrew Lee (Seasons Delivery Specialist)

Network Rail representatives attended the Working Group meeting on 31 October 2012 and provided an informative presentation (relevant details of which are attached as Appendix 4).

Report of the Southern Rail's Performance in Severe Weather Working Group

Network Rail had responded to the problems that it had encountered as a result of severe weather during the winter of 2010. Network Rail had learnt many lessons and changes had been implemented to its infrastructure and practices, and it was working closely with Southern Rail to provide an industry-wide approach to seasonal preparations. Network Rail had introduced a more systematic approach to how it would respond to instances of severe weather.

Improved weather forecasting services were provided to both Network Rail and Southern Rail. If severe weather was anticipated, decisions about changes to rail services would be taken by the Emergency Weather Action Team on the day before the implementation of changes to the service. A decision would be taken using Network Rail's Decision Matrix which evaluated set criteria such as projected snow depths and air temperatures. Making a more timely decision would allow information about a reduced or revised service to be provided to passengers in good time.

An agreed revised timetable had been prepared which could, when required, be easily be uploaded onto the information systems. The rail company website and social media sites would be used to disseminate that information.

Network Rail had prepared an extensive action plan which outlined actions to be taken, starting from three days prior to an anticipated weather incident. Single Points of Contact had been identified and listed; those key people knew what actions had to be undertaken and by when.

Multiple Purpose Vehicles (MPVs) were based at Horsham which could switch from clearing leaf debris in the autumn months to taking preventative action before any snow and ice by laying heated fluid on the conductor rail. MPVs would be put into action if temperatures fell to 2 to 3 degrees Celsius.

Non-stopping 'ghost' trains would run in the mornings to clear any ice on the conductor rail. Snow and ice treatment trains would be used to keep lines open or to re-open lines after snow had fallen or ice had formed. There was an option of using a diesel fleet should the electric trains fail.

Points and conductor rail heating were now in operation in some areas and plans were in place to introduce more on the Arun Valley line along with improved signalling.

Train drivers could be accommodated in hotels near to depots to ensure they could get to work during times of severe weather.

Operator performance

The Working Group noted that its list of questions for Southern Rail (see attached as Appendix 2) had largely been answered and addressed in its discussions with the Southern Rail representatives.

A re-signalling scheme for the Arun Valley line would take place in 2013 which should reduce the gap between trains from ten to four minutes and to make the trains more resilient to any disruption.

Since 2010 control support managers would be on call at times of potential disruption, senior staff would be available on call and available to travel to key locations during periods of disruption to strengthen the performance of Southern Rail.

Communications

The Working Group noted that there were monthly meetings between Southern Rail, Network Rail and other rail service providers in order to share information and improve communication and to agree targets.

The Working Group emphasised to Southern Rail and Network Rail the importance of providing accurate and timely information to passengers at times of disruption.

Southern Rail and Network Rail had a joint control centre at Croydon (which would be moving to Three Bridges in April 2013) which had improved how its communication was disseminated to staff and then to customers in a speedier manner.

Southern Rail now used Twitter to keep customers informed and to respond to their messages. Since 2010 all train drivers and train conductors had been issued with Blackberry mobile phones to which messages about action required in severe weather conditions could be quickly relayed. Train conductors had undertaken customer service training in order to improve levels of customer service.

Members of the Working Group suggested that passengers could provide their email addresses when buying season tickets and could receive updates on travel information by email.

The Working Group suggested that key contact telephone numbers could be printed on rail tickets to allow customers without internet access a means of communication that was readily to hand. Southern Rail agreed to consider that.

Adaptations to the customer information screens on platforms meant that more accurate information would be displayed at times of disruption. Station staff had been provided with portable radio microphones to allow them to make announcements from the platform. In the future it was hoped that passenger information screens on trains could receive messages directly from the control centre.

Southern Rail was making more frequent announcements to passengers on board trains

5. Chairman's conclusions

The severe weather conditions during December 2010 had a profound effect on all of the transport systems in the UK and had caused misery for many commuters. Like many counties, Sussex residents suffered hours of frustration and in many cases anger at not completing travel arrangements for employment.

It was apparent that the severe criticism of the rail service in 2010 had rung alarm bells for the train and rail operators and had acted as a wake-up call in many quarters. The entire operation of rail services had been fully investigated, many changes had been made and others would be implemented although that may take some time during a period of financial constraints. The Working Group felt that the Southern Rail and Network Rail might wish to better inform the public of the improvements that had taken place to date.

The Working Group welcomed the new and improved trains, better equipment, upgraded systems, revised procedures and improvements to the rail infrastructure. The Working Group, however, cautiously noted that these changes had yet to be tested by severe weather comparable to that of the winter in 2010.

It transpired over the course of the Working Group's review that great efforts had been made by Southern Rail and Network Rail to address the issues. There could, however, be no room for complacency.

Working Group Members emphasised that communication was a key issue. It was important to keep passengers regularly informed of what was happening; even if there was no news, passengers should be told that. The improvements to communications were noted and the Working Group hoped that would continue to be a priority issue for Southern Rail.

The greater co-operation between Southern Rail and Network Rail, their combined control centre, and their regular network meetings were welcomed.

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A more systematic approach for deciding how to deal with potential disruption because of severe weather and earlier decision-making about whether to implement a revised timetable or reduced service would benefit passengers who could be alerted in advance of any changes to rail services.

The Working Group was keen to assist further. Network Rail highlighted the issue of access to railway stations via the road network at times of severe weather. Although West Sussex County Council was responsible for gritting public highways, the District Council could request it to include access routes to railway stations on its list of priority routes for gritting. This issue had also been highlighted by the member of the public who had detailed his difficulties in getting to the railway station because the connecting bus service was unavailable because the road had not been gritted.

It was disappointing that there had been a lack of feedback on this review and a lack of attendance at Working Group meetings by the residents of Horsham District. The Chairman, however, wished to thank the representatives of the West Sussex Rail Users Association and Denne Neighbourhood Council for attending a number of the meetings and for their contributions.

The Chairman also wished to thank the representatives of Southern Rail and Network Rail for attending and providing extensive and valuable information.

The Working Group was content that it had gathered sufficient evidence from all interested parties. It was important to emphasise that Horsham District Council had no regulatory powers in this area and could only offer its guidance and advice to Southern Rail and Network Rail, and inform residents of the District about its findings and recommendations.

6. Recommendations to the Scrutiny and Overview Committee

1. That Horsham District Council, following the very full and valuable contributions that both Southern Rail and Network Rail made to the Scrutiny Review, request them both to confirm their commitment to keep the Council informed on a regular basis of all actions related to maintaining services in severe weather, thus allowing the Council to share such information with its electorate and monitor progress.
2. Request Southern Rail to confirm that their on-duty railway station staff will be equipped to receive direct communication from the rail control centre during periods of disruption to rail services.
3. To request West Sussex County Council to include access to railway stations on its list of priority routes for gritting.

Report of the Southern Rail's Performance in Severe Weather Working Group

Appendices:

1. Horsham District Press Release
2. Working Group's list of questions for Southern Rail and Network Rail
3. Letter from West Sussex County Council to Network Rail, and Network Rail's response
4. Network Rail presentation

Councillor Roy Cornell
Chairman, Southern Rail's Performance in Severe Weather Working Group

December 2012

Horsham District Council Press Release

REVIEW TO LOOK AT SOUTHERN RAIL'S PERFORMANCE IN SEVERE WEATHER

3 August 2012

HORSHAM District Council is conducting a review to look at how Southern Rail performs in severe weather.

The review aims to identify how severe weather has affected the rail service for the Horsham District and what action Horsham District Council could take in the future.

The review is being carried out by a new Working Group set up by the Scrutiny & Overview Committee at Horsham District Council and the Group met for the first time on 16 July 2012.

Members of the Working Group are keen to hear from users of local railway stations in the Horsham District, such as Pulborough, Amberley, Horsham, Christ's Hospital, Warnham, Littlehaven and Faygate.

Comments from users of the local railway stations can be sent to the Scrutiny and Overview Committee by emailing scrutiny@horsham.gov.uk

Alternatively, send written comments to Scrutiny and Committee Support Officer, Horsham District Council, Park North, North Street, RH12 1RL.

The suggestion for a review was raised by a former Horsham District Councillor, who had concerns about three main issues.

These issues were the reliability of Southern Rail and Network Rail, the inability of Southern Rail to maintain its performance in times of severe weather and communication issues.

The aim of the new review is:

- to examine the problems which occur during icy or severe weather, which causes the trains to fail
- to consider what action Southern Rail and Network Rail have taken since last winter's delays
- to consider what safeguards are in place to deal with the disruption, especially at peak times, when trains do fail as a result of the severe weather
- to identify Southern and Network Rail's methods of communication to staff and passengers at times of disruption
- to examine to what extent any action by Horsham District Council is appropriate

Report of the Southern Rail's Performance in Severe Weather Working Group

Councillor Roy Cornell, Chairman of the Southern Rail Performance in Severe Weather Working Group at Horsham District Council, said:

"The Working Group has excellent terms of reference criteria which will enable it to investigate all types of severe weather that have affected the operation of rail services within our district.

"It is our intention to therefore ask rail users to meet the Committee and explain their experiences while travelling with Southern Rail, and the effect it has had during severe weather conditions.

"The Committee will then ask management from Southern Rail and Network Rail to attend meetings at a later date."

The Working Group confirmed that for the purposes of the review, severe weather included rain, ice, snow and hot weather.

The Scrutiny and Overview Committee can question, call for information on and comment on any decisions of the Cabinet; review and monitor internal and external services; review issues of local concern and monitor and scrutinise outside bodies such as financial advisors and utility suppliers.

For more information, please call Horsham District Council on 01403 215138 or go to the Scrutiny pages on the Horsham District Council website

<http://www.horsham.gov.uk/council/members/scrutiny-overview.aspx>

Questions for Network Rail and Southern Rail for the Southern Rail's Performance in Severe Weather Working Group

1. Severe Weather Conditions (both Network Rail and Southern Rail)

1. What action has Network Rail taken following last winter's delays?
2. What action has Southern taken following last winter's delays?

2. Network Engineering (for Network Rail)

1. Why do conductor rails still freeze up?
2. What are your future plans, knowing the problems of the past?

3. Operator Performance (for Southern Rail)

1. How many trains fail during each month?
2. How many failures were related to electric motor shut downs?
3. Are Southern 377 Electrostar trains fit for purpose in the winter?
4. What are the reasons for trains breaking down in the winter?
5. What are the summer and winter performance figures over the past five years and the historic trends?
6. What are your future plans, knowing the problems of the past?

4. Communications (both Network Rail and Southern Rail)

1. What are the procedures to move failed trains?
2. What are your communication methods to passengers on the train and at the station?

July 2012

Appendix 3

Lionel Barnard

Deputy Leader and portfolio for Highways and Transport

Cabinet Office
Ground Floor
County Hall
Chichester
West Sussex
P019 1RZ

www.westsussex.gov.uk

Mr Mark Ruddy
Sussex Route Director
Network Rail
Croydon CR9 3RT

10th December 2010

Dear Mark,

Disruption to Rail Services in West Sussex

As part of the close working relationship between Network Rail and West Sussex County Council, I feel I need to pass on to you the criticism expressed to me by residents of West Sussex at the disruption caused to our main rail routes through the county last week.

Whilst I understand that the weather conditions were extreme it must be clear that even more people turn to public transport when the road network is affected. Additionally there are those that rely upon the rail service for their daily commute, possibly with season tickets for London. Naturally, if people cannot get to work this is not a good influence on our economy. As you will be aware, the government is placing a large emphasis on economic recovery in these times.

It would help me if you could outline what the learning points were for your organisation during the recent event (in particular when trains were stranded for ten hours resulting in passengers having to sleep overnight on the train itself) and whether any of your business resilience procedures have been revised.

I understand that much of the difficulty was due to icing and thus failure of the third rail power system. As far as future investment is concerned, are there any plans in your organisation to reduce the reliance on this form of traction and move to more diesel units or even to overhead electrification.

I look forward to your reply with interest.

Yours sincerely
Lionel Barnard
Deputy Leader and portfolio for Highways and Transport

Report of the Southern Rail's Performance in Severe Weather Working Group



Mark Ruddy
Route Director, Sussex
Carolyn House
22-26 Dingwall Road
Croydon. CR9 3RT
0207 023 2900
07824 411849

Mr. Lionel Barnard
Deputy Leader and Portfolio for Highways and Transport
West Sussex County Council
Cabinet Office
Ground Floor
County Hall
Chichester. PO19 1RZ

Dear Mr Barnard,

10 January 2011

Disruption to Rail Services in West Sussex

Thank you for your letter dated 10 December 2010 with regards to service disruption during severe weather conditions. I apologise sincerely for the time it has taken to get this response to you. There is excuse for some of that time in terms of waiting for firm enough data from a whole system analysis; but I had hoped to answer earlier; and I am very sorry to have been quite so tardy.

Heavy snow, particularly at an unusual time or with uncertain forecasting continues to be a challenge for any railway, as it does of course with other forms of transport. Those routes where traction power is collected by the trains via a top contact third rail system are particularly vulnerable to snow and ice. Network Rail and the Train Operating Companies are acutely aware of the impact the degradation of service had on our passengers and that (although these events are short lived and occur rarely) we do need to be in a position to respond more effectively. On Sussex Route none of our train operating Companies had occupied trains stranded overnight – we did have passengers waiting a long time at night at Gatwick Airport Station and Southern Railway did use a train to provide heated waiting accommodation at London Victoria. There was a stranded train on Kent Route; but otherwise the railway did get everyone that got on a train, home, albeit late. Virtually all of the passenger concerns raised directly to us or through passenger focus were about accurate and timely information to passengers, rather than the degraded service.

That said, we have recognised that as an industry we were unable to respond quickly enough to the change from autumnal weather effects to the railhead to those caused by heavy snow and ice at the end of November / first few days of December.

While much work had been done in readiness to respond to wintery conditions; most of those measures & mitigations were due to come into force alongside the timetable change on 10 December and so were not available to us, at a moments notice, 2 weeks earlier. They were in place for the similar weather events in the third week of December and happily, (while we still had to move to a contingency timetable) during that second bout of heavy snow and ice we kept the service running and, again, got everyone home. We did make a conscious decision to sacrifice punctuality in order to maintain capacity. We do, though, recognise that we need to do a lot better during these sudden snap weather events:

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The issues are:

- Keeping 1000 miles of conductor rail free of a layer of ice
- Keeping hundreds of 'points' (switches & crossings) free of snow & ice
- Clearing platforms and walkways
- De-icing access & egress to depots and sidings
- Weather effects on electric traction motors
- Frozen / snow /ice build up on trains (particularly coupling equipment / electrical connectors, Horns, and passenger door freezing)
- Loading a workable timetable into the central system in time for the changes to feed through all the industries systems / websites / ticketing and platform display systems
- Signalling & Command & Control processes
- Proactive & accurate passenger information on platforms and station concourses
- Ability to "stand up" the necessary additional staff / change shift patterns
- Physically getting the right staff to the right place of work

We have mitigation plans for each of these issues and as the second of the two wintery weeks showed, once they are in place we are able to keep a reasonable service going. We still need to do better. There are two independent studies underway; one led by David Quamby (on behalf of the industry) and another looking at improving how trains cope with ice on the conductor rail. We shall use these to adjust our plans and our investment for the longer term. For the immediate term we are already:

- Adding heating strips to the conductor rail at 14 key stretches (approaches to stations / curves / inclines)
- Increasing the robustness of existing "points heaters" and looking to increase the numbers of junctions that have points' heaters.
- Improving the effectiveness of rail borne mitigation:
 - Multi-Purpose Vehicles: 3 x engineering trains that spray an anti-icing agent on the con-rail (to inhibit the formation of ice).
 - De-icing Vehicle: 2 x engineering trains with mini-snowploughs that scrape ice off the rail and spray HOT oil based de-icer onto the con-rail.
- Improved call-out systems for stationing / rotating de-icing gangs at key rail junctions for prolonged periods.
- We have just secured a further £5.5M for even more stretches of the railway to be given con-rail heating strips.
- More flexible contingency timetables
- Decision point for changing to fewer, longer trains (reduced coupling/de-coupling).
- Looking at 'winterisation' of TOC fleets (protect horns / couplings / prevent ingress of snow/ice into DC traction motors).
- Additional & visible management presence on station concourses during disruption
- Improved methods of communicating information to passengers during disruption.
- Improved interpretation of available weather forecasting

We believe that with these changes, we will start to see improvements to the way the railway in Sussex performs in heavy snow. Should you have any further questions regarding this, please do not hesitate to ask and I will be happy to help.

Yours sincerely



Mark Ruddy
Route Director - Sussex



Winter 2012/13

Multi Purpose Vehicles (MPV)



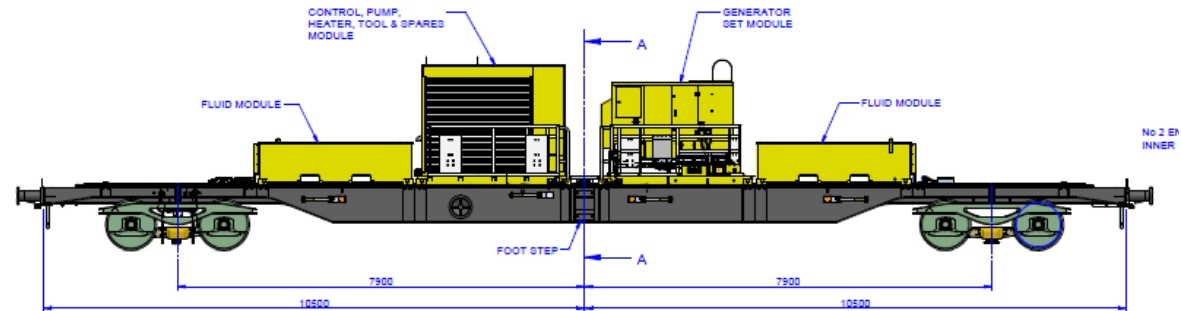
- Winter MPV fleet: **4,13,16,17,18, 28** and 29
- Additional 2 MPV 4 (Wigan) & MPV 28 (Kings Norton) will arrive following autumn
- Current autumn fleet are fitted with 'Anti-ice-module' and could switch from Autumn treatment to Winter treatment within 2-3 hours at Horsham depot.
- Lays heated Kilfrost Rail Plus as a de-icing agent .
- Sleet brushes attached can help scrape ice from the conductor rail (3rd Rail)

Gatwick Luggage Van (GLV)



- 3 GLV(s) for the South east – Tonbridge (2) and Eastleigh (1)
- Lay heated Kill Frost Rail Plus as a de-icing agent
- Will be used during significant winter weather event to keep lines open to traffic and re-open lines that may have been temporarily closed.

Snow and Ice Treatment Trains (SITT)



- 6 SITT for the South east – Tonbridge (4) and Eastleigh (2)
- Lay heated Kill Frost Rail Plus as de-icing agent
- Will be used during significant winter weather event to keep lines open to traffic and re-open lines that may have been temporarily closed.

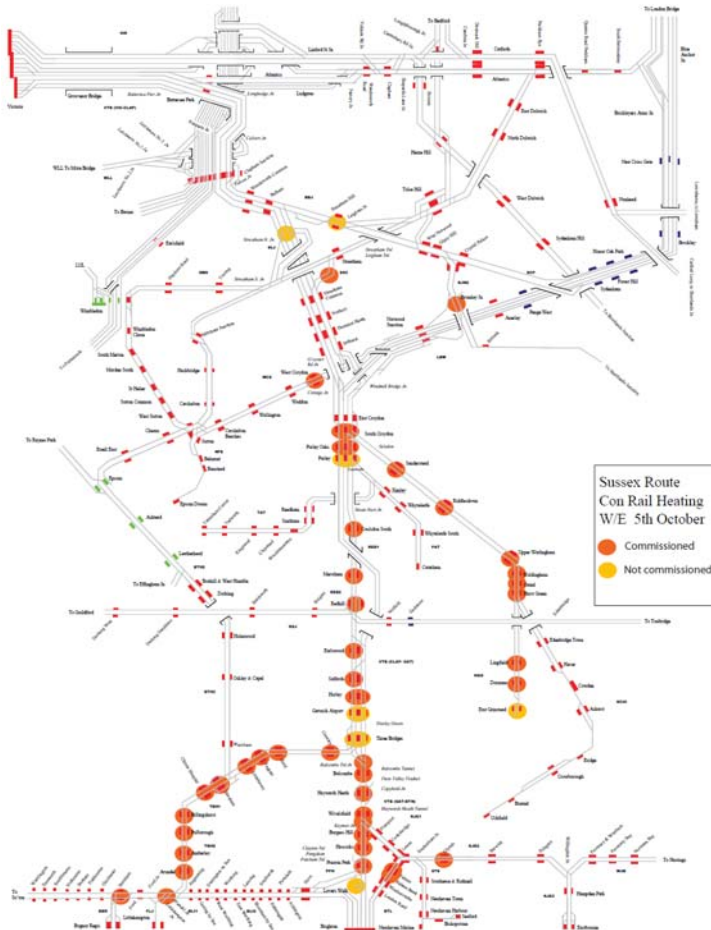
Points Heating

- Brighton and Croydon delivery areas have inspected all their points heating equipment
 - Monthly inspections will be conducted

- Heat retainers will be fitted to point heaters at critical locations.
 - Heat retainers are covers that fit over the strip heaters improving heat transfer by 25 %

- Renewals of the point heating equipment has taken place at:
 - Sutton Ventnor Road, Wimbledon LE, Coulsdon Town, Selhurst CE, Tulse Hill, Streatham N/S and West Norwood Jn

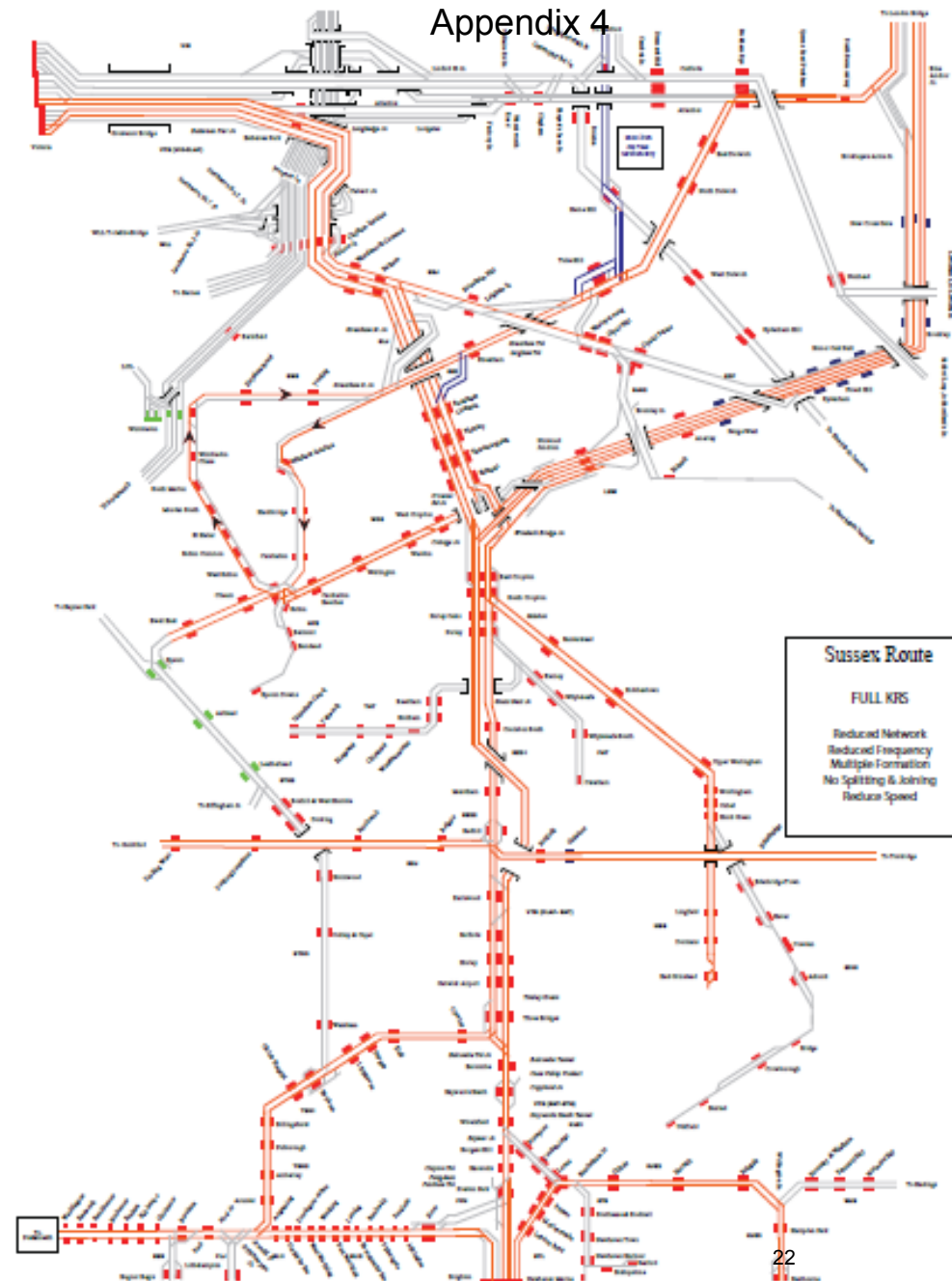
Conductor Rail Heating



- Each location will automatically operate using ambient temperature control.
- Frontline staff will conduct audits during cold periods to ensure all sites are working
- The map attached shows locations on Sussex that will be operational as of mid December.

Key Route Strategy

- 1) Meteogroup provide weather forecast updates for the rail industry
 - Daily 03:30 Meteogroup Forecasts
- 2) The cumulative snow depths will be monitored across the route
- 3) At 0930 the day before a significant snow event a emergency industry conference will be held
 - If the risk of snow fall is great enough as a industry we will plan to run a revised train service the following morning.
 - Upload pre planned emergency timetables
 - Enable the information to be passed on to the passenger the night before



Key Route Strategy Decision Matrix

The decision matrix will provide guidance so industry partners can anticipate each others actions should the weather conditions highlighted in the matrix prevail.

Wind <12mph	No Frost	Temp 0 to -3	Temp -4 to -6	Temp -7 or below
Wind >12mph	No Frost	Temp 0	Temp -1 to -2	Temp -3 or below
No snow fall	No Action	No Action	EWAT Called To Review The Risk	Southern: review rate of snow fall FCC: review air tempertaure & the status of their doors
	Southern FCC LOROL FGW	Southern FCC LOROL FGW	Southern FCC LOROL FGW	Southern FCC LOROL FGW
Actual Snow Fall 0cm - 5cm	EWAT Called To Review The Risk	EWAT Called To Review The Risk	Southern: review rate of snow fall FCC: review air tempertaure & the status of their doors	Southern: Light KRS
	Southern FCC LOROL FGW	Southern FCC LOROL FGW	Southern FCC LOROL FGW	Southern FCC LOROL FGW
Actual Snow Fall 5cm-10cm	EWAT Called To Review The Risk	EWAT Called To Review The Risk	Southern: Light KRS	Southern: Light KRS
	Southern FCC LOROL FGW	Southern FCC LOROL FGW	Southern FCC LOROL FGW	Southern FCC LOROL FGW
Actual Snow Fall 10cm-15cm	FCC & Southern reduced line speed 50mph class 455,456,442,319, 313, 377	FCC & Southern reduced line speed 50mph class 455,456,442,319, 313, 377	FCC & Southern reduced line speed 50mph class 455,456,442,319, 313, 377	FCC & Southern reduced line speed 50mph class 455,456,442,319, 313, 377
	Southern FCC LOROL FGW	Southern FCC LOROL FGW	Southern FCC LOROL FGW	Southern FCC LOROL FGW
Actual Snow Fall 15cm +	FCC & Southern reduced line speed 50mph class 455,456,442,319, 313, 377	FCC & Southern reduced line speed 50mph class 455,456,442,319, 313, 377	FCC & Southern reduced line speed 50mph class 455,456,442,319, 313, 377	FCC & Southern reduced line speed 50mph class 455,456,442,319, 313, 377
	Southern FCC LOROL FGW	Southern FCC LOROL FGW	Southern FCC LOROL FGW	Southern FCC LOROL FGW
Key	Normal service	WTT		
	Light KRS	Reduced Frequency- No splitting and attaching- Line speed		
	Full KRS	Reduced Network- Reduced Frequency- Multiple Formation - No splitting & attaching- Reduced speed		