

LONDON RESILIENCE



preparing for emergencies

London Regional Resilience Forum

Severe Weather Debrief

May 2009

If you require this document in an alternative format, please contact:

The London Resilience Team
Government Office for London
First Floor – Riverwalk House
157 – 161 Millbank
London
SW1P 4RR

E-mail: enquires-lrt@gol.gsi.gov.uk

Enquiries: 020 7217 3228

Please note: all our telephones can be used as text phones

Fax: 020 7217 3405

Accessibility

The Partnership recognises the need to ensure that all staff are able to respond to an emergency. Therefore, partners need to ensure that all buildings identified for an incident response are fully accessible to Deaf and disabled people. This includes all meeting venues, media facilities etc. This may require an access audit to be carried out on the venue.

It is also important that communicators adopt an inclusive approach and consider all audiences including Deaf and disabled people to ensure that all communications are accessible and clearly inform both responders and the public about the incident.

This requirement will be taken into account by the media cell and addressed in any communications strategy that is developed by the media cell for the incident.

THIS PAGE HAS BEEN LEFT INTENTIONALLY BLANK

<u>CONTENTS</u>	<u>PAGE NUMBER</u>
Section 1 Introduction	1
Section 2 Multi Agency Co-operation	2
Section 3 Partner Reports	
Transport for London	5
London Local Authorities	11
London Local Authority Co-Ordination Centre	14
National Health Service (London)	17
London Ambulance Service	18
Network Rail	21
Rail Operating Companies	21
BAA	23
Highways Agency	24
Section 4 Salt Supply Issues	26
Section 5 Military Assistance for Civil Authorities	31
Section 6 Public Information and Communications	33
Section 7 Conclusion	40

Annex 1 - Meteorological Office Overview	42
Annex 2 - Other Severe Weather Reviews	
London Assembly Review	44
London TravelWatch	44
House of Commons Transport Committee	45
Annex 3 - Summary of Recommendations	46

LONDON REGIONAL RESILIENCE FORUM

Severe Weather De-brief – May 2009

1. Introduction

- 1.1** The heavy snowfall covering Greater London on Monday 2nd February was an extreme and exceptional weather event. Such accumulations of snow have not been seen in the capital for eighteen years. The snow fell to different depths, in some places it was drifted by winds and also fell on ice.
- 1.2** Across London, organisations faced considerable challenges in keeping their services running and the withdrawal of the bus service on Monday 2nd February was the most obvious and significant impact. However, it should be noted that, elsewhere, key health and social care services were maintained and where there was disruption, for example, on the London Underground, the full service was up and running on Tuesday 3rd February. This reflects the considerable work which members of the London Resilience Partnership had undertaken in advance to plan for a wide range of emergencies and the efforts and commitment of their staff.
- 1.3** The London Regional Resilience Forum (LRRF), which met on 10th February, acknowledged the contribution made by partners in restoring services, and agreed that it would be useful to commission an interim de-brief to identify any immediate lessons learnt and recommendations for the future, particularly given forecasts of further cold weather to come.
- 1.4** An interim report was produced at the end of February and circulated to all members of the London Resilience Forum.
- 1.5** The LRRF also agreed that a more detailed document would also be compiled by the London Resilience Team, for consideration at the LRRF meeting in May 2009.

2.1 Multi Agency Co-Ordination

Warnings of heavy snow were issued by the Met Office on Saturday 31st January showing a 60% risk of heavy snow in London. The risk was assessed as severe.

On Sunday 1st February, the position worsened and a warning of a 60% risk of heavy and drifting snow was issued at 11.29. The risk was assessed as extreme. This extreme weather warning was followed by an e-mail from the London Public Weather Service Adviser (LPWSA) to a wide range of London Resilience Partners at 12 noon to confirm that the warning had changed from severe to extreme. Local Authorities and Transport for London (TfL) implemented route treatments in accordance with plans, although salt treatment alone is not effective in clearing deep snow fall.

Local Authorities and Transport for London (TfL) utilised existing salting plans following receipt of warnings, although timing and quantity of snowfall led to many roads remaining hazardous.

The LPWSA contacted the on call London Resilience Team (LRT) Duty Officer at 11.15 to ask whether it would be appropriate to trigger Operation Ringmain. After speaking to the LRT Duty Director and on-call Metropolitan Police Service (MPS) Officer, it was agreed that it was appropriate to use this.

Operation Ringmain is a protocol, agreed by the LRRF in April 2007, designed to complement and enhance London's existing emergency procedures, alongside the London Command and Control protocol. It can be triggered by any organisation in the Partnership. Operation Ringmain states:

“There will be occasions when organisations within the London Resilience Partnership identify events or situations which do not satisfy the definition of a ‘major incident’ (LESLP, 2007), but do, however, show potential to cause significant disruption to the people or infrastructure of London and may, therefore, require a co-ordinated response.”

Triggering Ringmain gives access to the 24/7 MPS Central Command Complex, which will then contact the CO3 on-call officer in the MPS. The on-call officer MPS will then decide what further action, if any, is needed. The protocol allows information to be shared widely across the Partnership but also provides a mechanism by which multi-agency co-ordination can be triggered and a meeting of the London Resilience Partnership convened.

On 1st February, the decision was taken by the MPS that there was no requirement for a meeting. The Blue Lights Services were notified of

the extreme weather event, but no other partners appeared to have received notification.

There is no evidence to suggest that convening a multi-agency meeting or teleconference on Sunday would have had any effect on the response or enabled a speedier return to normality. It would, however, have enabled all partners to have an awareness of the issues and likely impacts and provided a basis for further co-ordination activity on Monday.

At no time during the severe weather event was a multi-agency Gold Co-ordinating Group called. An operational teleconference of London partners was convened by LRT in the afternoon of Monday, chaired by a senior officer in the MPS. Partners did not feel that there was a need to convene a more senior meeting involving LRRF representatives as issues were largely operational.

Recommendation 1
Extreme weather alert

The issue of an extreme weather alert for London should be the trigger for the convening of a multi-agency partnership meeting. This can be actioned by the LRT Duty Director in liaison with the on-call MPS officer

Recommendation 2
Operation Ringmain

Operation Ringmain remains the correct process for partners to share information in advance of an event as outlined above. There is a need, however to:

1. Raise awareness of the protocol amongst partners, including its purpose and how it should be triggered;
2. Test the protocol every six months to ensure that partners are familiar with the process;
3. Review the contacts list periodically to ensure that it is up to date;
4. Ensure that those representatives of partner organisations who participate in a multi-agency co-ordination meeting are those with the necessary authority to take decisions as required.

Recommendation 3
Amendments to Command and Control Protocol

Establishing and communicating to all stakeholders a battle rhythm and reporting schedule should be a priority for all incidents, especially where COBR is utilised¹. Consideration should be given to formalising this process into the Command and Control Protocol.

¹ Note that during this event COBR was not required to meet

3.1 Transport for London

Surface Transport

Responsibilities for winter treatment of London's roads

TfL are responsible for treating 580km of London's strategic roads with responsibility for the remaining 95% of local roads within Greater London, the responsibility of the London Local Authorities. The motorway stubs and tails (M4, M3, M1 etc) are the responsibility of the Highways Agency.

Sunday 1st February

The London Traffic Control Centre (LTCC) liaised with TfL's Highways Operations team, and their Highways Maintenance Works Contractors (HMWC) to ensure the salting was applied to agreed plans on the TLRN. This was carried out on Sunday and throughout Sunday night and, in accordance with procedures, the LTCC liaised with Centre Comm (the London buses 24/7 control room) and initially the 33 individual boroughs to identify any issues relating to salting 'application'.

Despite salt being applied across the Greater London area in accordance, prolonged heavy snowfall was experienced of an intensity that had not been seen for many years.

On Sunday night right across London, heavy snow fell which, coupled with the freezing temperature, made driving conditions increasingly difficult. This was monitored by LTCC and CentreComm, which have access to around 1,400 cameras. CentreComm also receives reports from bus drivers and bus companies. In this way, a comprehensive and up to date picture of road conditions was maintained throughout the night.

Over the course of the evening and night, progressively deteriorating conditions were observed across London, which resulted in a number of significant incidents, including 30 bus related accidents between 1820 and 0010 and 142 logged emergency calls between 1830 and 0010 (plus 150 calls unanswered due to volume). Bus operators started to withdraw individual services between 2200 and 2300 because individual roads were unsafe for use by large vehicles. Some buses became stuck due to the road conditions and were unable to return to their respective garages and were abandoned at the roadside and were therefore not available for service on Monday.

At 0010 the London Buses Network Duty Manager, in conjunction with the On Call Manager, decided to instruct the remaining bus services, on completion of the current trip, to return to the garage as soon as possible as roads were becoming impassable, and the level of accidents and/or stranded vehicles confirmed the likelihood that further accidents would occur, placing passengers, staff and other road users at risk.

The prevailing instructions in force for many years were utilised but that the volume and repeat falls of snow made the 'delivery' ineffective in many parts of the road network. Feedback from the period of snowfall and the immediate aftermath are part of the ongoing 'lessons learned' review, involving other agencies where appropriate.

It was also clear that allowing specialist salting vehicles unimpeded access to the road network was vital, to ensure the bus service could restart as soon as road conditions allowed.

Monday 2nd February

A further assessment of the road conditions was made by bus operators at around 0400 – 0500 and it became apparent that due to the unusually heavy snow fall, even those local roads and bus garage forecourts that had been extensively salted were heavily iced over with a covering of deep snow. This, along with Health and Safety concerns, made it impossible to get buses out of most bus garages, many of which were some distance from the main road network. Where it was possible to get buses out from garages, a local decision was made to assess the risk posed by the dangerous driving conditions caused by the snow and ice. There was no general instruction not to operate the day service; it was simply not possible to do so due to the risk to drivers and passengers posed by road conditions.

London Buses have fully reviewed and where necessary, refined its management processes for dealing with emergency situations affecting the bus network.

A constant re-assessment of the local road conditions was made by the local bus operators who were clearly best placed to assess the road conditions on the roads they serve. This information was co-ordinated by Centre Comm who passed on requirements for gritting to either the London Traffic Control Centre or direct to the local boroughs through the Local Authority Co-ordination Centre (LLACC). Individual garages were also in contact with their local authorities.

Guidance was given throughout the day to the bus companies that where they were able to operate bus services they should do so and inform Centre Comm so accurate information could be provided to the public regarding the bus service that was operating. Buses began to

leave garages from about 1030 – 1100 and, as Monday progressed more buses were able to operate and by 1800 there were 1,700 buses operating across London.

Tuesday 3rd February

Services operated on all routes except where road conditions were still considered dangerous. Nine routes in Outer London were still suspended as at 1500, with a few more routes subject to diversions. More than 95 per cent (more than 650 routes) ran normally.

3.2 London Underground (LU)

Sunday 1st February

Overnight engineering works were postponed on the Tube network to allow Tube and engineering trains fitted with de-icing equipment to continually run across the above ground sections of the network. Points heaters were switched on to prevent points from icing. LU and Tube

Lines worked hard to keep as many points and crossings clear of ice and snow. Tube maintenance workers released by the cancellation of overnight engineering works not only supported efforts to keep tracks clear of snow, but were deployed to salt platforms.

Monday 2nd February

LU was successful in keeping stations open over much of the network. With the exception of stations between Acton Town and Rayners Lane (closed throughout), Arnos Grove and Cockfosters (closed for 5 hours), Hammersmith and Edgware Road (5 ½ hours), Parsons Green and Wimbledon (5 hours), Harrow on the Hill and Watford/ Amersham (3 hours in total) and the Chesham Shuttle (closed throughout), most individual station closures were of short duration linked to staff travel difficulties. Through the day, LU modified the service pattern so as to utilise available drivers in order to deliver service throughout the day over most of the network.

LU's ticket hall 'service status boards' appeared to make things appear worse than they were, with line after line of "Part Suspended" in distinctive blue, when actually a new service pattern resulted in passenger service being maintained across the network with three main exceptions:

- Jubilee line north of Waterloo (not initially weather related – defective trains);

- District line on the west side of the Circle between Earl's Court and Edgware Road and Olympia and out on the Richmond branch, which is maintained by Network Rail;
- Rayners Lane branch of the Piccadilly Line between Rayners Lane and Acton Town (beyond Rayners Lane to Uxbridge, the Metropolitan Line was running most of the time.

Across the rest of the network, delays were experienced from various causes on the lines, many weather related, but these were dealt with and the service was restored in each case. Service intervals were widened throughout the day on some sections of the network given the service patterns and the weather. However, parts of the press consistently reported that most of the lines were suspended when, in fact, LU delivered service over much of the network with the service delivered at times exceeding demand

Updates were issued regularly using normal 'media' including websites and established media contacts – the need for 'external' recipients to update their reports in a timely manner has been stressed.

There was one single service failure on the day, but this had nothing to do with the extraordinary levels of snow and was the most significant gap on the core network. At 0500, a Jubilee Line train became defective near West Hampstead. Tube Lines struggled all day to move the defective train and a second "rescue" train that had become defective for the same reason. A third Jubilee train suffered the same defect at Wembley Park. The trains blocked the section of line until the evening by which time rail conditions to the north were too difficult to restart service. The Jubilee Line was suspended from Waterloo to Stanmore, as a result, for most of the day.

Tuesday 3rd February

After deploying hundreds of extra track personnel through the night, full service was restored on 3rd February with three (LU) exceptions.

3.3 Transport for London - London Rail

Docklands Light Railway (DLR)

Sunday 1st February

DLR and its operator SERCO have well rehearsed winter weather plans. The decision was taken over the weekend to run all night services, ensure extra staff were available and identify vulnerabilities based on staff that had difficult journeys to work.

Monday 2nd February

DLR infrastructure held up very well, as anticipated, with the only significant problems being adhesion on the 5% gradient out of Bank tunnel. This was resolved by manual application of 'sandite' later in the day. DLR operated 77.4% of services on Monday and had relative high loadings, particularly from Lewisham and Woolwich where South East Trains were suspended. In the afternoon a small number of stations were closed as snow built up and staff were not available to clear them (DLR stations are normally unstaffed); this was undoubtedly a correct decision as the resources were then available to implement overnight precautions.

Tuesday 3rd February

99.1% of all scheduled services ran on Tuesday (1.1% above the normal good weather target for the DLR) which in the circumstances is a considerable achievement,

3.4 London Overground (Transport for London Services)**Sunday 1st February**

London Overground, its operator LOROL, and partner Network Rail (NR) have plans for winter weather. Again Network Rail continued to operate trains through Sunday night to avoid snow and ice building up and plans were made to ensure as many staff as possible were available. Network Rail maintained 17 functioning signal boxes throughout the peak of the event.

Monday 2nd February

Overground was able to run 60% of trains scheduled with the only service withdrawal being the West London Line for part of the day when crew shortages and a points failure at Willesden led to the rational decision to 'clip' the points and prioritise the busier Richmond-Stratford route. Similar arrangements were very successfully put in place on Monday/Tuesday night.

The principal constraints on operating more services was the inability of crews to get to work by private transport or by other national rail operators which had suspended services, together with the physical constraint referred to above.

Tuesday 3rd February

London Overground introduced a revised timetable, and ran 84% of the normal scheduled train service, serving all stations and destinations.

3.5 Trams

Sunday 1st February

Tram services were suspended on Sunday/Monday night as points froze and became clogged with compacted snow. Normally trams running all night keep the tracks sufficiently clear and services are generally very robust. However, this was the most significant and concentrated snowfall since the Tram network had opened in 2000. Once snow had built up on platforms and tracks a huge amount of manual clearing was required to restart services.

There was a serious concern as ice built up in the track in the street running areas, and risked derailment of the carriages. (The track is different from main line trains, as alongside the main rail section in the road sections, a keeper rail is fitted. This configuration creates a slot which became full of compacted ice creating the derailment risk.) Further the trams are fitted with a safety device called a lifeguard, which is a pressure sensitive device sitting at the front of each tram to protect pedestrians. The lifeguard can be triggered by compacted snow and on the street running sections where this occurs it will stop the tram running until the lifeguard can be reset.

Monday 2nd February

Because of these issues, services did not operate on Monday. Manual clearance took place as far as Wimbledon during Monday and trams were run all night to keep the line clear.

Tuesday 3rd February

During Tuesday teams of staff worked to clear central Croydon and restart services through the central loop. On Tuesday night further staff including considerable additional contract labour manually cleared the remaining sections so that a full service could operate on Wednesday morning.

<p>Recommendation 4 Transport</p>

<p>TfL to review their emergency plans</p>
--

3.6 London Local Authorities

The following information is based on the compilation of returns from all 33 Local Authorities in London.

Preparation

Through the week of 26th January 2009, Met Office weather warnings were issued and received by both the LLACC and by boroughs, with preparatory meetings being held by many organisations (in the LLACC on 26th January and within the City on 1st February for example) prior to the onset of the weather. Once the level of the snowfall became apparent, boroughs put in place their cold weather plans.

Operational Issues

The boroughs continue to play a vital role in London's transport and remain the highway and traffic authorities for 95 per cent of roads in London. They work in partnership with the TFL to deliver the transport strategy. They are required to develop and implement Local Implementation Plans detailing their proposals for carrying out the transport strategy in their borough.

Each year, TFL write to the boroughs outlining their priorities for gritting during winter months. TFL and the London boroughs work closely together on their winter plans. Indeed, during the recent extreme weather, TFL and the boroughs worked to ensure that priority roads were gritted.

TFL has undertaken a review and will work with the boroughs to ensure that a joint approach is taken to areas away from main roads such as bus depots.

Mutual Aid

London's local authorities have robust and well tested informal mutual arrangements that are frequently called upon by boroughs for the provision of staff, equipment and other resources. These arrangements supported the running of the Temporary Mortuary in the aftermath of London's 7/7 bombings and in the provision of assistance to local authorities outside London during the 2007 floods. During the severe weather incident, 13 local authorities reported calling upon or offering mutual aid during the first four days of the incident.

A decision has been taken recently by the Local Authority Panel to formalise the current arrangements and a Regional Local Authority Mutual Aid Agreement has been refined for agreement through London Councils.

Essential Borough Services

With few exceptions, it is clear from returns received, that boroughs maintained a slightly reduced but comprehensive array of critical and essential services that included Children and Adult Services, Family Services, Court Services, Home Care and Recreation Services, including social care, meals on wheels and other support to the vulnerable. However, Waste collection did suffer in some instances because of re-deployment of staff to salting, snow clearance and other duties

Schools

School closure is the responsibility of head teachers who make the decisions in these circumstances, in consultation with the local education authority (the local authority).

Monday 2nd February:

The majority of schools (approx 90%) were closed throughout Monday.

Tuesday 3rd February:

The majority of schools remained closed on Tuesday (approx 89%).

Wednesday 4th February & Thursday 5th February:

The majority of schools were open.

Friday 6th February:

The majority of schools (97%) were open on Friday. Closures were mainly concentrated in NW London boroughs.

Decisions to close schools were taken because of inability to access some schools, and because of the difficulty for staff and children alike in getting to and from the schools.

LLAG and London Councils considered whether or not to issue guidance on schools closures on Monday. However, it was agreed that this should be left to local decisions by head teachers and local education authorities on the basis that they were best informed of the local situation hence able to adapt to it.

Recommendation 5
Methodology for dealing with heavy snowfalls

Review mutually beneficial liaison and communication arrangements between TfL and London Local Authorities during a regional emergency.

Review of the prioritisation of salting across the Boroughs.

Review Local Authority needs for specialist winter equipment.

3.7 Local Authority Co- Ordination Centre (LLACC)

Opening the LLACC

The response by the LLACC was itself both exceptional and sustained. The London Local Authority Gold (LLAG) arrangements, while designed for instant impact and high intensity emergencies, facilitated a collective and where necessary coordinated response from London's local authorities for a scenario which was outside the scope of their current design.

Responsibility for opening the LLACC lies with the duty Local Authority Gold, acting on the advice of the LLACC Manager and the Chair of the Local Authority Panel and or other relevant persons.

Following receipt of weather warnings on the Friday a discussion took place between the duty LLACC Manager and the Head of London Fire Brigade Emergency Planning, they agreed to continue to monitor the situation and to act if necessary to coordinate local authorities and/or support other organisations. A further discussion took place on Sunday 01 February, the same out come was agreed.

The LLACC was instituted at 0700hrs on Monday 2nd February. LLAG at this point was operating in an advisory mode because it was not an incident requiring a Regional Civil Contingencies Committee (RCCC) – Level 2 response.

In addition to supporting Local Authority Gold and the Gold structure, working closely with London Councils, Transport for London and the Government Office for London, the LLACC's principle activities were:

- Maintained London's twice daily LA salt audit that included held salt stocks, usage and requirements upon which regional prioritisation was based and pan-London mutual was predicated.
- Liaised with TfL to analyse priority salting requests and allocate these to London boroughs (over 450) thus keeping the bus routes open.
- Worked with London boroughs and TfL to allocate national salt resources to London boroughs and to support mutual aid between London boroughs, thus ensuring that no London borough ran out of salting supplies. (Approximately 1700 tonnes of salt were moved)

- Collated SITREPS from London boroughs and produced regional local authority SITREPS to meet Central Government reporting requirements, to provide a regional LA Common Recognised Information Picture (CRIP) for all boroughs, and to inform London Resilience Partners.
- Responded to others actions and information requests from Central Government and London Resilience Partnership organisations, including providing information for Ministerial and elected members' briefings.
- Duty LLACC Manager represented the LLAG arrangements at London Resilience Partnership conference calls (operational level).

Benefits of using the LLACC included a single-point contact into the London Local Authority group, maximising the effectiveness of the contingency plans for dealing with the impact of the bad weather, as well as actions including pan-London procurement and distribution of salt supplies in conjunction with the overall UK process.

Future activation of the LLACC

There is the need to further clarify the role of the LLACC in responding to incidents which fall below the threshold for formal activation of the Local Authority Gold arrangements (currently the convening of a Gold Co-ordination Group) and therefore operating informally. In these scenarios a response may be required to either prevent an emergency or to manage the consequences of a low-intensity, long-duration event after its occurrence.

London Councils / LAP / LFB-EP have been tasked to review the Gold Resolution in order to recommend how the Gold Arrangements operate when they are empowered and not empowered with a particular emphasis on the governance structures.

Until the conclusion of that review, the informal structures that have been in place and agreed by LFEPA, Chair of LAP and London Councils will continue.

Relationship with TfL

A review of the contact process between the LLACC and TfL, utilised during the period of disruption, has taken place. The benefits identified by TfL included:

- the ability of the LLACC to be activated quickly,
- its established role in providing effective information gathering

- and dissemination of information within the LA Group as part of providing support to LA Gold when necessary.

A more detailed review of links between Local Authorities and agencies such as TfL is underway and will be submitted to the Local Authority Panel Implementation Group (LAP – IG).

Recommendation 6
London Local Authority Co-ordination Centre

As a consequence of the incident falling below the threshold for implementation of a Gold Coordinating Group the LLACC and LLAG were operating without empowerment.

A review of the LLAG resolution should be undertaken by the Local Authorities Panel, London Councils and LFB-EP to ensure arrangements for responses outside empowerment are included.

3.8 National Health Service (London)

The adverse weather on Monday 2nd February and transport disruption did have an impact on the NHS across London. Access to some GP and Primary Care facilities was difficult and resulted in a number of closures. The ambulance service also reported difficulty in accessing some of the smaller side roads.

It is known and understood that a large percentage of NHS staff in London use the public transport system to access their place of work and therefore the disruption to services did lead to challenges for staff getting into work. Those medical staff that could not make it to work because of the bad weather were encouraged, where possible, to travel to their nearest NHS hospital or community service to work instead. NHS staff across London worked extremely hard to minimise disruption to patients.

The closure of schools, leading to child-care issues, also had an impact on staff availability.

To manage these issues internal business continuity plans were implemented and the NHS across London, in coordinating with the London Ambulance Service, prioritised more serious incidents and patients. A number of hospitals rescheduled out-patient appointments and elective surgery, but no Accident & Emergency departments in London were closed.

The NHS coped with the transport disruption on the 2nd February because of robust continuity plans and considerable effort by dedicated staff. By the following day the weather situation had eased, however, a prolonged disruption of three to four days would have a substantial effect on the delivery of healthcare within London. This would not simply be because of the staffing issues but more the need for the replenishment of equipment, food, clean laundry and pharmaceutical supplies. Modern hospitals are reliant on regular road deliveries and do not routinely stockpile large amounts of food or equipment.

The NHS are reviewing the impact on health services in the event of prolonged travel disruption due to adverse weather. This will be explored at a regional exercise in October 2009, which had been set prior to this incident. A key part of this will be greater co-ordination between NHS London, Transport for London and Local Authorities to prioritise areas for salting, particularly around GP surgeries and health centres, in addition to the main access routes to hospitals.

3.9 London Ambulance Service

Introduction

A combination of factors resulting from the snowfall in the early hours on the 2 February 2009 resulted in additional service delivery pressures for the London Ambulance Service (LAS). The key factors influencing service delivery were the adverse road conditions and the suspension of public transport.

The sudden suspension of public transport resulted in particular difficulties for the early shift staff that need to travel in to central London to work in the LAS Emergency Operations Centre at Waterloo. There was a significant increase in calls to attend personal injuries caused by the adverse road conditions and slippery pavements during the event. These conditions also resulted in a slower ambulance response to emergency calls.

Background

The (LAS) had received an email notification from the London Public Weather Service Adviser warning of heavy snow on the 31st January and received subsequent updates on the 1st February 2009. The LAS was operating at level 4 of 5, of its Resource Escalation Activation Plan (REAP).

On Monday 2nd February, the first day of the adverse weather conditions the LAS received more than 5000 calls compared with around 3,500. The increase in 999 calls was the result of the adverse weather conditions and required the service to prioritise and direct its responses to life threatening conditions.

The LAS continued with its 24 / 7 pre established operational arrangements, taking a pan London strategic over view with operations being directed through a Central Delivery Unit (CDU). Additional support was focused through Area Delivery Units (ADUs) giving additional tactical support to local areas across the Capital.

Albeit some staff had problems with child care commitments as a result of schools shutting, staffing levels across the Service were generally good with several members of staff walking considerable distances to get to work. The exception to this was, the LAS Emergency Operations Centre (EOC) which is located at Waterloo. The sudden cancellation of public transport, parking restrictions in the area along with the success of the congestion charge impacted adversely on staffing levels at shift change over, on the morning of the 2nd February 2009.

As a result of the side roads not being salted till later, the service was extremely busy dealing with a full range of 999 calls including a large number of slips, trips and falls.

Multi agency engagement

To deliver appropriate patient distribution and maintain effective patient care the LAS coordinated teleconferences within the Health Sector, including Acute Trusts, PCTs and NHS London.

Following the implementation of RINGMAIN, the LAS engaged in the partnership teleconferences. It however became evident that the primary focus of the teleconferences was information gathering for regional reporting.

The LAS subsequently attended a partnership debrief held at Government Office for London arranged by the London Resilience Team.

London Ambulance Service approach to Local Authorities.

Resulting from the impact of the snow fall experienced on the morning of the 2nd February 2009, some local ambulance managers in the South of the Capital had contacted their councils requesting assistance.

The LAS Reporting Officer understands that approaches were made by telephone to Lewisham, Southwark, Sutton and Bromley councils.

Southwark Council offered extra assistance at Deptford Ambulance Station and Bromley Council undertook extra road clearing / salting around a temporary station which is used by our Patient Transport Service in Shire Lane. The general nature of the requests was for minor roads to be cleared of snow to facilitate the transport of patients.

There is no record of these conversations at LAS or the outcomes apart from the above. The LAS vehicles experienced difficulties as vehicle snow socks are not effective on mixed surfaces.

Additional Comments

- A combination of salted and non salted roads delayed ambulance responses as vehicle snow socks are not effective on mixed surfaces. This remains an operational issue until a suitable solution is found.

- Setting up an early warning system for dealing with the potential cancellation of public transport would allow the service to consider alternative options.
- A pre determined commitment to relaxing parking restrictions and congestion charge in such circumstances would increase the potential of alternatives arrangements.
- Resilience considerations to limit the impact of prolonged school closures.

3.10 Network Rail

For Mainline Trains, Industry wide Command & Control arrangements and mitigation plans were launched at 17.25 on Thursday 29th January 2009 after the initial Network Rail notification of a potential severe weather event received at 17.44 on Wednesday 28th January 2009. Further updates were issued to the rail industry on Friday, Saturday and Sunday. Four teleconferences were also held between 17.00 Sunday and 11.00 Tuesday. A Severe Weather Event National Industry review was then held at 15.00 on 26th February 2009.

A full complement of anti icing trains ran every night throughout the affected period in Kent, Sussex and Wessex. Snow plough fitted locomotives were placed on standby in strategic locations. Additional specialised de-icer vehicles were on reactive duties throughout Kent and Sussex. However, due to the excessive amount of snowfall, some routes with a 3rd rail supply were not able to operate services on Monday due to compacted snow on conductor rails (caused by the conductor shoes of passing trains) and points overwhelmed with snow.

Through Monday evening Network Rail ran trains to remove ice from conductor rails and utilised 24hr teams to reinstate point work ready to run an emergency timetable on Tuesday morning.

Network Rail's signalling systems, signal centres and controls were operational throughout the period. This was achieved, in part, by arranging for key staff to stay in hotels in anticipation of the adverse weather.

Industry personnel were unable to reach base locations due to impassable roads exacerbated by a lack of salting and Network Rail infrastructure became overwhelmed with snow over a large geographical area, both hampering the resumption of normal working. Emergency timetables were therefore in operation over certain areas to allow full use of the rolling stock and resource available.

The review on 260209 agreed that all available operational mitigation had been implemented, and that the industry pooled their combined resources well.

3.11 Rail Operating Companies

Southeastern

Services were severely disrupted in February 2009 as a result of the heaviest snowfall seen in southern England for nearly 20 years. The decision not to run services has been questioned, as was the difficulties in accessing train running information. Southeastern have

responded to individual enquiries, however the following explanation may be helpful to members of the London Regional Resilience Partnership.

The third rail power system in the South east region is very vulnerable to snow and ice as it means the trains can't pick up power from the conductor rail. While, in response to advance warnings of severe weather, Network Rail had taken preventative measures on the night of 1 February, such was the depth and intensity of the snow and the drop in temperatures that operating conditions were near impossible, with its de-icing trains becoming trapped.

Southeastern took the decision not to run services to London on the morning of 2 February on safety grounds as quite simply, with every possibility of the trains becoming stuck and with roads near impassable, evacuation would have been very difficult and put passengers at risk. Moreover, with more snow forecast for that day, even if SouthEastern managed to get passengers into London, they may not have been able to get them home again.

By Tuesday, 3 February, the situation had improved with most lines open and Southeastern were able to run a limited service.

Finally, it was remarked that in Northern Europe and Canada where such conditions are commonplace in winter that train services continue to run. That may be true, but it's also a fact that in those countries below zero temperatures can be expected for three or even four months of the year and it therefore makes sense to invest in the necessary preventative measures. Here in Southern England such extremes of weather are thankfully, very rare and to do likewise would mean diverting resources.

Southern

On Sunday night and Monday, 1st and 2nd February, the snowfall was the heaviest for 20 years and blanketed the whole of the Southern network. As snow was forecast, Network Rail and Southern worked together on Sunday night to prepare for the expected conditions, however the fall in snow was so heavy, that despite the precautions taken, the rail network across the whole of the south east of England was inundated to such an extent that it was impossible to provide a train service on Monday for almost the entire Southern network.

On Tuesday, 3rd February, Southern ran a skeleton service where possible and during the day, and in conjunction with Network Rail, worked to clear the routes which were previously blocked. The result of Tuesday's activity was full service provision for Wednesday morning.

South West Trains

South West Trains ran a very limited service on some routes due to heavy snow across its network. South West Trains initial advice to passengers was not to travel, with this changing as the days progressed.

3.12 British Airports Authority

Monday 2nd February 2009

Due to the adverse weather conditions all BAA airports in the South East experienced significant delays and cancellations. Passengers were requested to check with airlines for the latest information before leaving for the airport. With bus and rail services affected and difficult road conditions across the country, BAA requested passengers also take extra care and time travelling to the airport.

London Heathrow:

The Southern runway reopened at 10:30am having been cleared of snow. Flights were able to take off and land once more but there are significant delays and over 760 cancellations. All British Airways flights were cancelled until 5pm BMI also cancelled a significant proportion of the schedule.

Cyprus Airways flight CY 332 from Larnaca exited the taxiway onto a grass area, having made a safe landing before the runways were closed. All passengers on board the plane were transferred by bus to the airport terminal. There were no injuries to any passengers.

Heathrow's full snow operation (consisting of 58 snow cutters, ploughs and de-icers) worked around the clock since 3pm yesterday on double shifts to clear the snow and ice. The snow fall was been the heaviest in decades and meant that this operation was even finding it difficult to find empty space to put the snow.

London Gatwick:

The airport was open but there were significant delays and cancellations. Rail and coach operations also been affected.

London Stansted:

Runway was initially closed but opened at 7am - significant delays and cancellations.

Tuesday 3rd February 2009

The severe snow which disrupted airports across the South of England on the previous day was cleared from runways by 3rd February, enabling airports to resume a vastly improved service.

A small number of cancellations occurred as a knock on effect from the previous day's disruption.

London Heathrow:

On 3rd February 2009 both runways were open and BAA worked hard with the airlines to minimise disruption and operate a near full service.

Of a daily total of around 1300 flights, 26 arrivals and 19 departures were been cancelled on 3rd February. This compares to 868 in total on 2nd February 2009.

Overnight, Heathrow's full snow operation (consisting of 58 snow cutters, ploughs and de-icers) worked around the clock to clear the snow and ice and keep the runways open.

Heathrow Express and Heathrow Connect services were operating train services between the airport and London Paddington. The Piccadilly line and bus services also provided a good service on 3rd February.

London Gatwick:

Gatwick remained open and airlines operated a near full service on 3rd February. There were a small number of cancellations and passengers were advised to check with their airline before travelling.

London Stansted:

Airlines operated a full service on 3rd February. There were no cancellations due to adverse weather conditions.

3.13 Highways Agency**Sunday 1 February 2009**

The Highways Agency, which is responsible for England's motorways and major A roads, issued joint reports with the Met Office. These warned that snow showers were likely to affect the east of the country, and that drivers should check weather and driving conditions before they set out on journeys.

The Highways Agency's national winter fleet of more than 500 salt spreaders, snow ploughs and snow blowers was on standby with salt spreading already underway at the weekend.

Monday 2 February 2009

The Highways Agency continued to treat the roads where freezing temperatures and snow were forecast. All roads on the strategic road network were open. Drivers were being advised to consider whether their journeys are essential.

The winter fleet of around 500 salt spreaders and snowploughs was being used to treat motorways and major 'A' roads extensively over the period of the severe weather. On parts of the road network, Highways Agency Traffic Officers dealt with up to four times the number of road traffic collisions that they would normally face in a day.

Tuesday 3 February 2009

Overnight the strategic road network performed well and the winter fleet of salt spreaders and snow ploughs were still working to keep the major roads clear of ice and snow until conditions improved.

Public messages were that driving conditions were still difficult in some locations and were advising road-users to drive with extreme care, and not to travel in the worst affected areas unless their journey was essential.

The majority of Highways Agency routes were flowing well considering the conditions.

Traffic Officers, regional control centres and winter service crews all performed extremely well, ensuring that a good service was provided on Agency routes. Winter preparation and planning put the Agency in a strong position and it was able to offer and provide assistance to local authorities where possible.

The Highways Agency believe that the response to the severe weather was very good and have highlighted a number of lessons learnt that will be incorporated into future emergency planning. These are:

- The importance of keeping a robust salt stock level. The Highways Agency provided salt to a number of Local Authorities but did not need to request mutual aid from elsewhere.
- The business continuity element of getting staff to work and back is also very important. It's no good having salt stocks if there are no drivers to spread it. The Agency has existing plans for staffing and will continue to review them to ensure they are robust. There are also many people who may be able to carry their roles from home rather than coming to work.
- All salting routes are pre-planned but Highways Agency will consider if there is benefit from the strategic placing of other salt spreaders in areas particularly badly hit, dependent upon available resources.

4.1 Salt Supply Issues

Introduction

The supply of salt to Local Authorities played a key part in the Severe Weather event. Through close co-operation between London Boroughs and other Agencies via the London Local Authority Co-ordination Centre (LACC), London was able to return to normal working relatively quickly. Its importance during the response and the issues that were highlighted as a result, merit its inclusion at this point in the report.

Local Authority Response

The London boroughs are prepared to salt regularly during the winter months. The need to salt is not unusual and they have well-developed plans with clear route maps. These plans automatically come into play, which is what happened over the weekend leading up to the Sunday and the Monday. The boroughs have to pick their time to salt, if salt is put down too early the snow comes down on top and the salt loses its efficiency, to be effective salt has to be mixed within the snow.

Weather forecasts were coming through the Meteorological Office to Boroughs. From Friday onwards the messages were coming through and over the weekend all the boroughs were gearing up for salting to start. That took place on Sunday and Monday but as the full scale of what had happened over the Sunday night became more apparent by Monday, the need for the London Local Authority Co-ordination Centre became clear.

The LLACC was set up on the Monday because the scale was then fully apparent right across London, and its role was to make sure there was enough salt in all the boroughs because the demands over the last ten days have been so great that actually it has started to exhaust the boroughs' stocks. The LLACC was working together with the boroughs to move salt between the boroughs and also distributing salt obtained through TfL and other national sources.

No benefit would have been gained by changing the LLACC's status to operational on the Sunday 1st February 2009. This is because boroughs implemented tried and tested winter management responsibilities, co-ordinated by their Highways Managers, at a local level, a procedure they do frequently throughout the winter months. It was only when the extent of disruption became of a magnitude that required a regionally co-ordinated response that the LLACC became of

value. This point was reached at an assessment at 0700hrs on the 2nd February.

All responding boroughs have confirmed that they began salting at the weekend (31st January and 1st February), some having started as early as Friday, with all salting by 1500hrs on Sunday 1st February at the latest.

For example, the City of London planning and preparations started on Thursday 29th January on receipt of the 5 day forecast from the Met Office, when they began precautionary checks of specialist vehicles and associated equipment.

Boroughs focused on priority roads although many secondary roads were also salted in addition to clearing the way to hospitals, schools, and all who responded have confirmed that they also salted outside bus depots and emergency services locations.

From early Monday morning, all responding boroughs reported that staff from non-essential services, including traffic enforcement, street cleaning and refuse collection, were diverted to help clear snow and ice from roads and pavements.

Key Facts

- The LLACC and London boroughs had processed approximately 450 requests from TfL to clear priority bus routes.
- London Councils estimate that over 5,000 tonnes of salt were used on local authority roads by late Monday morning.
- The LLACC worked with London boroughs and TfL to allocate national salt resources to London boroughs and to support mutual aid between London boroughs, thus ensuring that no London borough ran out of salting supplies. (approximately 1700 tonnes of salt were moved)

Liaison with TfL

There is a protocol in place, between TfL and each local authority regarding salting runs which includes the access roads to bus garages.

Boroughs have confirmed that they worked in collaboration with Transport for London to prioritise salting to priority bus routes, bus depots and garages.

This operated through the LLACC to TfL analysing priority salting requests and allocating these to London boroughs (over 450 requests made) thus keeping the bus routes open.

Overnight Sunday 1st February /Monday 2nd February, pressure on all partners engaged in the salting process was considerable. As feedback on the impact of the snow and ice continued, the reliance on effective communications between 'salting partners' via the LLACC increased.

An emergency, agreement was setup so that the LLACC would liaise directly with TfL CentreComm, to both utilise the most effective communication routes to/from London Local Authorities.

Prioritisation of Salt Supplies

As the demand for salt supplies continued to outstrip supply, the Government, in consultation with the Local Government Association and the Highways Agency, formed a 'Salt Cell', as it decided that it was essential that clear advice on prioritisation was provided to salt suppliers to help get deliveries where they were most needed and to ensure key routes were kept open to minimise the risk to public safety.

The government offices in the regions and the devolved administrations did sterling work to ensure that the Salt Cell had up to date information on where supplies were running low and were working closely with the LLACC. On the basis of this information, boroughs and TfL were able to identify opportunities for mutual aid, coordinated by the LLACC and the Salt Cell.

This work ensured that the supplies of salt that were being used at a rate not seen for many years, were managed in a way that benefited as many as possible. The Salt Cell Group was based in the Cabinet Office but was responsible to the Secretary of State for Transport.

The Salt Cell received daily reports (based on data from local authorities) and advised suppliers of those assessed as being in greatest need, with prioritisation based on daily demand estimates (informed by the Met Office's 24 hour forecast) and comparisons between existing salt stocks and available supply.

During this weather event, the County Surveyors Society provided advice to the Local Authorities about how to reduce usage. This included a range of options from prioritisation of the road network in certain areas, to ensuring that all specialist vehicles were correctly calibrated, and considering where to use grit instead of salt.

Local Authorities engaged in mutual aid agreements – for example, all London Local Authorities worked together to share salt across the city. The salt stocks audit can be used to help facilitate this process.

The Highways Agency also offered assistance to a number of local highways authorities where salt stocks had reached low levels, and where this did not adversely impact on the Agencies own operation to meet the needs of the strategic road network.

Highways Agency vehicles, on the 7th February, made deliveries of salt to hard-pressed local authorities. The move was part of continuing coordination managed by the Government, the Highways Agency and the Local Government Association. All new salt supplies produced went to those local authorities most in need rather than the Highways Agency. Deliveries were carried out using vehicles provided by the Highways Agency's maintenance contractors

This was a short term measure to ensure that stocks went to where they were most required. During this severe weather event, the Highways Agency used around 75,000 tonnes of salt on the strategic road network in England. This compares to an average winter week last year when the Agency used approximately 10,000 tonnes of salt each week.

Local Authorities ensured they were considered for priority delivery by providing information about their stocks to the Regional Resilience Teams (RRTs). This ensured that the individual Local Authority featured on the complete list of all Local Authorities. However, being on the list did not guarantee that they will be ranked sufficiently highly to ensure priority delivery, as others may have been in greater need.

Each Local Authority received a different amount of salt, depending on the length of its primary road network. The aim was to ensure that the Local Authorities had at least one day's stock of salt, bearing in mind the predicted weather forecast for the next day.

Cabinet Office Civil Contingencies Secretariat (CCS) Debrief Process

The debrief process will not be completed as one exercise; instead a four phase approach will be used.

- Phase 1 - a standard 'in-house' debrief process will be used to gather data from relevant bodies on lessons identified;
- Phase 2 – the data will be collated within CCS and then split, separating out:
- 'technical' lessons which are specific to the resilience and operation of the salt supply chain, the storage and usage of salt by national and local highway authorities, etc, and

- 'generic' lessons which have wider applicability for other emergencies which may, for example, cover communications
- Between national, regional, and local partners, mutual aid arrangements, etc.
- Phase 3 – the 'generic' lessons with wider applicability for other emergencies will be processed by CCS and, following consultation with the UK Roads Liaison Group, will be submitted to NSID (PSR)(R)(O) [the officials committee with responsibility for resilience] for endorsement. Key strategic issues will be submitted to NSID (PSR) [the ministerial committee with responsibility for resilience] alongside the Phase 4 report.
- Phase 4 – the 'technical' lessons identified will be passed to the UK Roads Liaison Group (see details below) for processing, with findings being reported to the Secretary of State for Transport, and then on to NSID (PSR) (as Phase 3 above).

The debrief process is limited purely to the salt stocks issue as this was the most significant, long running, impact. CCS do not anticipate covering any of the wider issues that arose during the severe weather event. Any significant wider issues are being addressed by other means, including by debriefs or reviews in the relevant geographic areas

The debrief process needs to address the issues which occurred across England, Scotland and Wales as they were all interlinked as most local and trunk highway authorities in those areas obtain salt from the same small group of salt producers.

Recommendation 8
National strategic supply of salt

That consideration is given to establishing a national strategic supply of salt to be accessed when the commercial supply chain is unable to meet demand.

5.1 Military Assistance for Civil Authorities

The issue of obtaining Military Assistance to the Civil Community (MACC) arose as a result of the severe weather event, the receipt of such a request by the Military highlighted the need for clarity as to how a MACA request should be made by members of the London Resilience Partnership.

During the severe weather, there were discussions between the Joint Regional Liaison Officer of London and a London Borough over the possibility of the military supplying heavy duty vehicles with trained drivers to assist with the reaching of vulnerable residents. The JRLO responded that such a request was unlikely to meet the criteria for receiving military assistance and that because there would be a cost involved, it would be cheaper to use hire vehicles. As a consequence, the local police were approached, yet they were also unable to assist and so the London borough secured a vehicle and experienced driver from a private car dealership to deliver priority meals to some of its vulnerable residents

Criteria for requesting Military Assistance

The provision of military aid is guided by three criteria (each must be met):

- Military aid should be the last resort - the use of mutual aid, other agencies, and the private sector must be otherwise considered as insufficient or be unsuitable.
- The Civil Authority lacks the required level of capability to fulfil the task and it is unreasonable or prohibitively expensive to expect it to develop one.
- The Civil Authority has a capability, but the need to act is urgent and it lacks readily available resources.

Procedure to follow

All requests for military assistance must go through the Joint Regional Liaison Officer (JRLO) of London District. Before any formal request is made, the requesting organisation should contact the JRLOs for informal advice – identifying whether the desired effect would meet the set criteria for obtaining MACA, the potential cost implications (either full costs (the default position) marginal or nil – costs are decided by Duty Ministry of Defence Minister) and whether military resources are currently available locally to fulfil the request. The London Resilience Team Duty Director is also able to supply additional advice if requested.

If the decision is taken to formally request military assistance, the requesting organisation should discuss this request with the JRLO, supplying them with detailed information about what effect is required. The Borough Chief Executive must then put a formal request for assistance to the Department for Communities and Local Government. At the same time, the JRLO will discuss this request with the military command chain who will inform the Ministry of Defence. The Home Office and the MOD will then link and a decision will be made as to whether the request has been approved. The CLG will then inform the Borough if assistance has been agreed.

It is vital that the requesting organisation keeps the Duty Officer of the London Resilience Team fully informed of all progress including of the application, the Duty MoD Minister decision and the ongoing details of the subsequent military operation if it was approved.

All requests for military assistance must outline the desired effect, rather than to stipulate to the Military what resources are required. It will be for the Military personnel, initially led by the Joint Regional Liaison Officer, to decide upon what method will be used to achieve the required effect, based on the resources which are currently available and at their disposal. The Armed Forces do not maintain standing forces for the delivery of MACC so assistance will only be delivered if available.

Recommendation 9
Military Assistance Guide

That the London Resilience Team produce a guide for circulation across the London Resilience Partnership for how all MACA requests must be made within London.

6.1 Public information and Communications

Background

The Met Office issued an extreme weather warning on Sunday 1st February to the London Resilience Partnership. In cases of severe weather, the lead organisation for communications is dependent upon the impact and the subsequent consequences. TfL, and other organisations, instituted plans already in place to deal with severe weather and its emergency communications structure was initiated on Monday 1st February.

The Partnership's Communications Cell provided a forum to provide reassurance and agree mutually supportive key messages. The Partnership's communications cell first teleconference was 9.30 on Monday 2nd February following the triggering of the Comms Alert System at around 08.45. Subsequent meetings were held at 12 noon and 16.00 that day and at 07.30 the following day, Tuesday 3rd February.

Had the Communications cell been initiated earlier on the Sunday, it would have enabled all partners to have an awareness of the issues and likely impacts and provided a basis for further co-ordination activity on Monday, however, it is unlikely that the communications response, either from individual organisations or from the Partnership as a whole, would have been materially different or made any substantive difference to media reporting.

Consistent messaging to the public during an event of this scale was a key priority for all agencies working with the London Resilience Team.

The number and frequency of the Partnership's communications cell teleconferences were considered adequate but attendance at those meetings was patchy with key individuals or organisations sometimes absent. This is being addressed through Partnership's Strategic Communications Group which is attended by all key partners.

TfL were identified as the key operational lead due to the impact upon transport services and the Mayor was identified as key spokesperson as the 'Voice of London'. Operationally there were good communications and suitable spokesperson available to media.

Transport for London

In the case of TfL, due to the severe weather warning, the TfL Press Office had been in contact with operational control centres over the

weekend and throughout the night of Sunday, 1st February and early morning of Monday 2nd February. Although questions from media on TfL's preparations for severe weather and transport service levels were answered throughout the preceding 24hrs, the TfL Press Office was open to brief media and deal with enquiries from 05.00 on Monday morning. A series of ten travel information bulletins were issued by TfL to media and shared with Partnership organisations, six on Monday and four on Tuesday. TfL officials also undertook around 40 broadcast interviews over the two days, initially focused on the provision of customer information and then explaining how the extreme weather had affected transport services, despite the preparations undertaken.

As part of TfL's usual travel information service, real-time travel information was constantly provided to media, stakeholders and customers throughout the period of disruption, both via the TfL website and via broadcast media who use the TfL website as a source of such live information.

TfL's travel and Oyster card call centres remained operational throughout the period, to answer calls and / or direct callers to the TfL website.

Media did report that access roads to local bus garages were not being salted by Local Authorities, citing TfL as the source of allegations that councils had not fulfilled their duty to salt such roads. In fact, TfL did not issue any critical line on Local Authorities' response but simply explained factually the roads for which TfL was responsible and those which were the responsibility of the boroughs. TfL have now recognised that the LLACC enhanced TfL's ability to communicate effectively and consistently with the London boroughs on Monday 2 February and for the remaining period that the LLACC operated. This arrangement was formally approved at the recent LAP-IG meeting.

Network Rail

This is an area that the Network Rail internal review agreed the industry needed to improve upon and a process is now in place that addresses this. In future, Network Rail will advise Train Operating Companies web site communication representatives at the same time as the initial industry operations advice, and coordinate an agreed message across the business. This process has the full support and cooperation of National Rail Enquiries.

The second area of focus highlighted by the Network Rail internal review surrounds the industry process of uploading amended and/or emergency timetables. This translates to customer communications as it is agreed that Network Rail need to advise which services ARE running, as opposed to those that are not. To compliment this, it is also recognised that it is beneficial to run a 100% emergency service, as opposed to 50% of a published one.

Rail Operating Companies

Southeastern

As to public communications, the Southeastern website usually receives around 600 'hits' per second on an average morning. That day there were around 4,500 and the system was simply unable to cope. Information was put out to national and local news networks early that morning to tell commuters that services were not running, and the Company has apologised to those commuters who turned up at local stations to find there were no trains running.

Southeastern already had a robust and effective contingency plan in place which has coped well with all scenarios encountered up until that point. However, following the unprecedented circumstances on the 2nd February, the website, along with the majority of travel planning websites in the South of England, was not able to cope. Southeastern have subsequently undertaken an internal review and have adjusted the plan to, among other things, improve the monitoring of web traffic so that they can identify 'spikes' in usage before it is too late. Southeastern are confident that all their changes will minimise the chances of a repeat.

Southern

The Managing Director of Southern and Network Rail's Route Director posted apologies on the Southern website and at posters at Southern stations

South West Trains

Information was provided to customers on the day(s) affected, via the South West Trains customer service centre in Southampton (where passengers can phone in) and the customer communications and security centre in Wimbledon which updates the customer information system i.e. scrolling info screens at stations and station announcements.

South West Trains Head of Guards co-ordinated guards' announcements on trains. The control room at Waterloo also sent out pager messages with up to date information to key personnel, and other relevant information to fellow Train Operating Companies and media news rooms.

Association of Train Operating Companies (ATOC) The National Rail Enquiries Website

On 2nd February the web site was faced with 16 times its normal peak level of demand from the public. The previous busiest peak was during the London bombings in 2005, as a result of which ATOC scaled their systems to be able to handle more than the level seen on that day – 6 times the normal peak level of demand.

While the site did not actually crash on 2nd February (it carried on processing very high volumes of requests, up to 32,000 simultaneously), it was inaccessible for large numbers of people. It's a bit like a call centre with 32,000 desks – while it can answer 32,000 calls at the same time, any calls above the 32,000 will not be able to get "in".

ATOC recognise that this is not good enough and have taken steps to provide more capacity.

ATOC have made some changes already to further improve the capacity of the web site and of the automated telephone service (TrainTracker – 0871 200 4950), so that they can now handle rather more enquiries at once than they could on 2nd February. ATOC are currently load testing all of their services to check what the current maximum capacity is.

ATOC are also looking at what else they can do, and once they have the results of our load testing ATOC will be deciding on any necessary further measures.

British Airports Authority

Passengers were advised to check with their airlines for the latest information before leaving for airports in the London area.

Highways Agency

The Agency's website, www.highways.gov.uk/trafficinfo, which carries live information on the motorways and major A-roads, received a month's worth of visitors in less than a day during this event. At its peak the site was getting around 100,000 visits per hour (compared to 500,000 per month) and kept running throughout this exceptionally busy period.

Staff operating the Highways Agency Information Line (08457 50 40 30), based at the National Traffic Control Centre, received as many as one call every 11 seconds. During this period, the Control Centre increased the number of lines and dealt with a growing number of calls over the week from the public.

The Highways Agency's National Traffic Control Centre (NTCC), based in Quinton near Birmingham, handles around four terabytes of data received from sensors buried under the road surface, CCTV cameras, Highways Agency patrols, police forces and other agencies - as well as data from Met Office staff, who are desk based in the same room.

The NTCC is able to set motorway warning signs, and supplies information to websites and broadcast traffic reports. It also provides live traffic updates via the Agency's DAB digital and online radio station "Traffic Radio" - <http://www.trafficradio.org.uk>. Audience figures for DAB are not yet available; however figures for those listening on the internet showed a ten-fold increase on Monday 2 February, compared to the previous week.

To cope with the exceptionally high level of demand on its traffic information website the Highways Agency made configuration changes that ensured the continued performance of the service. This meant the site was able to run smoothly while motorists still had access to all the usual information, including being able to check motorway variable message signs and see the weather conditions for themselves on CCTV images.

Data compiled by the National Traffic Control Centre appears to show that many motorists took note of advice to avoid travelling or modify their journeys. During the period of severe weather traffic volumes on the motorways and major trunk roads fell by 24 per cent on Tuesday 3 February and an average of 17 per cent Monday to Friday, compared to the previous snow-free week.

London Ambulance Service

The LAS received media attention and took part in TV interviews with the BBC.

Metropolitan Police Service

Commander Simon O'Brien (Metropolitan Police Service 'Gold') undertook a number of interviews with London media on the afternoon of Monday 2nd February 2009 on behalf of the Partnership, outlining how all Agencies were working together.

London Councils

London Councils (LC) Chairman, Cllr Merrick Cockell, undertook one interview on BBC London Radio on Monday 2nd February regarding salting and school closures.

London Councils proactively gathered information from the boroughs on the impact of the severe weather on council services which was provided to journalists, GLA and other London Resilience Team (LRT) members. London Councils provided a reactive service for media interviews but further requests to London Councils for spokespeople were very few in number.

All public statements issued by London Councils were sent to LRT colleagues, borough press officers, and issued to local, regional, national and broadcast media. They were also published on the London Councils website.

All responding Local Authorities confirmed that they used their websites as first sources of information and they were updated on a regular basis.

Media messages were issued on a borough-by-borough basis for much of the incident and although a central and coordinated message amongst London's Councils took time to emerge, there are some good examples of locally managed media engagement e.g. Westminster City Council secured 57 episodes of media coverage during the week of severe weather starting from Monday 2nd February 2009

Other Online Information

Although under severe strain, London Resilience Partnership websites were available throughout the event

Monday 2nd February and Tuesday 3rd February

The London Resilience Partnership website, **London Prepared**, carried several 'emergency messages' giving information for the public and links to relevant websites such as TfL.

In terms of relaying information to the public, the TfL website provided real-time travel information throughout the period, as did its Travel Information Contact Centre. The TfL website saw record levels of traffic for a single day, 2.3m visits, exceeding by far visits received on 7th July, 2005. In total, the TfL website delivered 18m page views, with more than 2.5m views between the hours of 07.00 and 08.00 on Monday alone. The TfL website remained robust and available to customers at all times throughout the period of disruption.

The travel news on the website provided a real-time source of information for the media (which broadcast these messages to their audiences) and directly to the public. The TfL Press Office also proactively engaged with key media to ensure they continued to have the correct information. This communications strategy has also been reviewed and improvements made for example adapting the live Tube map on the site to more accurately reflect where lines are experiencing only minor delays.

Recommendation 10
Activation of Media Cell

The Media cell should be activated once Operation Ringmain system is initiated. The Chair of that cell should be the chair of Strategic Communications Panel and in absence of MPS, the duty then falls to CCS as deputy chair.

Communications contacts should also be added to Met Office warning distribution list.

Recommendation 11
Websites

There is a need to improve the resilience of all public facing websites

7. Conclusion

- 7.1 The extreme snowfall in London at the beginning of February this year caused severe disruption to many parts of the capital, most notably the transport system. However, many organisations, including the emergency services and those which deliver health and social care to the most vulnerable groups, maintained their key services, which is a tribute both to the prior planning and to the efforts of staff in those organisations.
- 7.2 There are, however, lessons to be learnt and improvements that can be made. This Report identifies those and much work has taken place across the London Resilience Partnership since February to take these forward.
- 7.3 The nature of the incident and its consequences were below the level at which a major incident would have been triggered and the full London resilience arrangements activated. This has led to a review of how the Partnership deals with such incidents and co-ordination mechanisms are now fully in place for any future events.
- 7.4 The Local Authority Panel has initiated a salting review following the extreme weather of February 2009. The review will be carried out by a group comprising local authority technical officers together with representatives of TfL and the NHS/LAS. It will look at issues such as salting priorities, stock levels, mutual aid and co-ordination arrangements as well as the potential for using alternative types of equipment such as snowploughs, with a view to producing an agreed guidance document for boroughs. It will then monitor and advise on the completion of borough-level reviews
- 7.5 Mutual aid is vital to any co-ordinated response and the Local Authority Panel recently took the decision to formalise the current arrangements. A Regional Local Authority Mutual Aid Agreement has also been developed for agreement through London Councils.
- 7.6 London Councils and LLAC have also agreed a new protocol which will speed up any responses to requests for information during an emergency. It will combine the dual role of information gathering (LLAC) and message making (London Councils) effectively. This protocol will work alongside the current London Councils/London Resilience communications cascade protocol.
- 7.7 Communicating with the public online tested a wide range of Partnership websites with the positive effect that has seen many websites being made more resilient where this proved necessary.

- 7.8 The severe weather event highlighted the need for all Partnership organisations to review and test their Business Continuity arrangements regularly. It has also helped to raise the profile of the role that local authorities play in promoting business continuity to local business and sharing information through warning and informing communication systems. The London Local Authority Business Continuity Promotion Steering Group, in conjunction with partners, recently launched a range of materials for business use. These are now being widely distributed across all 33 London Boroughs for onward dissemination to their local business community.
- 7.9 Looking forward, the London Regional Resilience Forum will continue to monitor progress on the recommendations made in this report and ensure that the lessons learnt are fed into resilience planning more widely in the capital.

Annex 1. Meteorological Office Overview

1.1 Overview of the meteorological situation

Easterly winds became established over the weekend 31 January - 1 February and eventually brought in some very cold air from the continent. Heavy snow showers developed over the North Sea and moved inland across east and southeast areas in particular later on Sunday 1 and Monday 2 February. These led to some locations to the south of London seeing level snow depths of around 30cm. Even in central London, there was up to 10cm of snow.

During the following 8-10 days there were further significant snowfalls around the UK, some of which affected the outer fringes of the London area (e.g. Biggin Hill) but none as extensive or giving the accumulations experienced on Monday 2 February. Sharp overnight frosts maintained a risk of icy roads throughout the period until Wednesday 11 February when milder Atlantic air became established and the occurrence of overnight frosts decreased markedly.

In general, this was the heaviest and most widespread snow event across the UK since February 1991.

1.2 Met Office forecasts, warnings and actions

Friday 30 January:

During Friday morning an NSWWS advisory issued the previous day for eastern counties of England was updated and extended to other parts of the UK covering both Monday 2 February and Tuesday 3 February. The Public Weather Service Advisor for London (LPWSA) emailed the region's Cat 1 and Cat 2 responders advising them to maintain a watch on forecasts over the weekend.

Saturday 31 January:

An Early Warning for heavy snow, highlighting a greater than 60% risk of disruption, was issued at 1106 for much of England and Wales for the period 0000-1800 Monday 2 February highlighting the possibility of 10-20cm of snow in places. This included London and the commuter belt of SE England. The LPWSA emailed an update to Cat 1 and Cat 2 responders.

Sunday 1 February:

The Early Warning was updated and a warning of extreme weather (very heavy snow) was issued at 1129 for London and counties to the south for Monday 2 February to focus on the expected greatest impact. This type of warning is issued very rarely. The LPWSA emailed Cat 1 and Cat 2

responders to alert them to the change to “extreme” weather and, after discussion with the London Resilience Team duty officer, initiated Operation Ringmain through the Metropolitan Police Service. Meanwhile, NSWWS advisories were issued to cover the risk of disruption from snow during the rest of the week (4th/5th Feb).

Monday 2 February:

Shorter term Flash and Emergency Flash warnings were issued as updates to the earlier warnings. The LPWSA emailed an update to the situation to responders during the morning and was in touch with various organisations via phone and emails throughout the day. The LPWSA also took part in the LRT partnership teleconference during the afternoon.

Tuesday 3 February onwards:

Further updates via shorter term Flash warnings and longer term NSWWS advisories and/or Early Warnings were issued to highlight risk areas for further disruption. The LPWSA, working closely with the Met Office Operations Centre, issued daily updates to Cat 1 and Cat 2 responders in the London area as well as taking part in partnership teleconferences as required. Extra graphical products were made available on the Met Office’s Emergency Support website to supplement the NSWWS information.

Annex 2. Other Severe Weather Reviews

2.1 London Assembly Review

Introduction

The London Assembly Transport Committee has investigated the travel disruption caused by extreme weather conditions on 1st and 2nd February 2009.

It has received responses from London Boroughs, Bus Operating Companies, NHS London, and the London Ambulance Service. It held its first meeting on 12th February, attended by Peter Hendy, Commissioner TfL and Chris Duffield, Town Clerk and Chief Executive of the Corporation of London. (in his capacity as Chair of the London Resilience Local Authority Panel).

This review was published at the end of February 2009 with recommendations for action.

2.2 London TravelWatch

Established in July 2000, London TravelWatch is the official watchdog organisation representing the interests of transport users in and around the capital,

London TravelWatch is independent of the transport operators and is sponsored and funded by the London Assembly, which also appoints the members of the London TravelWatch Board.

London TravelWatch, stated on their website, that they will investigate why the travelling public across all modes of transport were so badly affected, especially the complete cancellation of all buses, and will be looking to see what lessons can be learnt.

The severe weather disruption was considered at the London TravelWatch Board meeting on 10th February 2009 and a summary of comments relating to buses were forwarded to the London Assembly Transport Committee. London TravelWatch also intends to make representations on the performance of Overground rail to the rail operating companies. No copies of any documents have yet been made publicly available.

London Travelwatch can be found at :
[www. http://www.londontravelwatch.org.uk](http://www.londontravelwatch.org.uk)

2.3 House of Commons Transport Committee.

The House of Commons Transport Committee announced on 27 February 2009 that it would hold public evidence sessions on *The effects of adverse weather conditions on transport in the United Kingdom*. The Committee will hear from local authority representatives and technical advisers before questioning the minister.

The Transport Committee is appointed by the House of Commons to examine the expenditure, administration and policy of the Department for Transport and its associated public bodies.

Committee Membership is as follows: Mrs Louise Ellman (Chairman) (Liverpool Riverside), Mr David Clelland (Tyne Bridge), Mr Philip Hollobone (Kettering), Mr John Leech (Manchester Withington), Mr Eric Martlew (Carlisle), Mr Mark Pritchard (The Wrekin), Ms Angela C Smith (Sheffield, Hillsborough), Sir Peter Soulsby (Leicester South), Mr Graham Stringer (Manchester Blackley), Mr David Wilshire (Spelthorne), Sammy Wilson (East Antrim).

Transport Committee chair Louise Ellman said: "The Committee has decided to hold an inquiry because we were concerned by the level of disruption to transport across the country caused by the recent snow. We will consider why the snow had such a serious impact and what can be done to prevent such a high level of disruption in future. In addition to the witnesses announced, we intend to hold a further evidence session looking at the particular difficulties experienced in the capital and we have asked the Mayor of London to find time in his schedule to attend."

Two sessions have been held and oral evidence was presented on:

11th March 2009 receiving evidence from County Surveyors Association, Local Government Association, TAG Transportation Committee

Followed by Paul Clark MP, Parliamentary Under-Secretary of State, Department for Transport, and the Highways Agency

2nd April 2009 receiving evidence from Val Shawcross, Chair London Assembly Transport Committee and Nigel Barrett, Chief Executive Officer, East London Bus Group

Followed by Boris Johnson, Mayor of London, and Peter Hendy, Commissioner for Transport TfL

Transcripts of these public evidence sessions can be found at

<http://www.publications.parliament.uk/pa/cm/cmtran.htm>

Annex 3. Summary of Recommendations**Recommendation 1
Extreme weather alert**

The issue of an extreme weather alert for London should be the trigger for the convening of a multi-agency partnership meeting. This can be actioned by the LRT Duty Director in liaison with the on-call MPS officer.

**Recommendation 2
Operation Ringmain**

Operation Ringmain remains the correct process for partners to share information in advance of an event as outlined in para 1.3 above. There is a need, however to:

Raise awareness of the protocol amongst partners, including its purpose and how it should be triggered;

Test the protocol every six months to ensure that partners are familiar with the process;

Review the contacts list to ensure that it is up to date;

Ensure that those representatives of partner organisations who participate in a multi-agency co-ordination meeting are those with the necessary authority to take decisions as required.

**Recommendation 3
Amendments to Command and Control Protocol**

Establishing and communicating to all stakeholders a battle rhythm and reporting schedule should be a priority for all incidents, especially where COBR is utilised. Consideration should be given to formalising this process into the Command and Control Protocol.

Recommendation 4
Transport

TfL to review their emergency plans

Recommendation 5
Methodology for dealing with heavy snowfalls

Review mutually beneficial liaison and communication arrangements between TfL and London Local Authorities during a regional emergency.

Review of the prioritisation of salting across the boroughs.

Review Local Authority needs for specialist winter equipment.

Recommendation 6
London Local Authority Co-ordination Centre

As a consequence of the incident falling below the threshold for implementation of a Gold Coordinating Group the LLACC and LLAG were operating without empowerment.

A review of the LLAG resolution should be undertaken by the Local Authorities Panel, London Councils and LFB-EP to ensure arrangements for responses outside empowerment are included.

Recommendation 7
London Local Authority Co-ordination Centre

As a consequence of the incident falling below the threshold for implementation of a Strategic Command Centre, the LLACC and LLAG were operating without the formal remit that would have existed in the case of a major incident.

Consideration should be given to formalising and documenting the role of LLAG, and the LLACC in such events in future.

Recommendation 8
National strategic supply of salt

That consideration is given to establishing a national strategic supply of salt to be accessed when the commercial supply chain is unable to meet demand.

Recommendation 9
Military Assistance Guide

That the London Resilience Team produce a guide for circulation across the London Resilience Partnership for how all MACA requests must be made within London.

Recommendation 10
Activation of Media Cell

The Media cell should be activated once Operation Ringmain system is initiated. The Chair of that cell should be the chair of Strategic Communications Panel and in absence of MPS, the duty then falls to CCS as deputy chair.

Communications contacts should also be added to Met Office warning distribution list.

Recommendation 11
Websites

There is a need to improve the resilience of all public facing websites

THIS PAGE HAS BEEN LEFT INTENTIONALLY BLANK



**Enquires to:
London Resilience Team
1st Floor, Riverwalk House
157 – 161 Millbank
London
SW1P4RR**

**Enquiries-lrt@gol.gsi.gov.uk
www.londonprepared.gov.uk**