

Trains overspeeding between Blackford and Gleneagles, Perth and Kinross, 15 July 2023

Important safety messages

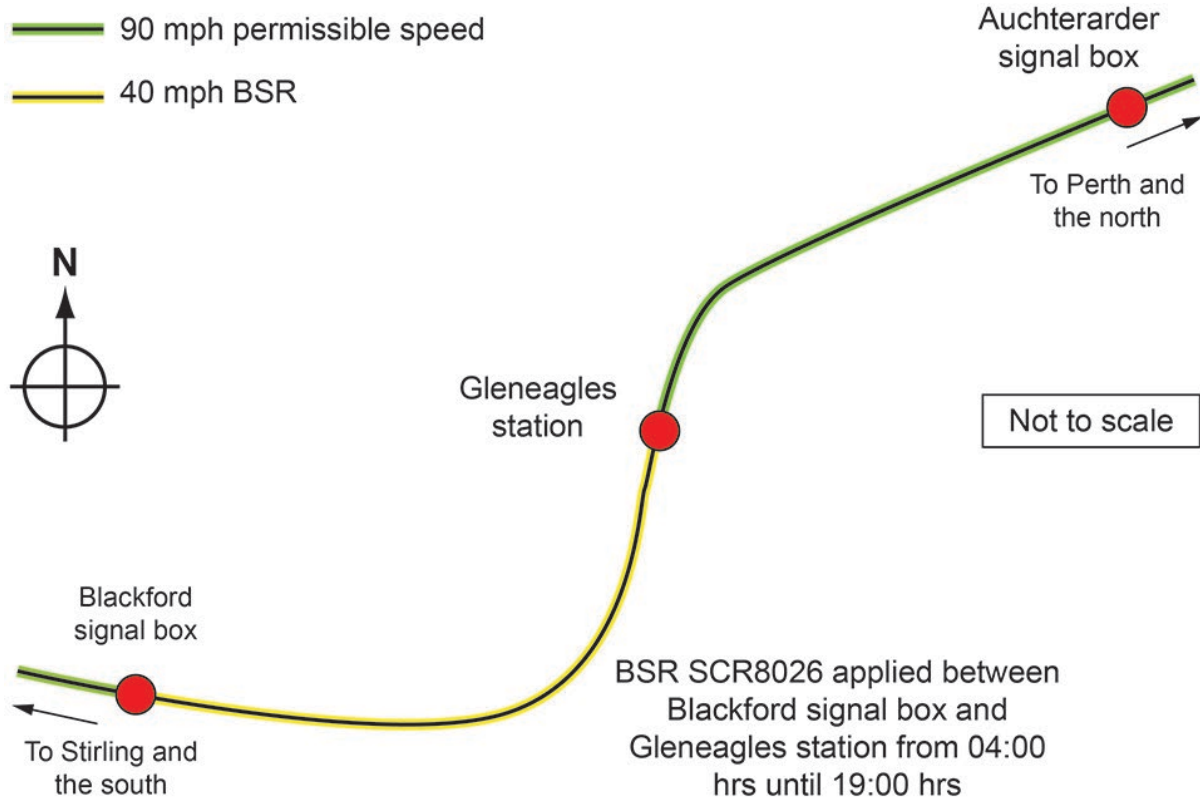
This incident demonstrates the importance of:

- having robust processes to ensure train drivers are notified of blanket speed restrictions which may affect them
- signallers understanding when they are expected to stop and caution drivers on the approach to blanket speed restrictions
- signallers receiving clear and unambiguous instructions when this is not required.

Summary of the incident

On the morning of 14 July 2023, Network Rail issued fourteen blanket speed restrictions (BSRs, previously referred to in some cases as blanket emergency speed restrictions (BESRs)) in anticipation of heavy rainfall, which had been forecast for two days across Scotland. Information about the BSRs was sent by Network Rail by email to those signal boxes and train operating companies which would be affected. After receiving updated weather information, Network Rail sent information about four additional BSRs at 21:45 hrs to the same recipients as the initial BSRs. Network Rail intended these additional BSRs to be imposed at 04:00 hrs on 15 July, the following day.

One of the additional BSR notifications, reference SCR8026, applied to a 2.25 mile (3.6 km) section of railway between Blackford signal box (at the south end of the BSR) and Gleneagles station (to the north). This BSR imposed a temporary maximum permitted speed of 40 mph (65 km/h) from 04:00 hrs to 19:00 hrs on 15 July. The normal maximum permitted speed between these locations was 90 mph (145 km/h).



Simplified diagram showing location of the blanket speed restriction. Not to scale and not all features shown.

Around 05:30 hrs on 15 July, the signaller at Blackford signal box observed a northbound freight service operated by Direct Rail Services (DRS) pass through the speed restriction, apparently without reducing speed. The next two trains to pass the signal box were southbound ScotRail passenger services and both observed the BSR. However, the next northbound ScotRail passenger service appeared to the signaller to again pass without reducing speed.

Noting that southbound trains had been observing the BSR, the Blackford signaller contacted the Auchterarder signaller to the north of the limit of the BSR to ask if the southbound trains had been stopped and cautioned about the speed restrictions. The Auchterarder signaller stated that they had not.

After calling the Auchterarder signaller, the Blackford signaller decided to stop the next northbound service. This was the Caledonian Sleeper train, which was being operated by GB Railfreight (GBRf). The GBRf driver advised the signaller that they were unaware of the BSR, so the signaller provided the speed restriction details before allowing the train to proceed. The Blackford signaller, now concerned that not all drivers were aware of the BSR, stopped and cautioned the next northbound service which was a ScotRail passenger train. The driver of this service was also unaware of the BSR.

The Blackford and Auchterarder signallers informed Network Rail control that not all trains had been observing the BSR between the two signal boxes. The signallers were advised by control to stop and advise the drivers of all trains about the details of the BSR until further notice.

Cause of the incident

The drivers of the first four northbound services to approach the BSR on the morning of 15 July 2023 were unaware of it because they had not been provided with the necessary information when they booked on for duty. These services were provided by three different train operators.

Network Rail issued the BSR notices using a prepopulated distribution list. This included email addresses for ScotRail, DRS and GBRf as well as Blackford and Auchterarder signal boxes. Network Rail intended that the train operators would make the notices available to their respective drivers taking trains over the affected lines and for the signallers to advise drivers of the BSRs in accordance with the railway Rule Book.

However, due to an oversight within ScotRail, the BSR notice was not forwarded to drivers booking on at Glasgow Queen Street. This meant that ScotRail drivers taking northbound services towards Perth were not aware of the BSR between Blackford and Gleneagles.

DRS stated that it did not advise their drivers of the BSR as it did not receive the emailed notice from Network Rail. GBRf also stated that it did not receive the BSR email notification. Network Rail did not require any acknowledgement that such notices had been received and so was unaware that not all train operators had received it.

Rule Book Module GERT8000-SP, 'Speeds', issue 6, which came into force on 4 December 2021, does not require any warning signage or track equipment to be provided to warn drivers about a BSR ahead. However, it does require signallers to 'arrange for the driver of each affected train to be told about the speed restriction and the locations between which it is to be observed'. Signallers are not, however, required to do this if operations control has arranged to tell drivers about the BSR by other means.

Following an incident in December 2020, involving drivers not observing a BSR imposed between Laurencekirk and Portlethen, Network Rail instructed route control centres that drivers should in future be given warnings of BSRs by signallers. In Scotland's Railway, this instruction required drivers to be stopped and cautioned for the first 12 hours after details of a BSR have been provided to drivers by their company notice process. At the time these overspeeding incidents occurred, this 12-hour period had not yet elapsed.

There is conflicting witness evidence as to whether an explicit instruction to stop and caution trains had been given by Network Rail's local operations staff to the signallers at Blackford and Auchterarder signal boxes. However, neither of the signallers had been stopping and cautioning trains until it became apparent that northbound drivers had not been observing the BSR.

As an alternative to signallers stopping each train to tell them about BSRs, drivers can be told using a broadcast facility via GSM-R (Global System for Mobile Communications-Railway), the railway's radio system. GSM-R can be configured to message drivers automatically, as the train's presence is detected by the signalling system. This provides drivers with the necessary information in an appropriate location without the need for signallers to stop each affected train.

However, localised GSM-R messages triggered by the signalling system were not available for the area covered by Blackford and Auchterarder signal boxes because of the type of signalling system in use. Network Rail stated that in this location messages could therefore only be broadcast over a radio 'cell' area. This would result in drivers receiving BSR information across a wider area compared to messages triggered by the signalling system. The same message could also be repeated several times during a journey, which Network Rail stated could be potentially distracting to drivers.

Previous similar occurrences

RAIB has investigated several previous incidents where drivers have misunderstood or been unaware of BSRs.

RAIB undertook an investigation into one such event in December 2020 where trains had not observed a BSR between Laurencekirk and Portlethen ([RAIB report 08/2021](#)). RAIB found that, in some locations, trains travelling through the 40 mph (65 km/h) BSR travelled up to the maximum permitted speed of 100 mph (161 km/h) because some drivers were unaware of the BSR, and others were unaware of the full extent of railway it applied to.

As a result of its investigation, RAIB made a recommendation to the Rail Safety and Standards Board, in consultation with the Rail Delivery Group and Network Rail, to review the methods of implementing BSRs, including how information can be more reliably disseminated to train drivers. In October 2022, the Office of Rail and Road (ORR) reported to RAIB that implementation of this recommendation was ongoing.

RAIB also published a digest ([RAIB safety digest 06/2022](#)) into a number of overspeeds which took place on Network Rail's Western and Wales routes in July 2022. RAIB found that these overspeeding incidents occurred because the drivers of the trains involved did not have a clear understanding of where, or when, the relevant BSR applied.

In April 2022, RAIB wrote to ORR, as well as train and freight operating companies, in relation to overspeeding incidents which had taken place in north-west England and Scotland in BSRs. This is referred to on our [website](#).