

Trains using their horns at Shortwood Common Footpath Crossing

1. Purpose of report

To consider the submission of a petition signed by 88 signatories seeking alternatives to trains using their horns on the approach to the Shortwood Common footpath crossing in Staines-upon-Thames.

2 Background information

The Council has received complaints regarding the ‘sounding of train horns on the approach to Shortwood Common’ from residents of Leacroft and Staines who are being disturbed by the noise. These complaints have been received in March 2007 (one complaint), March 2011 (one complaint) and most recently August 2016 (two complaints, one of which was acting on behalf of Leacroft residents). Residents have advised that the noise has increased substantially over the years mainly due to the installation of whistle boards, the introduction of faster trains and the reduction of the Night Time Quiet Period (NTQP).

In the course of the investigation Environmental Health has received log sheets from residents, taken noise recordings and have witnessed the noise.



Figure 1: Shortwood Common Footpath Crossing

3 Railway Safety – Supporting information

The Rail Safety and Standards Board (RSSB) publishes the standards for the audibility of train horns and the rules for their use (the rail industry safety rule book). The standards for audibility have not changed for a least 10 years and are based, as far as RSSB can establish, on specifications for train horns defined by British Rail some years previously. As new trains are replacing vehicles that are up to 40 years old, there may be differences in technical performance between the old and the new equipment.

3.1 Risk Assessment

Level crossing are assessed at a frequency that is based on the level of risk a crossing poses. The assessment frequency ranges from 1¼ to 3¼ years. Shortwood Common footpath

crossing was last assessed in October 2015 and is due to be re-assessed in January 2018. ABC Railway Guide have published findings of Shortwood Common footpath crossing (**appendix a** refers).

3.2 Train Horns

For safety reasons, train drivers are instructed to sound the horn as a warning when passing a 'whistle board'. The 'rule book' requires the horn to be sounded "as a warning":-

- to anyone who is on or near the line on which the train is travelling at any time day or night
- when passing a 'whistle board' between the hours of 6:00 and 23:59

Failure to comply with these requirements could result in harm to people who may be affected by the movement of trains; such as those using the Shortwood Common footpath crossing. Failure to comply also places train operating companies in breach of health and safety legislation.

The 'rule book' gives instruction to drivers about how the horn must be sounded when giving warning on a running line; the driver must use "both high and low tones using the loud setting" (both types of tones are currently provided on train horns). Failure to comply with these requirements places the train operating companies in breach of health and safety requirements.

3.3 Whistle boards

The siting of whistle boards is based on line speed and the forward visibility from a footpath crossing towards the direction of the train.

3.4 Night Time Quiet Period (NTQP)

At many level crossings, one of the traditional forms of safety protection is the sounding of train horns. Train Drivers must sound their horns when they pass a 'whistle board' sign on the approach to a level crossing to warn crossing users of their approach so they can determine whether or not it is safe to cross the railway. There are approximately 1600 level crossing around the network which are fitted with 'whistle boards'.

As modern trains have become faster and more frequent, train horns have by necessity become louder to ensure that crossings users continue to receive sufficient protection.

In response to this, and in recognition of the intrusive nature of modern trains, the operational rules of the railway were changed in 2007 to incorporate a quiet period during which horns are only used in emergency situations. Originally this period operated between the hours of 23:00 and 07:00 daily, is known as the Night Time Quiet Period.

In 2015, a study was undertaken by the RSSB in response to recommendations contained within the Railway Accident Investigation Board's 'Mexico Footpath Crossing' Report. Among other considerations, the study set out to determine the impact of the NTQP on near miss events. The study concluded that 64% of near misses that occurred during the NTQP had taken place during its shoulder hours between 23:00 -23:59 and 06:00-06.59. In direct response the NTQP was reduce from 23:00-07:00 to 23.59-06:00 hours, thereby helping to mitigate the risk of incidents at passive level crossings.

4. Legislation (Railway noise)

There are no legal limits to noise from existing railways. The Environmental Protection Act 1990 does not exempt railway noise from causing statutory nuisance. Section 122 of the Railways Act 1993 provides an exemption from statutory noise control. Research by the Council's Environmental Health and Legal teams have found no authoritative writings or case law which clarifies this matter.

5. Noise Recordings

Officers have undertaken noise assessment and investigation, the assessment found:-

- In the opinion of officers the train horns are audible and on occasion very loud.
- Officers also found that there is inconsistency in the operation of the train horn by train drivers in terms of the duration of the time the horn is sounded and whether one or two tones are used. The train line is not solely used by South Western Railway but is used by a number of train operators which is one reason for the inconsistency in train horn levels.

Noise nuisance recording equipment was installed into a property in Silverdale Court, Leacroft (in an upstairs bedroom) between the 8 and 13 August 2017 to monitor noise disturbance caused to residents at the property. Regular noise levels between 70dB and 80dB were monitored between the hours of 06:00 and 23:59. The assessment findings are in provided at **appendix b**.

A written report by World Health Organisation, Guidelines for Community noise, states that for a good night sleep, the equivalent sound level should not exceed 30dB (A) for continuous background noise, and individual noise events exceeding 45dB (A) should be avoided. They advise that excessive noise seriously harms human health and interferes with people's daily activities, at work, at home and during leisure time. It can disturb sleep, can cause cardiovascular and psychophysiological effects, reduce performance and provoke annoyance and changes in social behaviour.

6. Current position

During initial enquiries South Western Railway and Network Rail both advised the Council that there is a safety rule book which requires them to sound a horn when a train approaches the level crossing. Officers have also been in contact with RSSB who are responsible for publishing the safety rule book that South Western Railway adhere to.

Network Rail state on their website that they would like to eliminate whistle boards from their network. Network rail are currently working to develop technical solutions that will make this possible, ensuring an acceptable balance between safety integrity and affordability. Network Rail state on their website that they are limited to the following options;

- Seeking closure of a level crossing, either by providing an alternative means of crossing the railway (bridge, must be constructed to insure access for all), or by agreeing with the rights holder that the legal right of way across the crossing is no longer required.

- Reducing the line speed over level crossing. Whilst individual change to speed may add only a few seconds to train journey times, the effect quickly multiplies to network-crippling levels when applied to all 1600 level crossings with whistle boards.
- Installing existing technologies such as Miniature Stop Light (MSL) protection system. MSL do indeed offer a solution for some pedestrian and private road locations. Network rail has a programme of work to install these systems at a number of their higher risk crossings.
- Adjust the NTQP to align with current patterns of level crossing use. This remains the only option that Network Rail can implement with immediate effect to address the current risk at level crossings.

Network rail meeting minutes of 16.11.17 provide further information.

Appendix a:

Shortwood Common crossing data published by ABC Railway Guide

Table 1: Information about Shortwood Common Footpath Crossing (ABC Railway, 2015)

Crossing Type:	Public Footpath
Location	Spelthorne District TW18 4HP
Risk Rating Individual (The risk to individual users of the crossing. It is presented as a single letter with A being the highest)	C High
Risk Rating Collective (The overall risk of any incident involving any person or vehicle on the crossing, including train staff and passengers as well as users of the crossing. It is presented as a number, with 1 being the highest risk and 13 being the lowest. This is the most important rating when prioritising safety measures at level crossings).	4 High
Risk Assessment dates	Last assessment – October 2015 Next assessment – January 2018
Type of train	Passenger and Freight
Train per day	176
Line Speed	70mph
Usage	44 Pedestrians or Cyclists
Misuse History	Nil incidents in year prior to assessment date (Oct-2015), - Nil incidents since.
Near-miss history	1 incident in year prior to assessment date (Oct-2015), - Nil incidents since.
Accident history	Nil incidents in year prior to assessment date (Oct-2015), - Nil incidents since.
Key risk factors	Sun Glare Frequent Trains Large number of users
Current protection arrangements	Signage Whistle boards provided on the rail approaches – train horn audible warning given

Appendix b

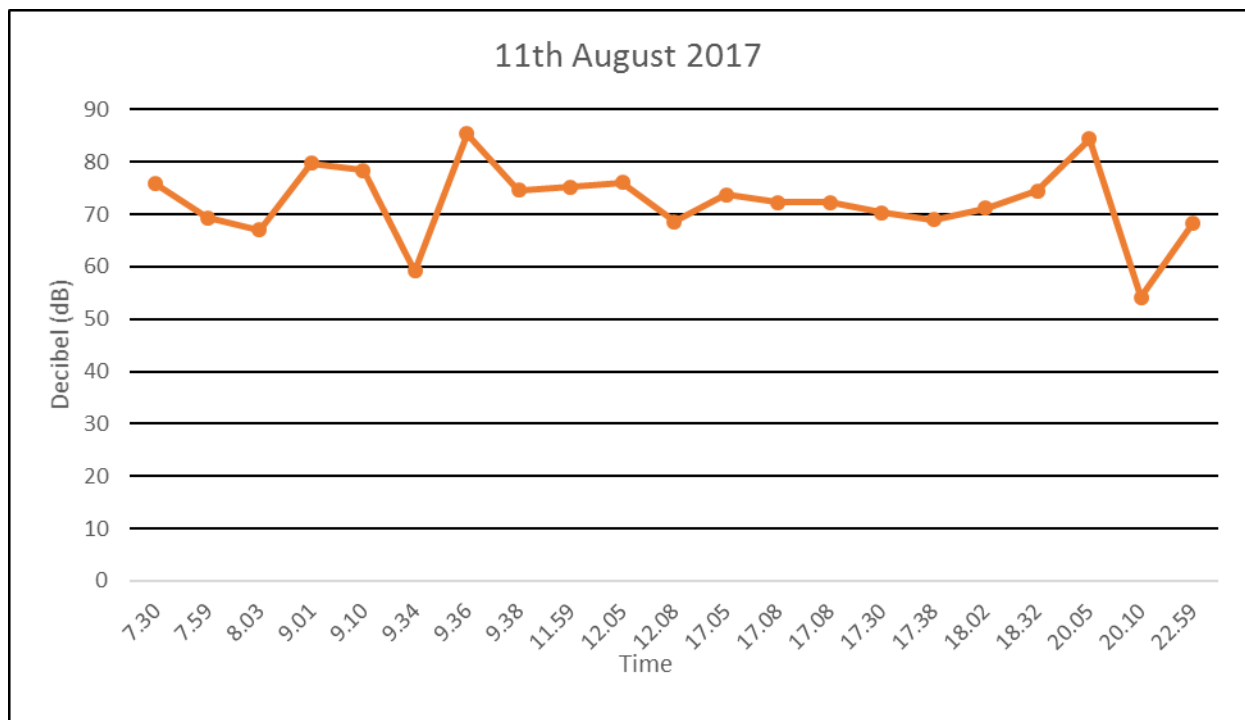
Noise Monitoring

A Norsonic 140 Noise Nuisance Recorder was installed into a property in Silverdale Court, Leacroft (in an upstairs bedroom) between the 8 August 2017 and 13 August 2017. Chart 1 and 2 shows the disturbance caused to residents at the property in a 24hour period, with regular noise levels between 70dB and 80dB between the hours of 06:00 and 23:59.

The Norsonic 140 Noise recorder required residents to activate the recorder by pressing a button each time they experience a noise disturbance which prohibit their enjoyment of their property. Reasons for activating the noise recorder were:-

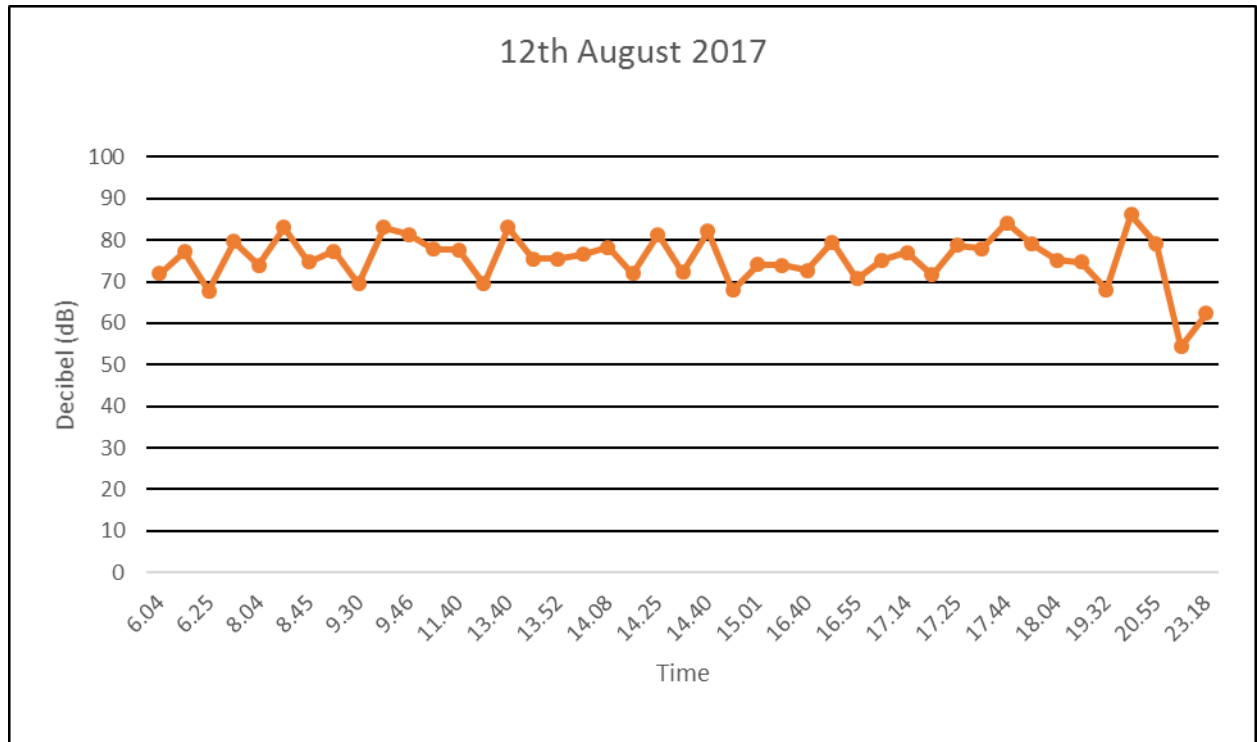
- Distracted from task (working on the computer)
- Conversation interrupted
- Interrupted TV viewing
- Disturbed from going to sleep
- Awoken from sleep
- Phone call interrupted
- Made me jump
- Stopped a conversation
- Sitting in garden, train horn made me jump

Chart 1: Shows the noise levels experienced from a lineside property near to Shortwood Common footpath crossing on the 11th August 2017



Decibel (dB) level measurement taken from Norsonic 140 NNR (Noise Nuisance Recorder), calibrated to manufactures specifications.

Chart 2: Shows the noise levels experienced from a lineside property near to Shortwood Common footpath crossing on the 12th August 2017



Decibel (dB) level measurement taken from Norsonic 140 NNR (Noise Nuisance Recorder), calibrated to manufactures specifications.