

First Minister

LOW LEVEL SOUND MANAGEMENT IN HOSPITALITY – REVIEW

Purpose – to provide an update on the work undertaken since the 14 August announcement to prohibit the use of background sound in hospitality, and options for next steps.

Timing – routine – [REDACTED - s.29(1)(a)]

Background – on 14 August the position of no background noise in hospitality (music and other sound such as volume from TVs) was confirmed. Statutory guidance for the sector was published on the same day which included this measure alongside others on queueing and mandatory collection of contact details to tighten up compliance in hospitality. The initial move was in response to concerns that increased noise levels in hospitality may lead to people having to shout or lean-in to be heard thus compromising physical distancing and increasing the risk of transmission. Prior to 14 August only low level background noise was permitted, without specific guidance on what was a safe level.

As part of the announcement, a commitment was given to keep the position under review and to engage with the sector to see how guidance could be developed to allow background sound to be used safely.

Industry reaction – anticipating this measure was coming, having been mentioned as an option on 7 August when the intention to put guidance onto a statutory footing was announced, the industry lobbied hard to avoid a complete ban. Following 14 August they have continuously argued for a quick review, although accepted it must be complied with while in force.

The key points the industry (trade bodies representing bars, hotels, restaurants and cafes, as well as businesses providing music services to hospitality) have put forward to support their call for a reintroduction of low level background sound are:

- a marked negative impact on trade as a direct result of the measure, with takings down between -20-40%+, on top of already tough trading conditions, and premises closing early due to lack of custom;
- some businesses having closed completely, citing the lack of background sound (music in particular) as the tipping point when they were already struggling to be viable;
- significant loss of ambience within premises as a main cause of customer dissatisfaction with hospitality;

- loss of privacy for conversations that are now more audible to other customers causing people to lean-in for privacy and thus being counter-productive;
- further counter-productive effect on societal risk management by displacing activity from hospitality to more riskier settings such as house parties/home gatherings;
- lack of evidence that low level background sound leads to the raising of voices, whereas the cumulative effect of people speaking produces significantly higher noise levels;

Engagement with industry – officials have maintained regular engagement with the sector at trade body level throughout lockdown, which continues. In addition, a small expert group has been established since 14 August to look at the technical issues around sound management in hospitality and how this can be managed safely. This group consists of:

[REDACTED– 38(1)(b)]

Output from the expert group – the initial challenge around sound management in hospitality is to consider the multiple variables at play. Size and shape of room, furnishings, number and age group of people present, ventilation, the type/beat and position of source of music or sound present, the reaction of customers to given sound i.e. emotional response to watching sport, and other competing sounds such as street noise or noise from machinery. Depending on the variables, sound will have a different effect on a persons’ ability to hear, both their own voice and that of others, and thus the likelihood or not of them raising their voice or leaning-in to be heard. The cumulative effect of people speaking is also a factor in noise levels in hospitality, but this will happen without low level background sound, and in a busy environment will quickly drown out any low level music or TV audio.

The group has met three times in the past fortnight and has considered the following key areas:

- variables impacting sound
- relevant scientific concepts
 - aerosol emission and vocal loudness in speech
 - typical speech levels
 - speech interference levels and speech intelligibility
 - the Lombard Effect
- a risk-based approach
- guidance, compliance and enforcement

Annex A sets out further detail on the work around these topics.

[REDACTED - s.29(1)(a)]

[Redacted – 38(1)(b)]
Tourism and Hospitality Policy

3 September 2020

ANNEX A – Sound Management in Hospitality – Expert Group Assessments

Scientific Concepts - Aerosol emission and vocal loudness in speech	<ul style="list-style-type: none"> • The rate of particle emission during normal human speech is positively correlated with the loudness of vocalisation, confirming that preventing significantly raised vocal effort (shouting) is desirable during the Covid-19 pandemic.
Typical speech levels	<ul style="list-style-type: none"> • Sound is measured in decibels (dB). This is a logarithmic scale. • Normal speech at 1 metre is approximately 60dB(A). • Raised vocal effort at 1 metre is approximately 66dB(A); this is not shouting. • Shouting at 1m is approximately 72dB(A) and above.
Speech Interference Levels and speech intelligibility	<ul style="list-style-type: none"> • Speech Interference Levels are the maximum level of background noise to ensure speech intelligibility. • The background noise arriving at a listener’s ear will comprise both speech from other customers and background music (if permitted) along with any other relevant sources of sound. • 100% sentence intelligibility is not essential. At background sound levels equivalent to speech levels, intelligibility falls to about 95%. This is sufficient to be reliably understood; • Listeners also use other cues, including lip reading, to interpret speech. • Listeners with impaired hearing will require better signal to noise ratios (lower levels of background noise) to achieve speech intelligibility.
The Lombard Effect	<ul style="list-style-type: none"> • The Lombard Effect is an involuntary response which causes talkers to increase their vocal effort if they are unable to hear their own voice (i.e. in high noise environments). This may be coupled with speech adaptations if they perceive that the listener is struggling to understand(‘clear speech’ adaptations). • This effect occurs whether there is background music present or not; some studies have shown that, in hospitality settings, the effect is due more to the intensity of conversation held by other customers rather than other background noise.

<p>Other features of the space that may affect listener's background sound levels</p>	<p>Each space has its own unique features that affect the listener's received cumulative levels of background sound. These may include, but are not limited to:</p> <ol style="list-style-type: none"> 1. The reverberation time (how acoustically reflective the space is). 2. Whether the space is inside or outside. 3. The total number of customers in the space. 4. How many customers are in each group and how far apart they are spaced from each other within their own group. 5. How far groups of customers are spaced apart. 6. Distance of listener from sound source (e.g. other talker, loudspeaker, fixed plant noise source etc.). 7. Other sources of background sound (e.g. road traffic noise ingress through open window or door; sound from kitchen activities through a service hatch etc.).
<p>Justification for reintroducing well-managed background music</p>	<ul style="list-style-type: none"> • The Lombard Effect predicts that background sound levels in the venue will rise with competing customer voices in any case; it is the total sound level which matters for speech interference. • The logarithmic nature of decibel addition means that, for example, background music at 63dB(A) plus all other sources at 63dB(A) equals a total of 66dB(A), which would result in an equal signal to noise ratio and adequate speech intelligibility to be reliably understood in the context. • A method can therefore be proposed to set and manage background music noise levels in venues within acceptable Covid-safe parameters. • As each space is different, the method has to be practical and robust. • There must also be a mechanism for checking compliance with Covid-safe parameters which is accessible both to venue operators and Local Authority representatives.
<p>Reasoning for avoiding fixed level target, including as a</p>	<ul style="list-style-type: none"> • Each space has variables which will influence the level of background sound that is appropriate; • Operators will also require to be responsive to changing conditions in the space, including how many people are present and other sources of noise that may be influencing the ability of

<p>means enforcement of</p>	<p>customers to comply with Covid-safe behaviours (maintaining physical distancing; avoiding significantly raised vocal effort / shouting);</p> <ul style="list-style-type: none"> • Measurements of sound levels may vary throughout the venue and will only be as accurate and reliable as the equipment used and techniques applied. It would be unreasonable to expect that venue owners will have access to calibrated sound measurement equipment. • Mobile device apps for sound measurement are widely variable in accuracy. • Even if venues fixed music levels using calibrated equipment, the total sound level in the space once in use will vary with the number of people present and contributing levels of speech etc. If a Local Authority representative were to attempt a measurement during opening hours, it is therefore likely that they would measure not only background music but also a significant contribution from customer speech and other contributing sources at the measurement location. This information would therefore not be fit for purpose to determine compliance; • It is therefore clear that setting background sound levels and checking compliance must be a series of practical steps that is not reliant on measurement. A suggested methodology is set out below.
<p>Proposed method for setting and managing background music levels</p>	<p>[REDACTED - s.29(1)(a)]</p>