



The Sizewell C Project

6.6 Volume 5 Two Village Bypass Chapter 8 Amenity and Recreation Appendix 8A Tranquillity Assessment using the Natural Tranquillity Method

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1 Tranquillity Assessment Using The Natural Tranquillity Method – Two Village Bypass

1.1 Introduction

1.1.1 This note provides an assessment of the existing baseline tranquillity in the area surrounding the proposed operation of the two village bypass and considers the effect that noise associated with its operation would have on that tranquillity. An assessment of the direct impact of noise from the operation of the proposed development on human receptors has been carried out and reported separately in **Volume 4** of this chapter (Doc Ref. 6.6). That process involved predicting noise levels during different phases of work and reporting on the effects of this noise, when compared to various standards and guidance (for determining annoyance and sleep disturbance, for example). The predicted noise levels from the noise assessment work have been used to inform this tranquillity assessment.

1.1.2 This note provides one of a number inputs into the tranquillity assessment, which forms part of the assessment of effects of the proposed development on amenity and recreation. Further information regarding the methodology of this assessment can be found in **Volume 1, Appendix 6K** of the **ES** (Doc Ref. 6.2).

1.1.3 Tranquillity can be affected by much lower levels of noise than those which might cause disturbance (for the main noise assessment in **Chapter 4** of this volume (Doc Ref. 6.6)). Simply looking at existing and predicted noise levels would not be sufficient to determine how tranquil a place may be; it depends not just on level but also on the character of sound.

1.1.4 Government's National Planning Practice Guidance states under the heading "What factors are relevant if seeking to identify areas of tranquillity?":

'For an area to justify being protected for its tranquillity, it is likely to be relatively undisturbed by noise from human sources that undermine the intrinsic character of the area. It may, for example, provide a sense of peace and quiet or a positive soundscape where natural sounds such as birdsong or flowing water are more prominent than background noise, e.g., from transport. ...' (Ref. 1.1)

1.1.5 Four factors need to be considered:

- The overall level of sound (how loud or quiet it is);

- The relative levels of man-made and natural sounds;
- The proportion of the time during which only natural sounds are present; and
- The amount of transportation noise.

1.1.6 These parameters are assessed using the Natural Tranquillity Method (NTM, described in **Volume 1, Appendix 6G, Annex 6G.1** and in detail in “Tranquil Spaces” (Ref. 1.2)) to provide a tranquillity score in relation to noise for existing (baseline) conditions and when the road is operational and construction of the Sizewell C Project is complete according to **Table 1.1**:

Table 1.1: Key to tranquillity scores (from the Natural Tranquillity Method)

NTM tranquillity score	NTM tranquillity description
1	Frantic / chaotic / harsh
2	Busy / noisy
3	Unsettled / slightly busy
4	Not quite tranquil
5	Just tranquil
6	Fairly tranquil
7	Good tranquillity
8	Excellent tranquillity
9	Perfect tranquillity (theoretical)

1.2 Approach

1.2.1 Baseline survey work was carried out between May and July 2019. The locations are intended to represent the key recreational and amenity locations such as the footpaths and cycleways, key viewpoints and other publicly accessible places, and provide coverage of recreational resources within the vicinity of the proposed development. The locations are shown in **Figure 8.2 of Chapter 8** of this volume (Doc Ref. 6.6).

1.2.2 Survey work involved visiting each location at least once, measuring and recording the four NTM parameters (which describe the four factors listed

above) and making detailed notes about the level and character of all sounds heard during the survey. This information was then processed using the approach described in the NTM to produce tranquillity scores in relation to noise for each location. This was then used as part of the assessment of tranquillity for the amenity and recreation assessment.

- 1.2.3 Predicted levels are represented when the road is operational and construction of the Sizewell C Project is complete. Predictions of road traffic noise level have been made by modelling using traffic flows for existing and future conditions. Modelling outputs for existing conditions have been validated by measurement, showing good correlation.
- 1.2.4 Baseline survey results and predicted NTM parameters during operation (taking account of existing level and character of sounds and predicted level and character, combined) are shown in along with a commentary.

Table 1.2: Two Village Bypass Scores 2018 (baseline) and 2034 (road operational)

Location	2018	2034	Notes
R1	2	2	Road traffic noise dominates – no change
R3	6	6	Mainly natural sounds, distant road traffic dominates – no change
R4	7	4	Distant road traffic just audible in certain weather conditions, but often inaudible. Natural sounds dominate. With development, road traffic noise would dominate and the character would be significantly changed.
R6	5	5	Some natural sound, but road traffic noise also quite noticeable. No change.
RT11	2	6	Currently road traffic noise is loud in this location. With development, this would be significantly reduced and the location would feel fairly tranquil.
RT12	6	6	Natural sounds and some man made sounds. Road traffic audible, but not significant. No change.
T1	7	7	Natural sounds dominate – no change
T10	6	6	Natural sounds and road traffic noise both significant. No change
T11	7	7	Natural sounds dominate – no change
T12	7	6	Quiet, natural sounds dominate. With development, very similar, although distant road traffic noise would start to be significant

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Location	2018	2034	Notes
			and so tranquillity would be very slightly reduced.
T13	7	6	Quiet, natural sounds dominate. With development, very similar, although distant road traffic noise would start to be significant and so tranquillity would be very slightly reduced.
T14	7	7	Natural sounds dominate – no change
T2	6	7	Natural sounds and road traffic noise both significant. With development, road traffic noise no longer significant and so a small improvement in tranquillity.
T3	2	6	Currently road traffic noise is loud in this location. With development, this would be significantly reduced and the location would feel fairly tranquil
T4/R8	2	6	Currently road traffic noise is loud in this location. With development, this would be significantly reduced and the location would feel fairly tranquil.
T5	2	6	Currently road traffic noise is loud in this location. With development, this would be reduced and the location would feel fairly tranquil.
T6/R5	7	4	Quiet and tranquil at present – natural sounds dominate. With the development, this would no longer be tranquil due to the significant increase in road traffic noise, which would dominate the sound field in this location.
T7	6	6	Natural sounds present. Distant road traffic noticeable. No significant change.
T8	6	4	Natural sounds are most significant source here, although distance road traffic is also present. With development, road traffic here becomes significant and tranquillity is lost.
T9	7	6	Quiet, with natural sounds dominating. Distant road traffic sometimes audible. With development, road traffic would increase and tranquillity would be reduced a little.
TVB1/R7	2	3	Road traffic noise currently dominates. This would be slightly reduced in level with the

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Location	2018	2034	Notes
			development and this would result in a slightly less noisy location.
TVB2	6	4	Road traffic noise currently relatively low in level and some natural sound present. With development, the road traffic noise would be increased with the resultant loss of tranquillity.
TVB3	7	6	Quiet, with a small amount of local traffic and some distant road traffic audible at times (depending on the wind direction). With the development, distant road traffic noise levels would be increased slightly resulting in a small reduction in tranquillity.
TVB4	7	6	Quiet, with a small amount of local traffic and some distant road traffic audible at times (depending on the wind direction). With the development, distant road traffic noise levels would be increased slightly resulting in a small reduction in tranquillity.
TVB5	7	6	Quiet, with natural sounds dominating. Distant road traffic sometimes audible. With development, road traffic would increase and tranquillity would be reduced a little.
TVB6	7	4	Very quiet with natural sounds dominant. Distant road traffic occasionally audible. With development, the tranquillity here would be lost due to the significant increase in road traffic noise.
TVB7	6	4	Natural sounds plus distant road traffic. With development, the distant road traffic level would dominate and tranquillity would be lost.
TVB8	2	4	Currently subject to very high road traffic noise levels. These would be reduced with the development and the location would feel quieter, although would not actually be tranquil.
TVB9/R2	4	4	Currently some natural sound, but road traffic noise dominates. No change with the development.

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References

- 1.1 MHCLG (2019) Planning Practice Guidance – Noise
<https://www.gov.uk/guidance/noise--2> [Accessed November 2019]
- 1.2 Clive Bentley (2019). Tranquil Spaces. Measuring the tranquillity of public spaces.