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National Noise Attitude Survey 2012 (NNAS2012)

Volume 3 – Comparison of Key Findings Between 2012 and 2000

December 2014



Llywodraeth Cymru
Welsh Government



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Summary

This volume presents a comparison of key results from the two national noise attitude surveys undertaken across the whole of the UK in 2000 and 2012.

One of the aims of National Noise Attitude Survey in 2012 (NNAS2012) was to maintain comparability with the 2000 survey so that a reasonably reliable backwards comparison could be made for selected questions. This document presents a comparison, based on these key questions, of the UK-wide findings between 2000 and 2012. Whilst it would be possible to make other comparisons between the results from the two surveys, this cannot reliably be done because of changes in the questionnaire.

A NNAS was also undertaken in England & Wales during 1991. However, the changes made to the questionnaire and survey methodology since 1991 are such that reliable comparisons cannot be made.

From 2000 to 2012 there has been an increase in the percentage of respondents who reported noise as one of their top five environmental problems, and noise has moved up from ninth to fourth place in the list of twelve environmental problems. Whilst the list of environmental problems is not exhaustive, respondents placed noise equal to air quality in 2012 and above many of the other environmental problems such as recycling, quality of drinking water, sewage on beaches or in bathing water, and loss of plant life and/or animal life.

'Road traffic', 'neighbours and/or other people nearby'¹, 'aircraft, airports and airfields' and 'building, construction, demolition, renovation and road works' are the most frequently heard sources of noise for people in their homes in the UK. There has been no significant change in the proportion of the population who report hearing these noise sources between 2000 and 2012. Similarly, around 70% of respondents reported general satisfaction with the noise environment around them at home in both 2000 and 2012.

From 2000 to 2012 there has been a significant increase in the proportion of respondents who report being bothered, annoyed or disturbed to some extent by the main sources of noise (those most likely to be heard such as 'road traffic', 'neighbours and/or other people nearby', 'aircraft, airports and airfields' and 'building, construction, demolition, renovation and road works'), despite no increase in the proportion of the population hearing these sources. This increase appears to be mostly due to an increase in the proportion of the population who are 'a little' or 'moderately' (rather than 'very' or 'extremely') bothered, annoyed or disturbed by these main sources of noise.

¹ 'Neighbour noise' is defined as a combined category of 'neighbours inside their homes', 'neighbours outside their homes' and 'other people nearby' and is also referred to as 'neighbours and/or other people nearby'. Annoyance ratings are derived from the single highest rating from each of the 3 categories.

The key findings comparing NNAS2012 and NNAS2000 are summarised and outlined (rounded to the nearest whole percent) in [Table V3](#).

Key Findings from 2012 and 2000 Compared UK Sample		
Comparison – respondents rating/reporting...	NNAS2012 % (n = 2747)	NNAS2000 % (n = 2876)
Noise as one of the top five from a list of environmental problems that personally affected them	22 <i>placing noise 4th in the list of 12 environmental problems</i>	18 <i>placing noise 9th in the list of 12 environmental problems</i>
<i>General satisfaction</i> with their noise environment (i.e. liking the amount (or absence) of noise around them at home to some extent)	72	69
The sound environment of their neighbourhood or home negatively	14	20
<i>Hearing noise from road traffic</i>	83	84
<i>Hearing noise from neighbours and/or other people nearby</i>	83	81
<i>Hearing noise from aircraft, airports and airfields</i>	72	71
<i>Hearing noise from building, construction, demolition, renovation and road works</i>	48	49
<i>Being bothered, annoyed or disturbed to some extent by road traffic noise***</i>	55	40
<i>Being 'very' or 'extremely' bothered, annoyed or disturbed by road traffic noise</i>	8	8
<i>Being bothered, annoyed or disturbed to some extent by noise from neighbours and/or other people nearby***</i>	54	37
<i>Being 'very' or 'extremely' bothered, annoyed or disturbed by noise from neighbours and/or other people nearby*</i>	11	9
<i>Being bothered, annoyed or disturbed to some extent by noise from aircraft, airports and airfields***</i>	31	20
<i>Being 'very' or 'extremely' bothered, annoyed or disturbed by noise from aircraft, airports and airfields***</i>	4	2
<i>Being bothered, annoyed or disturbed to some extent by noise from building, construction, demolition, renovation and road works***</i>	29	15
<i>Being 'very' or 'extremely' bothered, annoyed or disturbed by noise from building, construction, demolition, renovation and road works†</i>	3	2

Table V3 – Summary of Results from NNAS2012 and NNAS2000

A closer look at the findings shows that the increase seen between 2000 and 2012 in the proportion of respondents who report being bothered, annoyed or disturbed to some extent by the most commonly heard sources of noise ('road traffic', 'neighbours and/or other people nearby', 'aircraft, airports and airfields' and 'building, construction, demolition, renovation and road works') is due to a reduction in the proportion of the population reporting being 'not at all' affected since 2000 and an increase in the proportion reporting being 'a little' or 'moderately' annoyed in 2012.

The demographics of respondents were found to be broadly representative of the UK population in both 2000 and 2012.

V3.1 Introduction

This volume presents a comparison of key results from the two National Noise Attitude Surveys (NNASs) undertaken across the whole of the UK in 2000 and 2012.

One of the aims of NNAS in 2012 (NNAS2012) was to maintain comparability with the 2000 survey (NNAS2000) so that a reasonably reliable backwards comparison could be made for selected questions. This document presents a comparison, based on these key questions, of the UK-wide findings between 2000 and 2012. It would be possible to make comparisons between the other results from the two surveys, but this cannot reliably be done because of changes in the questionnaire. Any comparison can only be indicative and quantitative trends cannot be calculated or inferred. It is recommended that comparisons of figures should be discouraged as this is not statistically valid and the results would be misleading if taken out of context. [Appendix V3.A1](#) discusses further why these comparisons should not be attempted.

[Volume 1](#) of the NNAS2012 suite of reports (in particular sections [V1.3](#), [V1.A4](#), [V1.A4.2](#) and [V1.A4.3](#)) describes the changes in the overall NNAS2012 questionnaire and survey methodology that were introduced in order to meet wider project objectives. Section A of the questionnaire was deliberately kept the same in 2000 and 2012 so that comparisons can be made. Therefore, this report is based almost entirely on Section A of the NNAS2012 questionnaire, plus observations on any changes seen in the respondent characteristics, other than in [Appendix V3.A1](#) described in the previous paragraph.

V3.1.1 Interpretation of Results

Respondent Characteristics

The achieved sample was found to be broadly representative of the UK population in both 2000 and 2012 (see [V3.8](#)) and as such, no additional (post-stratification) weighting of the data was required. Therefore any changes in response between the two surveys can generally be considered to indicate changes in opinion of the population or the demographics of the population, rather than an artefact of the sampling.

However, it should always be borne in mind that the final sample differed from the UK population (according to the 2011 Census) in the following ways:

- the NNAS2012 respondents tended to be more likely to be in the 'higher and intermediate managerial / administrative / professional' social groups² when compared to the population as a whole. Respondents in these social groups (A/B) were found to be

² Social groups A/B – Chief income earner in household is in the grade defined as high or intermediate managerial, administrative or professional. For more info, see the [National Readership Survey](#).

more likely to be annoyed³ by noise from aircraft, airports and airfields compared to the overall levels of annoyance from this source;

- the NNAS2012 respondents tended to be more likely to be older and/or retired when compared to the population as a whole. Retired people were found to be less likely to report negatively about the amount of noise in their local environment and they reported reduced levels of annoyance towards noise from road traffic and neighbours (and other people nearby) compared to the overall reported levels of annoyance towards noise from these two key sources;
- there is a significant increase in the proportion of males in the 2012 sample compared to the 2000 sample, but further analysis (see [Volume V5.11.6](#)) suggests that the gender of the respondent does not generally affect reactions to noise (apart from females having moderately higher reports of being affected by neighbour noise); and
- the 2012 sample contains a significant increase in the proportion of respondents living in detached properties compared to the 2000 sample, a significant increase in the proportion with full or partial double glazing and an increase in the proportion living in housing built after 1990. The analysis presented in [Volume V5.11.4](#) shows that housing related issues can be an important factor, associated with negative response to noise, that should be taken into account when assessing the influence of noise exposure on attitudes and behaviour.

Statistical Measures

Unless otherwise stated, significance is determined using the Mann-Whitney-U 2-tailed test or Pearson Chi Squared Test with a derived measure adjusting for the different sample sizes (ϕ). The number of degrees of freedom for the Chi Squared test is always 1 and the value of N is always 5623, unless otherwise stated. Statistically significant comparisons with p-values ≤ 0.001 are denoted ***. Those with p-values ≤ 0.01 are denoted ** and those with p-values ≤ 0.05 are denoted *. Marginally significant p-values ≤ 0.1 are denoted †.

Percentages are rounded to the nearest whole number (or $< 1\%$, if $< 0.5\%$, but $> 0\%$).

The complexity of the methodology has prevented the calculation of confidence intervals around the estimates for any of the results. A simple confidence interval based on the assumptions of a simple random design would have overestimated the confidence put into the estimates and thus been misleading.

³ Please note that wherever the term 'annoyance' or 'being annoyed' is used, that it is directly linked to a question concerning a rating of how 'bothered, annoyed or disturbed' a respondent reported being. Therefore, the term 'annoyance' or 'being annoyed' should strictly be considered to be a combination of the 3 terms and not merely annoyance.

As an alternative in this Volume, where statistically significant differences between the two years are identified using the Pearson Chi Squared Test, pooled odds ratios (OR) have been calculated for key differences to help explain the impact of these differences. An odds is the ratio of the probability that the event will happen to the probability that the event will not happen. The pooled OR is a comparison of these two odds to establish if the odds of the outcome occurring increases or decreases between the two surveys. In this case, an outcome (e.g. reports of being bothered, annoyed or disturbed by a certain noise source to some extent) is *x*% more likely in 2012 than it was in 2000, for example. In essence:

- OR=1 Same odds between the two survey years;
- OR>1 Odds increases between the survey years; and
- OR<1 Odds decreases between the survey years.

As the Mann-Whitney-U 2-tailed test is a non-parametric test, the calculation of confidence intervals is not possible. Calculation of an OR would be possible, but as it could not be linked to the Mann-Whitney-U 2-tailed test (as the underlying assumptions are different), this too has not been done.

V3.2 Attitudes to Local Area

Respondents rated how much they liked living in the area or neighbourhood on a seven-point scale ranging from '1 = Definitely like' to '7 = Definitely don't like'. Respondents felt overwhelmingly positive about the area or neighbourhood they lived in (median = 1). Around half of all respondents in both 2000 and 2012 reported that they 'definitely liked' living in the area/neighbourhood; very few respondents in either survey reported that they 'definitely didn't like' the area or neighbourhood. There is a significant increase in the proportion of respondents who like living in their area or neighbourhood in 2012 compared to 2000***(U = 3474649.5).

A1 NNAS2012 & Q16 NNAS2000

On the whole, how much do you like living in this area or neighbourhood?

'Definitely like – Definitely don't like'

	2012 % (n = 2747)	2000 % (n = 2876)
1 Definitely like	54	50
2	23	21
3	11	11
4	7	8
5	3	4
6	2	3
7 – Definitely don't like	1	3
Missing	< 1	-
2012: Median = 1.00		
2000: Median = 1.00		

Table V3.1 – A1/Q16 Like Living in this Area Comparison

Respondents stated whether there was anything in particular that they liked about their neighbourhood (N'hood) or home (two separate questions). Overall, around two-fifths of respondents in both 2000 and 2012 mentioned the sound environment of their neighbourhood or home positively. In both surveys, respondents were more likely to mention the sound environment of their neighbourhood positively compared to the sound environment of their home.

A2/A4 NNAS2012 & Q17/Q19 NNAS2000				
Is there anything you particularly like about this neighbourhood or your home?				
	2012		2000	
	% (n = 2747)		% (n = 2876)	
	N'hood	Home	N'hood	Home
Any mention of quietness/freedom from noises or sources of noise/peacefulness	36	11	37	14
Any mention of sounds/noises that are liked	2	1	4	2
<i>Either of above 2 responses (combined category) i.e. sound/noise environment liked</i>	37	12	40	16
Any other features that are liked	67	81	69	79
Nothing liked	6	6	7	7
<i>Any positive rating of sounds in home or neighbourhood (regardless of whether there was also a negative statement at A3 or A5)[§]</i>	42		45	

[§] Derived from A2 and A4 or Q17 and Q19

Table V3.2 – A2/A4/Q17/Q19 Like about this N'hood/your Home Comparison

Respondents also stated whether there was anything in particular that they disliked about their neighbourhood or home (two separate questions). A significantly smaller proportion of respondents mentioned the sound environment of their neighbourhood or home negatively in 2012 (14%) than in 2000 (20%)⁴. In both surveys, respondents mentioned the sound environment of the neighbourhood negatively more often than the sound environment of their home.

A3/A5 NNAS2012 & Q18/Q20 NNAS2000				
Is there anything you particularly dislike about this neighbourhood or your home?				
	2012		2000	
	% (n=2747)		% (n=2876)	
	N'hood	Home	N'hood	Home
Any mention of noise not liked/noise effects/lack of peace & quiet	8	3	7	2
Any mention of sources of noise not liked	3	1	13	5
Any mention of quietness/freedom from noise not liked	1	< 1	1	1
<i>Either of above 3 responses (combined category) i.e. sound/noise environment not liked</i>	11	4	17	6
Any other features that are disliked	45	41	42	35
Nothing disliked	45	55	45	58
<i>Any negative rating of sounds in home or neighbourhood (regardless of whether there was also a positive statement at A2 or A4)[§]</i>	14		20	

[§] Derived from A3 and A5 or Q18 and Q20

Table V3.3 – A3/A5/Q18/Q20 Dislike about this N'hood/your Home Comparison

⁴ *** ($\chi^2 \phi = 0.083$), OR(0.651, 1.536)

V3.3 Environmental Issues

Respondents were shown a list of 12 environmental problems and asked which five they were most affected by. In 2012, noise was rated fourth highest out of the list of environmental problems, with over one-fifth (22%) of all respondents including it in their selection. In 2000, noise was rated significantly lower*** (U = 149725) at ninth in the same list with under one-fifth (18%) including it in their selection.

Respondents tended to select fewer than five options more often in 2012 than in 2000. For example, in 2000, some 8996 votes were cast by the 2876 respondents out of a possible 14,380 (63% of total possible number of votes) equating to an average of 3.1 problems selected per respondent. Conversely in 2012, only 6755 votes were cast by the 2747 respondents out of a possible 13,735 (49% of total possible number of votes) equating to an average of 2.5 problems selected per respondent.

One possible reason for this is that the list as a whole is perceived as less relevant to respondents in 2012 than it was in 2000. Most items are selected far less frequently in 2012 than in 2000, in fact, only two issues are selected more often in 2012; one is noise and this has the biggest increase.

A6 NNAS2012 & Q21 NNAS2000		
Please look at this list of environmental problems. Which FIVE would you say you are personally most affected by?		
Environmental problems affecting respondents	2012	2000
	% (n = 2747)	% (n = 2876)
	Proportion ranking problem in top five	
Fouling by dogs	50	50
Litter and rubbish	50	48
Losing green belt land	25	27
Noise	22	18
Traffic exhaust fumes and urban smog	21	31
Not enough recycling	17	20
Quality of drinking water	13	26
Loss of plant life and/or animal life	13	16
Chemicals put into the rivers or seas	11	24
Sewage on beaches or in bathing water	11	24
Use of insecticides and/or fertilisers	8	18
Using up of natural resources	8	9

Table V3.4 – A6/Q21 Environmental Problems Comparison

V3.4 Local Noise Environment

Respondents' attitudes towards their local noise environment were assessed using a seven-point scale ranging from '1 = Definitely like' to '7 = Definitely don't like'. Attitudes towards the local noise environment were overwhelmingly positive: taking the top three responses, 72% of respondents had a positive attitude to their local noise environment in 2012 (a rating of 1-3) compared to 69% in 2000. In 2012, only 15% of respondents didn't

like the amount of noise (a rating of 5-7) compared to 16% in 2000. The change in attitude is not statistically significant (U = 3607507).

A7 NNAS2012 & Q22 NNAS2000 In general, how do you feel about the amount of noise around here? 'Definitely like – Definitely don't like'		
	2012 % (n =2747)	2000 % (n=2876)
1 Definitely like	33	32
2	23	22
3	16	15
4	13	13
5	9	7
6	3	4
7 Definitely don't like	3	5
Don't know	< 1	1

Table V3.5 – A7/Q22 Feelings about Amount of Noise Comparison

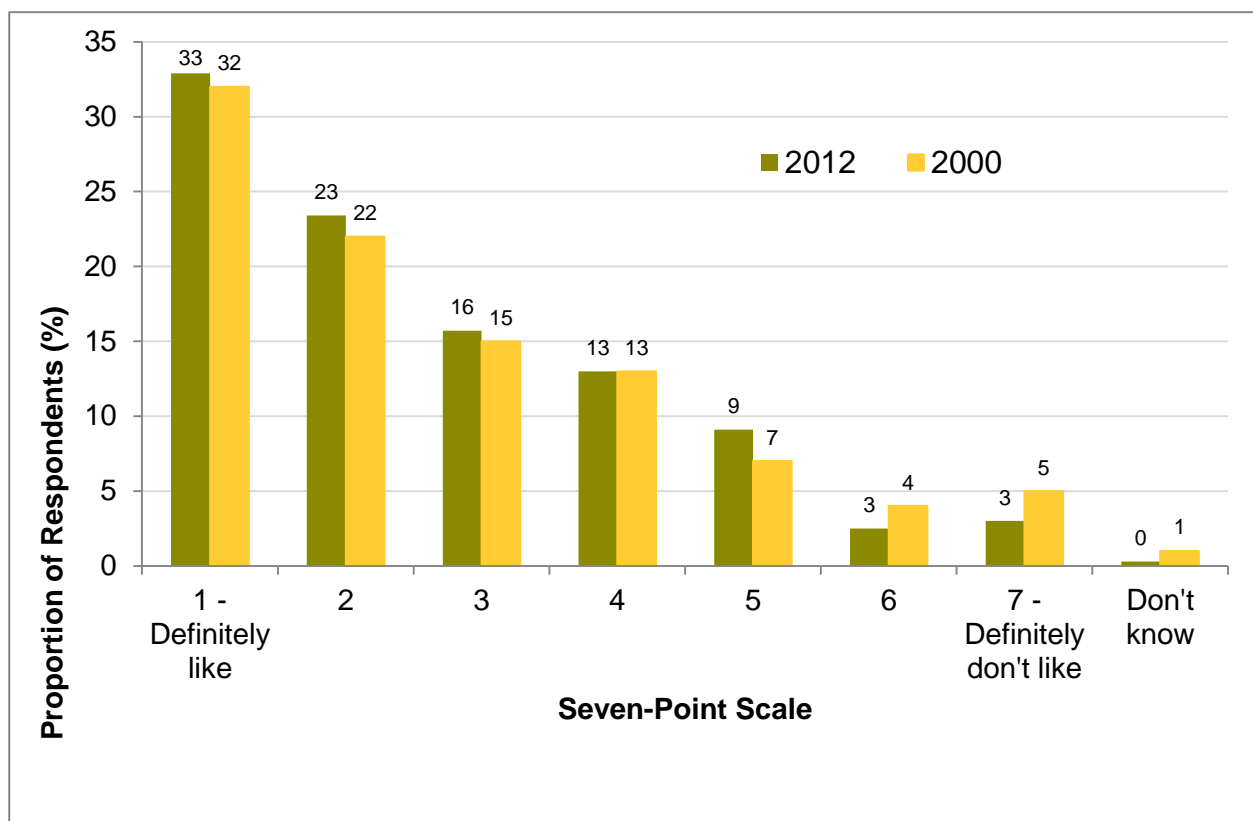


Figure V3.1 – A7/Q22 Feelings about Amount of Noise Comparison

V3.5 Self-Reported Noise Sensitivity

Respondents rated how sensitive they were to noise on a seven-point scale ranging from '1 = Not at all sensitive' to '7 = Very sensitive'. A range of noise sensitivities were reported by the respondents, and the respondents were fairly evenly distributed across the range of noise sensitivities. The distribution of self-rated noise sensitivity differed only slightly* (U = 3555469.5) across the 2012 and 2000 respondents.

A8 NNAS2012 & Q23 NNAS2000		
How sensitive would you say you are to noise?		
'Not at all sensitive – Very sensitive'		
	2012 % (n = 2747)	2000 % (n = 2876)
1 Not at all sensitive	13	15
2	15	16
3	18	16
4	19	18
5	14	12
6	9	10
7 Very sensitive	12	12
Don't know	< 1	1
2012: Median = 4.00		
2000: Median = 4.00		

Table V3.6 – A8/Q23 Self-Reported Sensitivity to Noise Comparison

V3.6 Different Sources of Noise

The respondents were asked about a series of different categories of environmental noise. For each of these, a showcard was presented, giving examples of specific sources of noise included in the category. Respondents were initially asked if they were 'personally bothered, annoyed or disturbed' by the category of environmental noise. This was rated according to a five-point scale ('Not at all' / 'A little' / 'Moderately' / 'Very' / 'Extremely'). If a respondent reported 'don't know' a check was made to see if this meant that they never heard the noise or if they really did mean 'don't know'. If they rated the noise as bothering, annoying or disturbing them 'not at all' on the scale they were then asked if this was because they never heard the noise. In either case, if they said that they never heard the noise then this was coded as don't hear (rather than 'not at all'). The showcards did not include 'don't hear' as an option.

To compare the extents to which respondents reported being bothered, annoyed or disturbed between the two surveys, the proportions have been re-categorised and rounded to the nearest whole percentage. The revised categories consider the cumulative response to determine the proportion of respondents reporting being bothered, annoyed or disturbed 'to some extent', 'very, moderately or extremely' and 'very or extremely' and are summarised in [Table V3.7](#).

Re-categorised Responses	Consisting of Original Response Options
Not at all	Not at all
To some extent	A little, Moderately, Very, Extremely
Moderately, very or extremely	Moderately, Very or Extremely
Very or extremely	Very or Extremely

Table V3.7 – A9/Q24 Re-categorisation of response options

[Table V3.8](#) presents a comparison of the results for those who hear the various noise sources from Question A9 in NNAS2012 with the identical question (Q24) from NNAS2000. [Table V3.9](#) presents a comparison of the results for those who are bothered,

annoyed or disturbed to any extent by various noise sources from Question A9 in NNAS2012 with the identical question (Q24) from NNAS2000.

In both 2012 and 2000 the sources of noise most frequently heard⁵ by people in their homes in the UK are 'road traffic', 'neighbours and/or other people nearby'⁶, 'aircraft, airfields and airports' and 'building, construction, demolition, renovation and road works'. The proportions reporting these sources are remarkably similar between the two surveys.

There is a greater decrease between 2012 and 2000 in the percentage hearing other types and sources of noise. In some cases, this could be as much an artefact of the random sampling rather than a particular trend. However, as it is common across all the commonly heard sources, it suggests that a trend is more likely.

In both 2012 and 2000, over four-fifths of all respondents reported hearing noise from 'road traffic' and 'neighbours and/or other people nearby'. These noise sources also had the highest reports of annoyance, with around 1 in 4 respondents reporting 'moderate', 'very' or 'extreme' annoyance for noise from 'road traffic' and 'neighbours and/or other people nearby' in 2012 compared to around 1 in 5 respondents in 2000. The percentage reporting being annoyed to some extent by 'road traffic' noise has increased significantly from 40% to 55% between 2000 and 2012*** and respondents are 1.8 times more likely to report being annoyed to some extent by 'road traffic' noise in 2012 than in 2000. Similarly, the percentage reporting being annoyed to some extent by noise from 'neighbours and other people nearby' has also increased significantly from 37% to 54% between 2000 and 2012*** and respondents are almost twice as likely to report being annoyed to some extent by noise from 'neighbours and/or other people nearby' in 2012 than in 2000.

In 2012, the analysis looking at the potential effects of the achieved sample characteristics compared to the population characteristics (see [Volume V1.5](#)) showed that retired people are less likely to report noise as a negative aspect of their local environment and report less annoyance towards 'road traffic' noise and noise from 'neighbours and/or other people nearby' compared to the overall reported levels of annoyance towards noise from these two key sources. This should be taken into account when considering the increase in those reporting being annoyed to some extent by noise from 'road traffic' and 'neighbours and/or other people nearby' between 2000 and 2012 as it could be an underestimation of the change. However, as the overall figures for hearing and being very or extremely bothered, annoyed or disturbed have remained reasonably comparable, this is thought to be unlikely, otherwise the trait would have been expected to be seen consistently across these specific results.

'Aircraft, airport and airfield' noise was heard by around 70% of respondents in both surveys, and the percentage reporting being annoyed to some extent has increased from

⁵ 'Reported hearing' is a measure derived from the number of people who were asked the question less the number who responded 'do not or never hear' or 'do not know'. This holds wherever the term (or an equivalent) is used.

⁶ Combined category consisting of results from 'Neighbours (inside their homes)', 'Neighbours (outside their homes)' and 'Other people nearby'.

20% to 31% between 2000 and 2012***. Respondents are 1.8 times more likely to report being annoyed to some extent by 'aircraft, airport and airfield' noise in 2012 than in 2000. It should also be noted that this is the only one of the four most commonly heard sources of noise where the proportion of respondents reporting being bothered, annoyed or disturbed to a greater extent ('very' or 'extremely' on response scale) has also increased significantly***.

In 2012, the analysis looking at the potential effects of the achieved sample characteristics compared to the population characteristics (see [Volume V1.5](#)) showed that those in social groups (A/B) are more likely to be annoyed by noise from aircraft, airports and airfields compared to the overall levels of annoyance from this source. This should be taken into account when considering the increase in those reporting being annoyed to any extent by noise from 'aircraft, airports and airfields' between 2000 and 2012 as this could be an overestimation of the change.

'Building, construction, demolition, renovation and road works' was heard by just under half the respondents and the percentage reporting being annoyed to some extent has increased significantly from 15% to 29% between 2000 and 2012***. Respondents are 2 ¼ times more likely to report being annoyed to some extent by 'building, construction, demolition, renovation and road works' noise in 2012 than in 2000.

This pattern is also fairly consistent across the less commonly heard noise sources. There are statistically significant increases in those bothered, annoyed or disturbed to some extent for six of the remaining eight noise types not discussed above. Only Industrial Sites or Other Commercial Premises failed to show statistically significant changes. For those reporting to be bothered, annoyed or disturbed to a greater extent ('very' or 'extremely' on response scale) the pattern appears to be no great change between the two years in general for the less commonly heard sources.

This data suggests that people are less tolerant of noise than they were and this could be for a number of reasons. For example, they may spend more time at home or the noise they do hear could be more annoying because they have double glazing (or better double glazing) and therefore don't expect to hear *any* noise; unfortunately, the data don't allow us to test these hypotheses directly. Additionally, there are only two points in time to compare here (2012 and 2000). There is no way of knowing whether the data supports a consistent trend over the past 12/13 years or whether there is a non-linear monotonic trend or peaks and troughs (e.g. depending on the state of the economy or recent events).

[Figure V3.2](#) - [Figure V3.5](#) further illustrate these key findings.

A9 NNAS2012 & Q24 NNAS2000

When you are at home, to what extent are you personally bothered, annoyed or disturbed by noise from...?

Hear – derived measure⁷

Noise Category	Year	%	Hear χ^2 ϕ	Odds Ratio
Road traffic	2012	83	NS ⁸	N/A
	2000	84	0.012	
Neighbours (inside their homes)	2012	54	*	0.843
	2000	58	0.042	1.186
Neighbours (outside their homes)	2012	70	NS	N/A
	2000	71	0.005	
Other people nearby	2012	55	***	0.590
	2000	68	0.127	1.694
Neighbours and/or other people nearby (combined category)	2012	83	NS	N/A
	2000	81	0.021	
Aircraft, airports and airfields	2012	72	NS	N/A
	2000	71	0.011	
Building, construction, demolition, renovation and road works	2012	48	NS	N/A
	2000	49	0.003	
Trains or railway stations	2012	28	***	0.684
	2000	36	0.088	1.463
Sports events	2012	28	***	0.737
	2000	34	0.070	1.357
Other entertainment or leisure	2012	24	***	0.727
	2000	31	0.071	1.375
Community buildings	2012	25	***	0.804
	2000	29	0.048	1.244
Forestry, farming or agriculture	2012	23	*	0.869
	2000	26	0.030	1.150
Industrial sites	2012	10	***	0.370
	2000	23	0.173	2.703
Other commercial premises	2012	8	***	0.294
	2000	23	0.204	3.396
Sea, river or canal traffic	2012	4	***	0.232
	2000	15	0.188	4.302

Table V3.8 – A9/Q24 Hear Various Sources Comparison

⁷ Reported 'hearing' is a measure derived from the number of people who were asked the question less the number who responded 'do not or never hear' or 'do not know'.

⁸ NS = Observed difference is not statistically significant.

A9 NNAS2012 & Q24 NNAS2000

When you are at home, to what extent are you personally bothered, annoyed or disturbed by noise from...?

'Not at all – A little – Moderately – Very – Extremely'

Noise Category	Year	To Some Extent			Moderately, Very or Extremely			Very or Extremely		
		%	χ^2 ϕ	Odds Ratio	%	χ^2 ϕ	Odds Ratio	%	χ^2 ϕ	Odds Ratio
Road traffic	2012	55	***	1.782	25	**	1.190	8	NS	N/A
	2000	40	0.143	0.561	22	0.037	0.840	8	0.007	
Neighbours (inside their homes)	2012	31	***	2.038	13	***	1.511	5	*	1.335
	2000	18	0.151	0.491	9	0.064	0.662	4	0.029	0.749
Neighbours (outside their homes)	2012	39	***	2.255	15	***	1.675	5	**	1.457
	2000	22	0.184	0.443	10	0.083	0.597	4	0.040	0.687
Other people nearby	2012	27	***	1.482	9	NS	N/A	3	NS	N/A
	2000	20	0.083	0.675	8	0.013		3	0.007	
Neighbours and/or other people nearby (combined category)	2012	54	***	1.981	26	***	1.459	11	*	1.216
	2000	37	0.168	0.505	19	0.078	0.685	9	0.028	0.822
Aircraft, airports and airfields	2012	31	***	1.769	13	***	1.936	4	***	1.979
	2000	20	0.123	0.565	7	0.098	0.516	2	0.053	0.505
Building, construction, demolition, renovation and road works	2012	29	***	2.252	11	***	1.544	3	NS	N/A
	2000	15	0.164	0.444	7	0.060	0.648	2	0.020	
Trains or railway stations	2012	7	*	1.279	2	NS	N/A	< 1	†	0.570
	2000	6	0.030	0.782	2	0.011		1	0.025	1.755
Sports events	2012	8	***	2.201	2	**	1.732	1	NS	N/A
	2000	4	0.090	0.454	1	0.036	0.577	< 1	0.012	

A9 NNAS2012 & Q24 NNAS2000

When you are at home, to what extent are you personally bothered, annoyed or disturbed by noise from...?

'Not at all – A little – Moderately – Very – Extremely'

Noise Category	Year	To Some Extent			Moderately, Very or Extremely			Very or Extremely		
		%	χ^2 ϕ	Odds Ratio	%	χ^2 ϕ	Odds Ratio	%	χ^2 ϕ	Odds Ratio
Other entertainment or leisure	2012	11	***	1.947	3	*	1.431	1	NS	N/A
	2000	6	0.093	0.514	2	0.028	0.699	1	0.012	
Community buildings	2012	8	***	2.233	2	*	1.629	1	NS	N/A
	2000	4	0.090	0.448	1	0.034	0.614	< 1	0.012	
Forestry, farming or agriculture	2012	7	***	3.026	2	***	5.061	< 1	*	4.012
	2000	3	0.111	0.330	< 1	0.061	0.198	< 1	0.030	0.249
Industrial sites	2012	5	NS	N/A	2	NS	N/A	1	NS	N/A
	2000	4	0.004		2	0.002		1	0.011	
Other commercial premises	2012	4	NS	N/A	2	NS	N/A	< 1	NS	N/A
	2000	3	0.018		1	0.007		1	0.008	
Sea, river or canal traffic	2012	1	*	2.343	< 1	NS	N/A	< 1	NS	N/A
	2000	< 1	0.026	0.427	< 1	0.018		< 1	0.014	

Table V3.9 – A9/Q24 Bothered, Annoyed or Disturbed by Various Sources Comparison

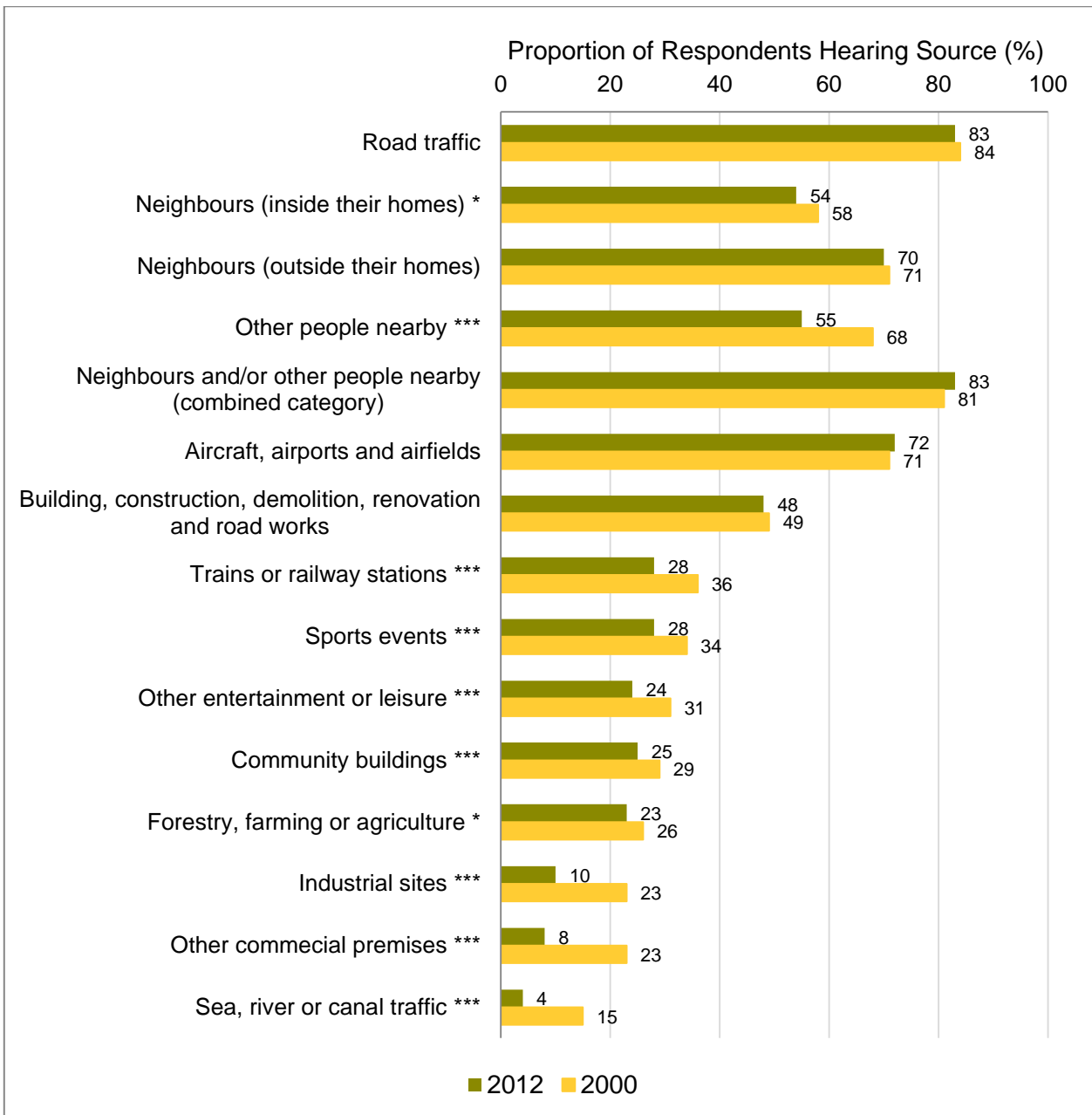


Figure V3.2 – A9/Q24 Hear Various Sources Comparison

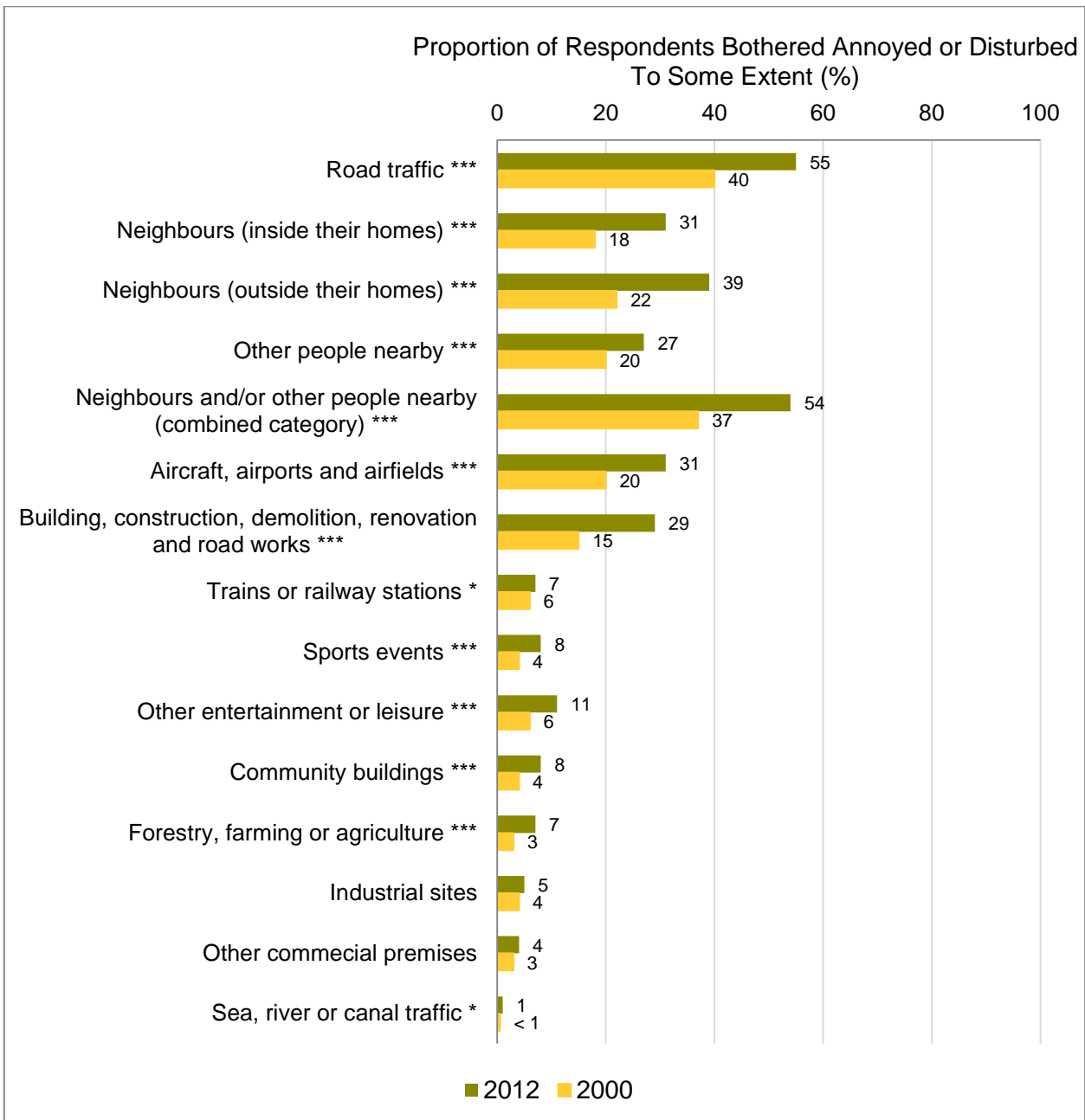


Figure V3.3 – A9/Q24 Bothered, Annoyed or Disturbed To Some Extent by Various Sources Comparison

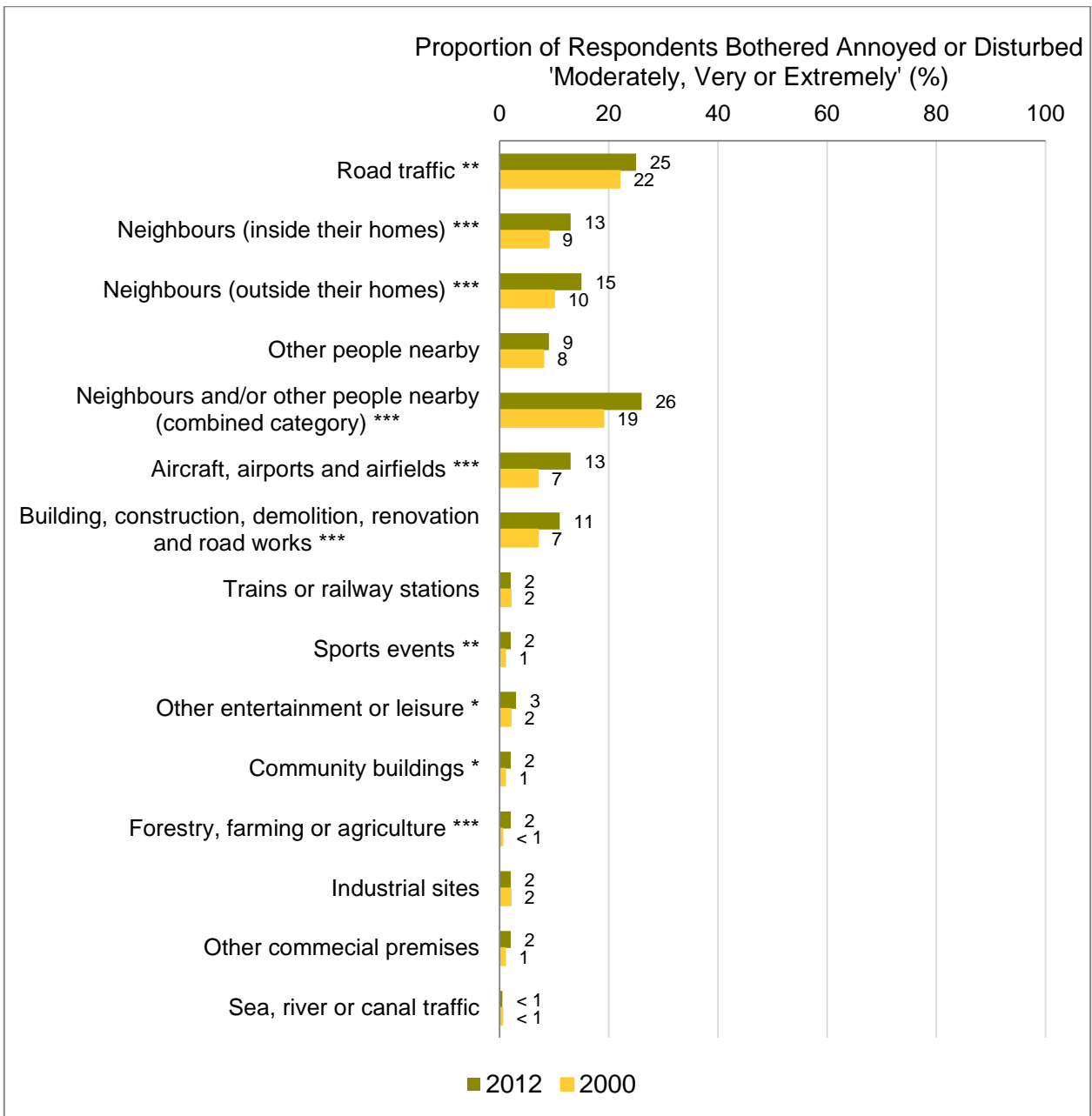


Figure V3.4 – A9/Q24 Bothered, Annoyed or Disturbed 'Moderately, Very or Extremely' by Various Sources Comparison



Figure V3.5 – A9/Q24 Bothered, Annoyed or Disturbed ‘Very or Extremely’ by Various Sources Comparison

The respondents were then asked to sort all the categories of noise into two piles; one containing all categories that bother, annoy or disturb them personally when you are at home and the other containing those that do not apply or do not bother, annoy or disturb them at home. The results are presented in [Table V3.10](#).

The proportions of respondents placing their cards into the ‘bother, annoy or disturb’ pile appears to have increased for every category of noise in 2012 when compared to the 2000 findings.

The ranking of the noise categories mirrors the responses seen in the previous question relating to hearing and annoyance for the different noise sources, with ‘road traffic’ and ‘neighbours and/or other people nearby’ gaining the highest ranks, followed by ‘aircraft, airports and airfields’ and then ‘building, construction, demolition, renovation and road works’.

A10 NNAS2012 & Q25 NNAS2000

On these cards there are different sources of noise. Please look at them and then sort them into two groups. Put all those noises that bother, annoy or disturb you personally when you are at home into one pile, and all those that don't apply to you, or do not bother, annoy or disturb you when at home into a second pile. All the cards must be put into one group or the other.

Noise Category	2012 Any mention % (n = 2747)	2000 Any mention % (n = 2876)
Road traffic	41	37
Neighbours (inside their homes)	22	16
Neighbours (outside their homes)	28	16
Other people nearby	20	16
Neighbours and/or other people nearby (combined category)	42	-
Aircraft, airports and airfields	20	14
Building, construction, demolition, renovation and road works	17	7
Trains or railway stations	6	3
Sports events	5	2
Other entertainment or leisure	8	3
Community buildings	5	2
Forestry, farming or agriculture	5	1
Industrial sites	5	3
Other commercial premises	4	2
Sea, river or canal traffic	2	< 1

Table V3.10 – A10/Q25 Ranking of Annoyance from Various Sources Comparison

V3.7 Other Attitudinal Findings

As mentioned in the [Introduction \(V3.1\)](#) to this report, section A of the questionnaire was deliberately kept the same in 2012 and 2000 so that the above statistical comparisons can be made.

Changes were made between the 2012 and 2000 surveys in the way that information was collected for the remaining sections. These changes include the wording of certain questions, the order in which the questions are asked and the addition or deletion of other questions prior to the one being considered. For this reason, any comparison can only be indicative and quantitative trends cannot be calculated or inferred. Indeed, comparisons of figures should be discouraged.

The reasons for the changes included the need for the survey to be relevant to current evidence needs and updating the questionnaire in light of current recommended practice for social research and new noise sources. Some additional information on the changes to the questionnaire can be found in [Volume 1](#) of the NNAS2012 suite of reports (in particular sections [V1.3](#), [V1.A4](#), [V1.A4.2](#) and [V1.A4.3](#)).

However, it is accepted that for at least some of the more widely reported results from NNAS2000, some readers will have an interest in considering possible changes. It would be possible to make comparisons between the other results from the two surveys, but this

cannot reliably be done because of changes in the questionnaire. Any comparison can only be indicative and quantitative trends cannot be calculated or inferred. It is recommended that comparisons of figures should be discouraged as this is not statistically valid and the results would be misleading if taken out of context. [Appendix V3.A1](#) discusses further why these comparisons should not be attempted.

V3.8 Household and Individual Respondent Characteristics

V3.8.1 Dwelling Information

In 2012 around 70% of all respondents had lived in their home for more than 5 years, compared to 75% in 2000. In 2012 around 1 in 5 had lived in their home for less than 2 years compared to around 1 in 10 in 2000. The majority of respondents had access to a garden, balcony or terrace at their home (96% in 2012 compared to 88% in 2000). In 2012 63% of respondents lived in attached properties of various kinds compared to 70% in 2000. In 2012 36% of respondents lived in detached houses or bungalows compared to 25% in 2000⁹.

A11 – A13 NNAS2012 & Q11 – Q14 NNAS2000 Dwelling Information		
	2012 % (n = 2747) (A11)	2000 % (n=2876) (Q11)
How long have you lived in this home?*** (U = 3501904.5)	(A11)	(Q11)
Less than 6 months	5	4
6 months but less than 1 year	6	3
1 year but less than 2 years	6	3
2 years but less than 5 years	13	14
5 years but less than 10 years	17	75 [§]
10 years or more	53	
Access to garden or other private outdoor space¹⁰	(A12)	(Q14)
No	4	7
Type of house	(A13)	(Q13_DWEL)
Purpose built flat/maisonette	6	7
Converted flat/maisonette	2	2
Semi-detached/end of terrace house	39	41
Mid terrace house	16	20
Detached house	28	16
Bungalow	8	9
Other	1	1

[§] Combined category

Table V3.11 – A11 – A13/Q11 – Q14 Dwelling Information

⁹ *** ($\chi^2 \phi = 0.126$), OR(0.593, 1.688)

¹⁰ *** ($\chi^2 \phi = 0.065$), OR(0.554, 1.806)

V3.8.2 Household and Individual Respondent Characteristics

[Table V3.12](#) summarises the household and individual characteristics of respondents. In terms of the respondents' homes, significantly more (95%) had full or partial double glazing compared to 74% in 2000*** ($\chi^2 \phi = 0.163$), OR(0.256, 3.907).

In 2012, 14% of respondents lived in homes built since 1990, whereas only 4% lived in post 1990 homes in 2000*** ($\chi^2 \phi = 0.163$), OR(0.256, 3.907). Around three quarters of respondents in both surveys were owner occupiers with around a quarter of respondents in both surveys in rented accommodation of various types. In 2012, around two fifths of respondents owned their home (rather than purchasing on a mortgage), compared to around one third in 2000*** ($\chi^2 \phi = 0.051$), OR(0.804, 1.244). This sub-group of respondents are likely to be likely to be older and/or wealthier than those who are buying on a mortgage, and may have had more choice about where to live.

In 2012 the respondents were equally spilt between males and females, whereas 57% of the 2000 respondents were female*** ($\chi^2 \phi = 0.066$), OR(0.754, 1.326). Further analysis (see [Volume V5.11.6](#)) of the 2012 responses suggests that the gender of the respondent does not generally affect reactions to noise (apart from females having moderately higher reports of being affected by noise from 'neighbours and/or other people nearby').

There is a greater proportion of the 'higher and intermediate managerial / administrative / professional' social groups (A/B) as head of household in the 2012 respondents*** (U = 2630824.5). There is a similar age distribution in both the 2000 and 2012 respondents' profile.

H1 – H17 NNAS2012 & NNAS2000 Household and Individual Characteristics		
	2012 % (n = 2747)	2000 % (n = 2876)
HOUSEHOLD CHARACTERISTICS		
Double glazing in the home***	H1	Q12
None	6	25
Some	11	15
All	83	59
Age of home	(H4 + H5)	(Q15)
Before 1919	17	18
1919-1940	20	21
1941-1960	16	20
1961-1990	32	31
1991-2000	7	4
2001-2010	6	-
2011-2012	< 1	-
Don't know	1	5
Home ownership	(H6)	(Q10)
Being bought on a mortgage	36	40
Owned outright by household	38	33
Rented from local authority	6	18
Rented from housing association	6	-

H1 – H17 NNAS2012 & NNAS2000 Household and Individual Characteristics		
	2012 % (n = 2747)	2000 % (n = 2876)
Rented from private landlord	13	7
Shared ownership	< 1	-
Other	1	2
Refused	< 1	-
Household Type	(H14)	(Q8)
Any household members aged under 18?		
No	68	66
Yes	32	34
Any household members aged 0-5?		
No	89	88
Yes	11	12
Any household members aged 5-10?		
No	88	85
Yes	12	15
Any household members aged 11-17?		
No	82	78
Yes	18	22
Social group of head of household	(H17)	(Q9)
A	6	15 [§]
B	26	
C1	30	28
C2	18	21
D	11	17
E	9	17
INDIVIDUAL CHARACTERISTICS		
Age of respondent	(H12)	(Q6)
16-17	2	1
18-19	2	(16 – 18 yrs)
20-24	7	7
25-34	11	(19 – 24 yrs)
35-44	16	14
45-54	19	18
55-64	19	19
55-64	18	15
65-74	15	26
75 or older	10	(65 or older)
Refused	> 1	-
Gender of respondent	(H13)	(Q7)
Male	50	43
Female	50	57

[§] Combined category

Table V3.12 - H1 – H17/Q6 – Q15 Household and Individual Characteristics

Appendix V3.A1 Other Attitudinal Findings

V3.A1.1 Introduction

As mentioned in the [Introduction \(V3.1\)](#) and [Section V3.7](#) to this report, Section A of the questionnaire was deliberately kept the same in 2012 and 2000 so that statistical comparisons can be made.

As also mentioned, changes were made between the 2012 and 2000 surveys in the way that information was collected for the remaining sections. These changes include the wording of certain questions, the order in which the questions are asked and the addition or deletion of other questions prior to the one being considered. For this reason, any comparison can only be indicative and quantitative trends cannot be calculated or inferred. Indeed, comparisons of figures should be discouraged.

However, it is accepted that for at least some of the more widely reported results from NNAS2000, some readers will have an interest in considering possible changes. This appendix attempts to discuss some of the themes expected to be of interest for illustrative purposes only, without inferring that any changes in attitude have occurred. The appendix, in effect, is aiming to prevent non-valid comparisons from taking place. Full details of which questions are comparable, and which are not, between 2012 and 2000 can be found in [Volume 1, Appendix 4.3](#).

The discussion is presented under the following headings. The appendix does not attempt to consider the modules associated with specific sources of noise (i.e. Road Traffic Noise, Noise from Neighbours and/or Other People Nearby, Railway Noise, Aircraft Noise and Other Sources of Noise).

- [Perceived Noise Effects](#);
- [Actions Taken about Noise](#); and
- [Interviewer Record of Neighbourhood Characteristics](#);

In all cases in this Appendix, please recall that in order to prevent potentially misleading conclusions from being drawn, any comparison of figures (including statistical testing) is discouraged and any comparison can only be indicative; quantitative trends cannot be calculated or inferred.

V3.A1.2 Perceived Noise Effects

Respondents were asked to rate the extent to which all the noise from the various sources collectively that they hear at home, spoils their home life and this was a particularly widely reported statistic from NNAS2000 (Q28). In 2000, all respondents rated this question using a five-point scale with the following options: 'Totally' / 'Quite a lot' / 'A little' / 'Not very

much' / 'Not at all'. In 2012 the identical question was asked, however the same five-point response scale was deliberately only offered to 50% of respondents (O1b). In order to test different ways of asking the question, the other half were presented with a different response scale consisting of: 'Completely' / 'A great deal' / 'A fair amount' / 'A little' / 'Not at all' (O1a)

In both 2000 and 2012, the question was asked after the noise type modules so that respondents would have been reminded of all the types of noise and possible effects before being asked. However, this means that responses may have been influenced by changes in the noise type modules and therefore the two sets of results (from 2000 and 2012) are not comparable. Accordingly, comparisons between these values (and other questions considering perceived noise effects) are discouraged.

In 2012, 75% of those asked Question 01b (half the respondents) reported that their home life was either 'not at all' or 'not very much' spoiled by noise. In 2000, 78% of those asked (all respondents) reported that their home life was either 'not at all' or 'not very much' spoiled by noise. In both 2000 and 2012, 8% of those asked reported that their home life was 'quite a lot' or 'totally' spoiled by noise.

Based on the results of a combined analysis of the two (slightly different) questions which investigated the extent to which noise spoiled home life in 2012 (i.e. O1a & O1b NNAS2012), the proportion of the population reporting that their home life was spoiled to some extent by noise was found to be 43% in 2000 and 48% in 2012. This cannot be considered to be an increase (although it cannot be stated either that it is not), due to the methodological differences. See [Volume V2.10](#) for further details.

V3.A1.3 Actions Taken about Noise

Changes were made between the 2000 and 2012 surveys in the way that information was collected about noise complaints. For this reason any comparison can only be indicative and quantitative trends cannot be calculated or inferred.

In 2000 respondents were asked, thinking about the last year or so, about actions they had personally taken regarding 'road traffic' noise (in general) and regarding specific types of noise from 'neighbours and/or other people nearby' (that they had said affected them in some way), and how effective that action was considered to be.

In 2012 respondents were asked, thinking about their current home and the last five years, whether they, or anyone else in their household, had taken any form of action (from a predetermined comprehensive list) regarding an issue to do with various types of noise (from a predetermined comprehensive list of noise categories including 'any other noise'). If respondents reported no action taken but had previously reported being moderately, very or extremely annoyed by a particular source of noise then an additional double check was made to confirm whether or not they had taken any form of action.

In 2012, around one-fifth of all respondents (22%) reported that they or someone in their household had made a complaint or taken action about a noise issue within the past five years. The sources about which the complaints or action had been taken were predominantly concerned with noise from neighbours, with 8% and 7% of all respondents respectively having taken action about noise from neighbours 'inside' or 'outside' their homes, with a further 3% of all respondents having taken action about noise from 'other people nearby'.

Road Traffic Noise

In 2012, some form of remedial action had been taken in relation to 'road traffic' noise by 3% of all respondents, around 1% contacting the person/organisation responsible and around 1% installing double glazing to keep the noise out. In 2000, it was found that around 3% had contacted the person/organisation responsible and around 6% had installed double glazing to keep the noise out.

Noise from Neighbours

The 2012 survey found that the proportion of all respondents (thinking about the last five years) where someone in the household had made a complaint or taken action about noise from neighbours varied by specific type of noise as follows – 4% had taken action for 'radio / TV / music', 3% had taken action for 'teenagers' or adults' voices', 3% for 'parties held indoors', 2% for 'parties held outdoors' and 2% for 'noisy dogs or other animals'.

The 2000 survey found that the proportion of all respondents (thinking about the last year or so) who had personally made a complaint or taken action about noise from neighbours varied by specific type of noise as follows – 10% had taken action for 'teenagers' or adults' voices', 8% for 'noisy dogs or other animals', 7% for 'radio / TV / music', 7% for 'noisy children', 5% for 'burglar/car alarms' and 4% for noisy DIY work.

Types of Action Taken

In 2012, the most frequently cited action taken about noise was speaking or writing directly to the person (s) or organisation making the noise, which was reported by nearly half (47%) of those respondents taking action. In 2012 around 15% of those taking action about noise contacted the Environmental Health Department, whereas 28% contacted the police. About 3% of all respondents contacted the police regarding noise from neighbours 'inside' and 'outside' their homes, this is about twice the proportion that contacted Environmental Health Departments regarding these sources of noise. About 2% of all respondents contacted the police regarding noise from 'other people nearby', around three times as many who contacted Environmental Health Departments about this source. Similar findings were reported in 2000, although the proportions varied.

The 2000 and 2012 surveys both confirm that most people will contact the person(s) or organisation making the noise in order to seek to resolve a noise issue; indeed more

respondents took this course of action than any other type of action. Similarly a greater proportion of those people taking action about noise are contacting the police than are specifically contacting Environmental Health Departments, although the detailed pattern varies by specific type of noise and is confounded by those people who initially contact other Local Authority departments (and who contact landlords directly in the case of noise from 'neighbours and/or other people nearby').

V3.A1.4 Interviewer Record of Neighbourhood Characteristics

No analysis has been carried out on this section as different interviewers were used and therefore there can be no guarantee that they assessed the local environment in the same manner. However, the data is included for the readers' interest.

I1 – I06 NNAS2012 & Q1 – Q6 NNAS2000		
Interviewer Record of Neighbourhood Characteristics		
	NNAS2012 % (n = 2747)	NNAS2000 % (n = 2876)
While you were in the home or immediately outside it, was there noticeable noise from outside the home from...?	(I2)	(Q1)
Aircraft, airports, or airfields	4	12
Trains or railway stations	1	4
Trams	< 1	-
Road traffic	21	46
Sea, river or canal traffic	0	0
Building, construction, demolition, renovation and road works	1	2
Neighbours (inside their homes)	1	6
Neighbours (outside their homes)	1	7
Other people nearby	1	7
Pets	1	-
Sports	0	2
Other entertainment or leisure	< 1	1
Industrial sites	< 1	1
Other commercial premises	< 1	1
Forestry, farming or agriculture	< 1	1
Community buildings	< 1	1
Large wind turbines/wind farms	< 1	-
Small scale renewable energy production or air conditioning	< 1	-
Any other noise source	1	3
Is the dwelling located on any of the following? (I3)		(Q2A)
Motorway	< 1	1
Other dual carriageway	2	2
Single carriageway	18	17
Residential/estate road	72	70
Country lane	6	7
Is the dwelling not on, but within half a mile of any of the following?		(Q2B)
	(I3)	(Q2B)
Motorway	10	7
Other dual carriageway	19	14

I1 – I06 NNAS2012 & Q1 – Q6 NNAS2000		
Interviewer Record of Neighbourhood Characteristics		
Single carriageway	49	54
Residential/estate road	15	21
Country lane	26	11
Is the dwelling located in?	(I4)	(Q3)
The centre of a large city	3	3
Suburbs/outskirts of a large city	31	36
A large town or small city	19	14
In a country village/small town	42	41
In the countryside	6	5
Missing	< 1	-
Is this dwelling in an area that is?	(I5)	(Q4)
Mainly residential	78	72
Mixed residential/commercial (offices/shops etc.)	5	10
Mixed residential/industrial (factories etc.)	2	3
Mostly commercial/industrial with some residential	< 1	1
Mixed residential/countryside	10	10
Mostly countryside	5	5
Missing	< 1	-
Is this dwelling within 30 yards of?	(I6)	(Q5)
Traffic lights	4	4
A road junction of any kind	46	47
A roundabout	4	4
A zebra crossing	2	2
A pelican crossing	1	2

Table V3.A1.1 – I2 – I6/Q1 – Q5 Interviewer Record of Neighbourhood Characteristics