Proceedings of The Institute of Acoustics

PLANNING IMPLICATIONS OF TRAFFIC NOISE

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General

1. In the early 1970's as part of the investigations for the Nottinghamshire Structure Plan, Social & Community Planning Research was commissioned by the County Council to carry out home interviews with a representative sample of 1,682 households in Greater Nottingham. Each 40 to 50 minute interview was directed towards finding out what people were most concerned about in their environment and what they felt were the most important matters to consider when selecting an area in which to live if they were contemplating a move to a new home. Environment, in the context of the survey, was considered very broadly and included such diverse matters as the adequacy of facilities for pre-school children, the difficulty of finding suitable jobs, the sufficiency of entertainment facilities, access to medical services and the ability to keep up payments of rent or mortgage.

2. That "the traffic around here bothers us" and the "noise around here bothers us" came out as being of major concern to a substantial proportion of families. All socio-economic groups took this view although there was a tendency for it to be of greater concern to manual workers, because, no doubt, of the areas in which they tend to live. When considering an area for a new home the need for "peace and quiet" was surpassed only by the need for "good shops nearby" and "safety from road traffic". Peace and quiet was considered to be appreciably more important than, for example, having "friends and relatives nearby", "a short journey to work", "easy access to schools and colleges" and several other matters which might have been considered very important. Again there was a remarkable consistency about the views almost irrespective of family circumstances.

Structure and Local Plans

3. When allocating areas for additional residential development in a structure or local plan it is normal to sieve out areas which are least suitable from, for example, an agricultural or an employment accessibility point of view. An important constraint is often found to be traffic noise.

4. The blighting effect of traffic noise will obviously prevent normal residential development close to a rural motorway and make it desirable to minimise development near to urban traffic routes. This is liable to lead to substantial areas of land becoming virtually useless. These blighted areas tend to be coloured green on planners drawings and, within urban areas, often become dreary useless patches of waste land which are expensive to maintain in idleness. Even high quality Grade II agricultural land sandwiched between a motorway and a built up area often becomes, because of trespass, of use neither to man nor beast.

5. It is not only highway traffic noise that may prevent land being developed.

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Land that is overflown by aircraft landing and taking off from a regional airport probably will have to be barred from residential development despite the fact that to many of those working on the airport, the advantage of a home near their work would be very great. Noise from aircraft engine testing can sterilise substantial areas that in all other respects would be suitable for development. This would perhaps not be quite so bad if it were not that, despite its advanced technology, the aircraft industry taken as a whole, seems to be a financial burden on the tax payer who may well also suffer from the blighting effects of aircraft noise.

6. Nor can railway noise - despite the nice old fashioned image of the railway - be anything but a nuisance if it be increased. If the North East Leicestershire coalfield were to be mined it is currently envisaged that minestone spoil heaps, increasing by 2,720,000 tonnes a year, would be created. However well run no one likes a live coal tip. Preliminary investigation suggests that if instead of creating these tips, £1.20 were added to each tonne of coal moved from the coalfield, all the waste minestone could be carried by rail to the holes at the Peterborough brick fields. This, however, would mean a substantial number of extra, heavily loaded, goods trains passing through what are currently very quiet villages. The obvious advantage of eliminating massive tips has therefore to be set against the noise of these goods trains and the extra cost before a decision can be made.

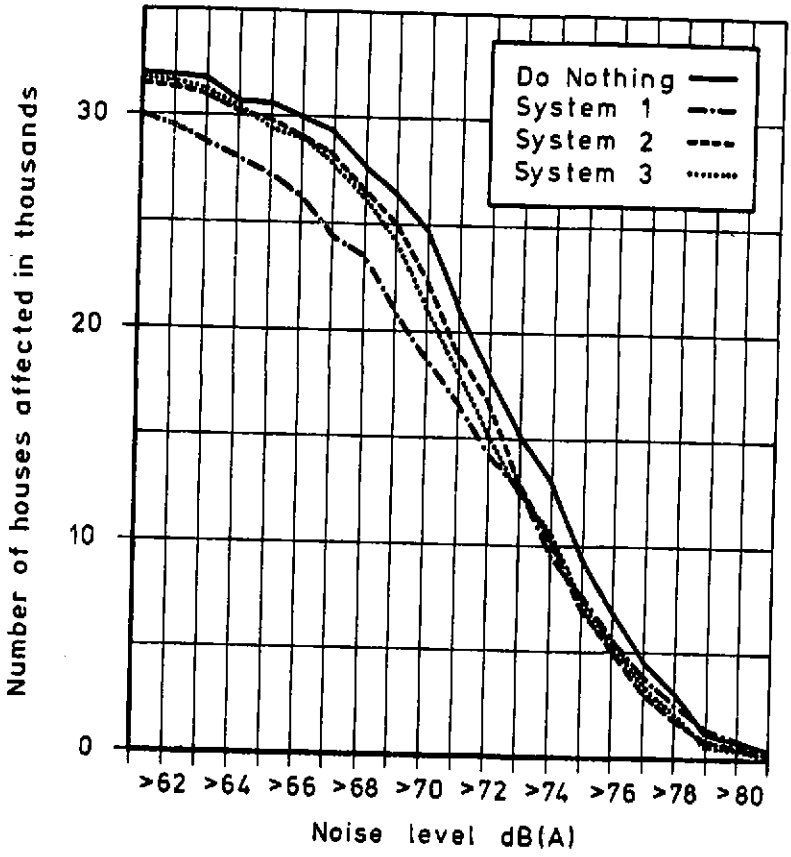
7. Those who are contemplating house purchase are entitled to know how the house may be affected by traffic noise in the future. Some structure and local plans specify into which traffic category all existing and future roads are allocated. In Nottinghamshire the four categories are:-

(a) Category I Main Roads (12½% of roads) - This includes Motorways, Trunk Roads and other important principal roads. The function of Main Roads is to carry traffic through Nottinghamshire, between main towns both within the County and in surrounding counties and between the main centres within Greater Nottingham. Traffic will be positively encouraged to use these Main Roads, particularly longer distance traffic and heavy goods vehicles. Apart from safety considerations, traffic needs will receive priority in the management of Main Roads.

(b) Category II Major Secondary Roads (6½% of roads) - This includes the remaining principal roads and some important distributor roads. The function of Secondary Roads is to carry traffic between and within the main towns in Nottinghamshire and to facilitate connections with the Main Roads network. Traffic will be positively encouraged to use Secondary Roads and environmental considerations, though important, will be secondary to traffic needs in their management.

(c) Category III Other Secondary Roads (7½% of roads) - This includes other distributor roads and their functions are similar to roads in Category II. Traffic will not be positively encouraged to use these roads but their continued or increased use is anticipated. In the management of these roads, environmental considerations will be given greater priority than in the case of Major Secondary Roads.

(d) Category IV Local Roads (73½% of roads) - This comprises the remaining local distributor and access roads. The function of Local Roads is to carry traffic around local areas and to provide access to residential, commercial, industrial or recreational facilities. Only local traffic will be



Nottingham and Environs Transportation Study

Noise exposure of dwellings

Systems 1-3

encouraged to use these roads, through traffic will not be encouraged and, where appropriate, will be positively discouraged. In the management of Local Roads, environmental considerations will receive priority. Those contemplating purchase of property on category IV roads can hope in most cases to be fairly free from traffic noise, at least from the road onto which the house fronts.

8. Transportation is an essential element of a structure plan. The Transportation Study of Nottingham and its Environs carried out in the early 1970's by Halcrow Fox & Associates, in collaboration with the County Council, threw up an unexpected result from an investigation of the number of dwellings that would be adversely affected by traffic noise.

9. Even the most extreme forms of on the one hand traffic restraint and on the other of new highway construction, would result in roughly the same number of people who would be dissatisfied by traffic noise.

10. By the design year, 1989, Greater Nottingham's population will be 550,000 housed in 210,000 dwellings. Four alternative traffic systems were considered: do nothing; System 1 - extreme car restraint coupled with a first class bus service; System 2 - no car restraint but with an extensive bus system partly on former railway lines and System 3 - a highway building orientated system. The number of dwellings affected by 68 dB(A) would be: in do nothing - 27,700; in System 1 - 23,900; in System 2 - 26,800 and in System 3 - 26,400. Further details are shown on the graph. For technical reasons all figures are somewhat under estimates but by a similar amount for each system.

11. Although at first sight these figures suggest that System 1 would be more acceptable from the noise point of view it was this system that produced the greatest change in geographical distribution of homes affected by noise. People who benefit from a reduction in noise do not seem to appreciate the benefit to anything like the extent that those who are disbenefited by an increase in noise, object. After making allowance for the fact that a 3 dB(A) change has to be made before a change in noise is normally noticeable it can be concluded, at least in Greater Nottingham, that no traffic system, in principle, is materially better than another from a noise point of view.

Development Control

12. A Planning Authority is sometimes faced with the need to decide whether to approve residential development on a plot of land where any house built would experience more than 68 dB(A). When no other adjoining houses have been built it is easy to refuse. What should be done when the plot is the last infill site and every other plot is occupied by a good quality reasonably modern house which appears to sell well? It is even more difficult when the road concerned is a proposed future traffic route and past experience has shown that "a new road to be built within the next 10 years" in the end may never be constructed.

13. Finally - a paradox - why is it that Estate Agents generally report that good quality houses on main roads in urban areas sell well?