Monograph:
Hopkinson, P.G. and Pearman, A.D. (1988) Modelling and Measuring Reactions to a Road Construction Project Under Uncertiantly and Multi-Dimensions of Impact. Working Paper. Institute of Transport Studies, University of Leeds , Leeds, UK.

Working Paper 265

Published paper

Hopkinson, P.G., Pearman, A.D. (1988) *Modelling and Measuring Reactions to a Road Construction Project Under Uncertiantly and Multi-Dimensions of Impact.* Institute of Transport Studies, University of Leeds. Working Paper 265

ITS INSTITUTE FOR TRANSPORT STUDIES
THE UNIVERSITY OF LEEDS

Working Paper 265

April 1988

MODELLING AND MEASURING RESIDENTS REACTIONS TO A ROAD CONSTRUCTION PROJECT UNDER UNCERTAINTY AND MULTI-DIMENSIONS OF IMPACT

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This work was sponsored by the Department of the Environment.

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C O N T E N T S

CONTENTS OF FIGURES

CONTENTS OF TABLES

1. Introduction

The construction of a new road can affect the lives of different people in many ways. The ways in which those people evaluate a new road scheme and how this relates to actual changes in physical environmental conditions is clearly important for those involved with the selection, design and management of such projects. For information concerning the views people hold towards a new project to be useful and effective, it should be gathered in a way that relates to specific decision-making objectives.

The aim of the project on which this report is based is to develop approaches to the measurement of individuals' evaluations of the constructional and operational consequences of a road scheme which meet these requirements. Two particular research themes form the background to the project. The first is to provide a fuller conceptual analysis of the ways in which people evaluate the good and bad aspects of major new road schemes. In particular, the project sought to examine the role of beliefs and micro-social processes in the formation of the attitudes which people hold and how these relate to their actual experiences of the road scheme. From this perspective an individual's "evaluation" of a road scheme can be theorized at many levels, from the merely physical, such as the annoying effect of noise, to the role of friends and neighbours in influencing the status of different forms of information or the formation of views held. Considering both the physical and social factors underlying evaluation provides greater scope for explaining the variability of reactions to environmental disturbances as well as suggesting more realistic measures for dealing with people's anxieties and concerns. Secondly the project as a whole will provide the necessary time span to examine both residents' prior and posterior weights for a number of environmental attributes related to the road scheme in operation. From this it should be possible to begin to formulate guidance for planners on how to incorporate prior subjective views into project evaluation in a way which allows for known relationships between prior and posterior views.

In view of the exploratory nature of the investigation, and the absence of well defined methods for identifying and measuring the different processes and mechanisms of interest, considerable effort was spent in undertaking in depth interviews with residents. These were carried out firstly to establish whether the theoretical concepts initially considered relevant to the study were so in practice and secondly, if they were, how they could be structured within formal survey methods. Accordingly, a substantial part of this report is concerned with the content and issues raised by those interviews.

1.1 Aims and Objectives

Initially the Institute for Transport Studies was invited formally by the DoE and the former West Yorkshire Metropolitan County Council to submit a proposal for a programme of research into residents attitudes to the environmental impact of a haulage road from Sharlston Colliery to Welbeck landfill site, Wakefield. There are many ways in which attitudinal information could be

used within a planning and design framework (see Figure 1). Not all of these could be examined in a single study and some were prohibited, since the planning of the road scheme had reached the construction phase. At a workshop organised by the Welbeck Project Steering Committee and in later discussions with officers charged with the management of the Welbeck Scheme in its entirety two main areas of interest were identified:

(i) to conduct a detailed conceptual analysis of the way in which people formed an evaluation of the road scheme;

(ii) to measure individuals' assessments of, and attitudes to, anticipated changes in different environmental attributes and to compare these to the same attributes after any changes had occurred.

Accordingly, our research proposal had two main objectives.

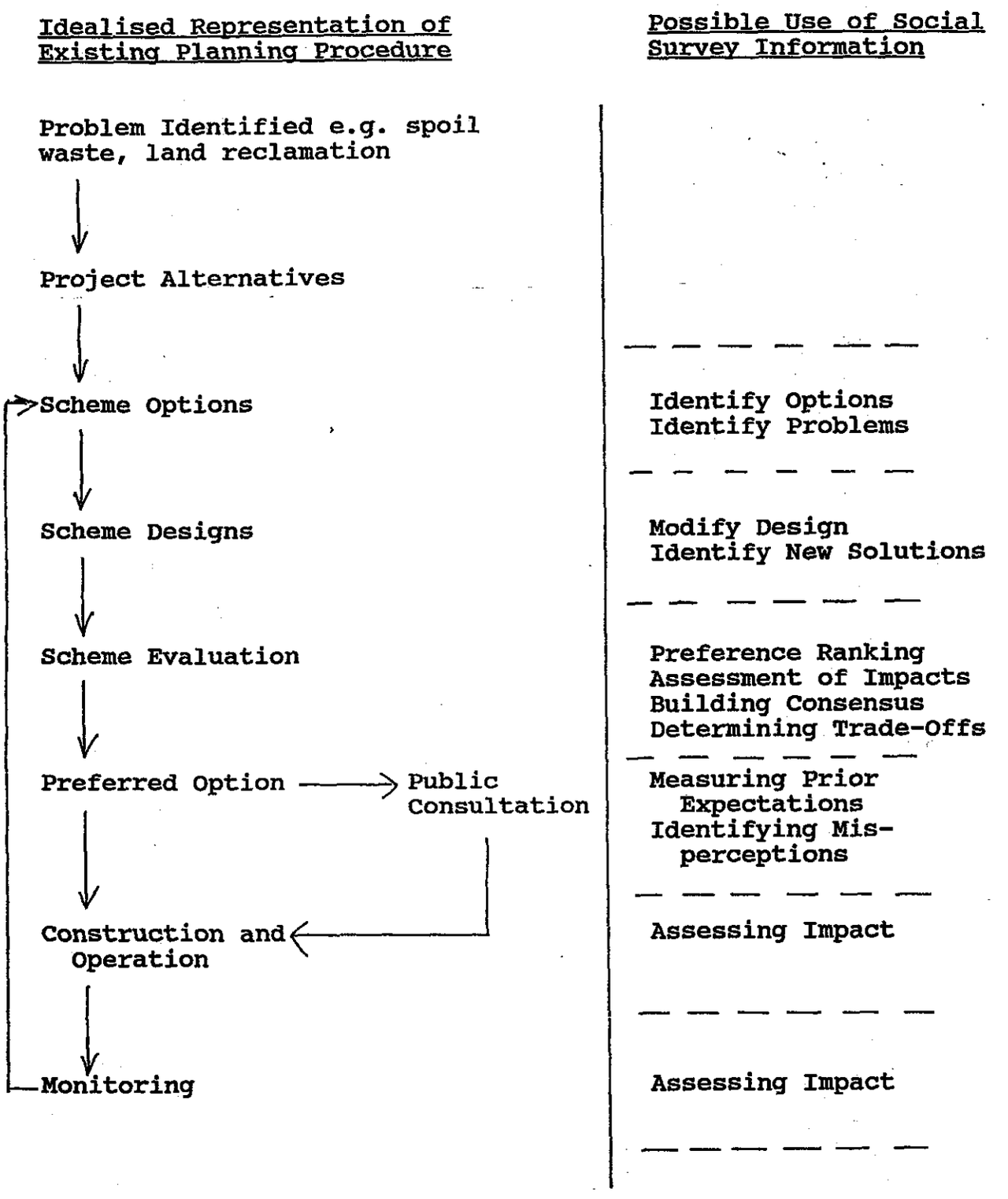
The first objective was to develop a survey technique to identify the factors which were likely to contribute to peoples'

1) prior evaluation of the road scheme
2) actual experience of the road scheme.

This part of the study was based upon the premise that judgements about a large-scale road construction scheme would be formed in relation to physical and social factors. The former would be represented by such features as exposure to noise and dust nuisance, the latter by such influences as the viewpoints of other people and the flows of information which it is hypothesised predicate particular evaluative judgements. An understanding of the interaction between 'physical' and 'social' influences on attitudes was considered to be important in highlighting the origins of different viewpoints and the influence of such matters as public consultation on opinions held within a community.

The second objective was labelled 'Uncertainty in Environmental Evaluation' and was concerned to measure people's present evaluation of events scheduled to occur in the future and of which they have imperfect knowledge or little prior experience, specifically, the environmental consequences of the road in operation. Building on an initial prior statement it would be possible, by comparing these responses to the responses to those same events after they had been experienced, to assess the extent to which such prior judgements are realistic or reliable forms of information to input to the evaluation of alternative project options.

Figure One: Relevance of Attitudinal Measurement to Planning, Design and Selection of Projects



2. Project Background

2.1 Study Context

In 1985, West Yorkshire Metropolitan County Council proposed a scheme to reclaim 300 HA of mainly derelict and disused land in the Calder Valley immediately to the east of Wakefield, using colliery spoil and household waste. The construction of a haulage route to transport colliery waste to the St Johns area of the Welbeck site represents the first stage of the reclamation which will expand in various stages until the year 2050. The alignment of the road is close to the Woodhouse estate, which is a largely post-1960s Council-built development, although the properties closest to the road were privately built. The construction of the section of road closest to the Woodhouse estate (marked by a broken line on Fig 2) began on July 31st 1986 and was due for completion by November 30th 1986. The conveyance of spoil on the private haul road from Sharlston Colliery would, it was estimated, generate between 60-140 round trips/day.

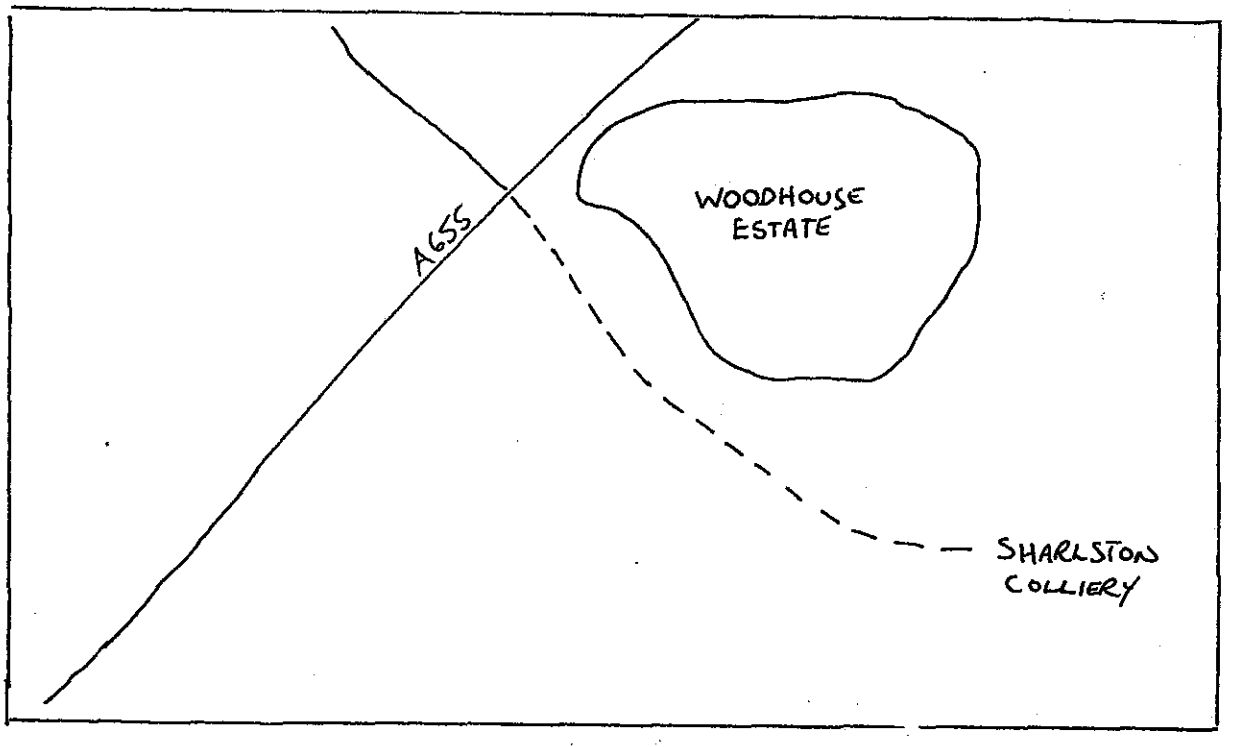


Figure 2: Plan of Local Area

The proposed construction of the road had aroused criticism and anxiety among local residents. These were expressed publicly at meetings organised by the County Council and through written representations (WYCC, 1985). Views expressed indicated that there were strong negative feelings towards the road for a large number of reasons, some founded on factual evidence others on speculation. The written representations highlighted many sources of discontent amongst local people, mostly to the Welbeck scheme as a whole, but also to the haulage road proposal. A

number of references were made to a perceived alternative scheme utilizing a disused railway line to haul the colliery waste.

Further to these written representations a series of public meetings had already been held prior to the commencement of this study to inform local residents about the scheme proposal. In addition, a liaison group had been formed, comprised of a spokesperson for each of six residential streets affected by the haulage road and local authority officers. The aim of this group was to provide a channel of communication between the 'public' and the 'planners'. As part of the study it would have been interesting to have monitored the effect of these meetings and the liaison committee on individuals' assessments of the haulage road scheme. The timing of the project, however, meant that it was only possible to capture people's opinions of these meetings retrospectively at a point immediately prior to the construction of the road scheme, when the majority of the decisions about the project had been made and when views about the road were likely to be entrenched. Nonetheless it was felt that obtaining residents' retrospective views about the public meetings or other forms of official communication would be an important area to focus on in the early stages of the project.

The timing of the study and the level of information which people had about the road scheme meant that a key consideration in the study design was adaptability, in order to be able to respond to a wide range of diverse and complex views and to review and reconstrue any conceptions which may have been formed by ourselves prior to talking to the local residents.

Even before talking to local residents, however, it was considered useful to examine briefly whether there had been other studies of residents' evaluations of road construction schemes; if so, what issues had they covered and what methods had been adopted to examine those issues?

2.2 Road Construction Studies

Few reported studies evaluating residents' reactions to road construction nuisance were found in the literature. Those which were, have been undertaken by the Transport and Road Research Laboratory. Two of these studies (Martin, 1980; Martin and Baughan, 1981) form the basis for the guidelines found in the Manual of Environmental Appraisal (MEA) for assessment of environmental disturbances created by new trunk road schemes (Department of Transport, 1983). The manual defines construction nuisance as the temporary nuisance and annoyance to people in an area which can occur between the start of the pre-construction works and the end of the contract maintenance period, when all temporary works are removed.

The MEA provides guidelines for assessment based on estimates of the proportion of people living within a given distance of the project likely to be bothered in terms of a small number of environmental indicators such as noise and dust. These guidelines are based on studies where the nuisance caused was measured on a 4-point scale. Each individual was asked to form a judgement about such items and to indicate his/her response along this ordered scale. In summary, these surveys indicated that:

1) Dust, noise and general mess were the major nuisances experienced by residents up to 50 metres from the road construction and beyond this distance 'general mess', 'access problems' and 'traffic problems' were more of a problem than noise, dust and vibration;

2) Even at a relatively short distance, there existed a proportion of the resident population who are unperturbed by road construction disturbance;

3) The way people learnt about the scheme affected their attitudes to the disturbances;

4) The importance of different types of nuisance varied between sites, although there was a consensus for reducing the amount of time to carry out the work even if this intensified the nuisance.

These results are of interest to this study, showing some of the factors which need to be taken into consideration in the measurement of individuals' assessments of road scheme construction.

The studies however do not indicate:

1) why those attributes selected for study were included;

2) the reasons for the particular measurement technique;

3) how views about the road scheme might have changed over a period of time.

Studies of Road Construction and Operation: Uncertainty in Environmental Evaluation

A review of the literature failed to reveal any work, either in transport or related sectors, where an explicit attempt had been made to recognise and incorporate into evaluation procedures possible differences between people's prior and posterior evaluations of environmental consequences and the associated uncertainties.

Discussion

From this review it was felt that a number of topics which were relevant to determining how information from local communities might feed into project evaluation (see Figure 1) had not been researched in any detail. Certain specific research topics were identified as particularly important.

2.3 Research Topics Addressed

Firstly, in relation to the multidimensions of attitude:

a) What concerns do people have prior to the construction of a road scheme and why?

b) What specific disturbances, indirect effects and wider issues are reported when the road is under construction or operation and how do these relate to (a)?

Secondly, in relation to uncertainty:

c) How can residents' views be assessed to permit their incorporation within a formal evaluation framework?

d) Are their prior evaluations consistent with those they form once they have experience of the road scheme in operation.

e) If prior and posterior evaluations are different, to what extent and how should such differences be taken into account in formal (inevitably pre-construction) evaluation?

For both a) and b) it is important to elicit residents' views of a road scheme in their own terms within a theory of attitude to indicate how to identify items of interest and to provide a basis for developing more structured measurement techniques. For c) it is necessary to frame questions about the anticipated effects of road operation in which the individual is required to make evaluations involving varying degrees of certainty and risk. For d) it is necessary that the responses are compared to responses after any effects of the road have been experienced. The timing of the project meant that it was only possible however to measure residents' weights of different environmental attributes prior to the operation and not to the construction of the road.

3. Survey Design: Methodological Issues

3.1 Attitudes, Evaluation and Environmental Issues

Where individuals' views about a given subject are sought as an input to a decision-making process three fundamental considerations are involved:

1) the views which are to count as important or legitimate areas for project evaluation;
2) the technique for eliciting those views; and
3) the techniques for measuring and structuring those views.

Each of these considerations is discussed in turn below.

Elements of Attitude

In the literature the term attitude is often used as a catchall phrase to describe the measurement of an individual's "reaction" to a given object, person or situation. The indiscriminate use of the term attitude can lead to confusion when comparing results across studies and obscure the meaning of any measures actually produced.

In the theoretical analysis of attitudes it has been reported that the term attitude comprises an affective (emotion/feeling), a cognitive (what people know about an issue) and behavioural (action) component, although there is less agreement about how these elements are related (Harre and Secord, 1970). The importance of distinguishing between the different elements becomes apparent from the following example. Two persons who are equally opposed to the construction of a road may have quite different conceptions of its nature, cause and consequences and may have different views concerning any action (the behavioural element of attitude) which should be taken to minimize the environmental impact of such schemes. These different components of 'attitude' are important in interpreting and explaining how and why different people act or react as they do.

Typically in transport/environment related studies it is the affective component of attitude which is usually measured as a means of establishing the 'cost' or 'impact' of a project on a community. The concept of reported annoyance (or nuisance, dissatisfaction) typically forms the measurement unit since it is alleged this allows each individual to take into account all the different effects which a project may have.

As the above example shows, however, different people may be annoyed or dissatisfied by a project for different reasons. This distinction is important since the interpretation of subjective response data may influence the selection and design of project options and proposed action for the amelioration of adverse impacts. Furthermore, without this distinction an understanding of different people's concerns and worries will be more difficult to achieve.

Affective and Cognitive Elements

In the first part of our study we were interested in the possible link between individuals' feelings (affect) and beliefs and reasons (cognition) about the road scheme. This interest was concerned with examining the justification for using any one particular element of attitude as a basis for measuring the 'cost' or impact of a project on a community and the extent to which people's feelings about the road scheme either during, before or after the scheme are based upon a similar set or sets of reasons and beliefs.

For the purpose of the study the classification favourable or unfavourable feelings about the road scheme were restricted to emotions or psychological states expressed verbally in relation to some aspect of the road construction or operation. Accordingly, no attempt was made to record signs of non-verbal behaviour which might indicate an attitude towards the road scheme.

Within this classification it was expected that a spectrum of feelings would be revealed for example annoyance, anxiety, upset or concern. The purpose of our study was to identify those feelings expressed most frequently in relation to the road scheme.

The congnitive element of attitude was taken to refer to those beliefs or reasons which people refer to in the course of explaining their views about the road scheme. A number of authors have indicated that beliefs form the basis for evalution (Fishbein, 1967; Harre and Secord, 1971). Those beliefs are considered for the purpose of the project to refer to any explanation or justification for particular views in relation to the road scheme. These beliefs may be grounded in previous experience of similar road schemes elsewhere, observation or simply inferred (attribution processes). Attribution processes (sometimes referred to as causal beliefs) were considered to be possibly important mechanisms for three reasons.

Firstly, insofar as widespread public consultation had been carried out by the local council, it was felt that this could create a situation where people possessed widely different levels of knowledge or information about the scheme and were therefore likely to attribute sources of worry and concern in different ways. In this sense attribution processes can be regarded in part at least as being concerned with the underlying uncertainties (subjective probabilities) surrounding people's views about the road scheme and the basis for this uncertainty. This aspect of work is parallel to the measurement of uncertainty discussed in the next section.

Secondly and with respect to people refusing or showing an apparent disinterest in an interview, the reasons (perhaps) which people provide are important in revealing the sources of their disinterest or refusals. Often refusals or non-compliance are treated simply as potential sources of bias in comparing results across different groups or catchment areas. Whilst this is indeed important, from the perspective of attribution theory,

refusals or disinterests are as valid to a study of "evaluations" as comments which expand on the themes of interest.

Thirdly, the notion of beliefs, reasons or attributions provides a concept which grounds individuals' viewpoints in a social context. This then provides a means of exploring and examining the role and influence of different types of information on the formation of people's evaluatory positions, and therefore whether such events as a public consultation which leads to certain flows of information are capable of affecting individuals' evaluations.

At the outset it was decided to collect as many as possible of the reasons which people used in the course of explaining their views or feelings about the road scheme.

In terms of relating cognitive and affective elements of attitude the main theoretical issue relates to their causal ordering. Thus far it has been implied that beliefs are precursors or mediating factors upon feelings and evaluation. It can be argued however that a person's unfavourable feelings about a road scheme may generate or lead to negative beliefs. Similarly it has been implied that there is a simple direct relationship between the elements of interest waiting to be uncovered by empirical investigation. As the literature shows however and as numerous text books on the subject bear testimony, studies on attitudes are more complex than the conception adopted here. From our perspective however the interest in this study was to capture as fully as possible the feelings and beliefs which are shared, partitioned and distributed through a differentiated group of people who notionally comprise an impacted community. From this position, a descriptive framework for organising and analysing the ways people form views about major changes in environmental conditions can then be constructed and from this more structured survey techniques developed.

To achieve this however it is necessary to give attention to the way in which attitudinal information is elicited, recorded and measured. This forms the next area of discussion.

3.2 Elicitation of Views

Having established the elements of attitude to be covered in this part of the study the next issue requiring attention is the way in which those elements are obtained and revealed. The two most common methods for obtaining this information are the questionnaire, where an individual is asked to respond to a set of pre-structured questions or an interview, where the approach is more loosely structured. The advantage of the questionnaire is that the same question can be asked of everyone and in theory at least the role and influence of the interviewer on the information produced is reduced compared to less structured approaches. The disadvantages are that the sensitivity to individual variability (by structuring the range of topics which an individual can discuss) is reduced. Moreover certain questions included in the questionnaire are meaningless for some or the majority of the sample.

The interview has the advantage of being more interactive. That is, both the interviewer and respondent can to varying degrees

set the topics for discussion and react to each other in a way that is experienced in everyday conversation. Moreover the type of information that is recorded can be in a form representing common everyday language and hence the richness and diversity of information and meaning may be greater than by questionnaire techniques. The more detailed the recording the greater the richness of the information. The disadvantage of the interview is that it may introduce factors into the analysis over which the researcher has little or no control. Whilst this is probably not always undesirable, particularly where the issues under consideration are complex, unusual or require treating people as intelligent beings rather than "respondents" there is the danger that the interview can rapidly breakdown into a meandering conversation which ultimately provides little useful information for the researcher.

In this study the interview and questionnaire approach were regarded as complementary methods; the former providing the basis for detailed conceptual analysis of the subject leading to more structured and specific types of enquiry.

Due to the timing of the project it was not possible to conduct the detailed interviews in time for structured questions to be formed prior to the road construction. Therefore structured response data about people's prior expectations of the road scheme is missing from the study.

3.3 Measurement

In this study, measurement refers simply to the process whereby an individual orders a response to an attribute or project options with respect to a given evaluative dimension (e.g. annoyance, satisfaction, belief). Since we were not in a position to present individuals with project alternatives, our study was to measure the strength of feeling or beliefs about specific or general aspects of the scheme. Two approaches to measurement were considered: ranking and rating.

A rating approach to measurement assumes that the strength of an individual's reaction can be located on a linear scale. The advantage of a rating scale approach is that it provides not only the strength of reaction towards a particular attribute but can also be converted to rank order data. A ranking approach requires an individual to order a number of attributes with respect to some evaluative dimension (e.g. nuisance, satisfaction). The advantage of a ranking approach is that each individual is forced into choosing between attributes whereas in a rating scale approach each attribute is considered in turn. The disadvantage of a ranking-approach is that it tells us little about the strength of reaction towards any single attribute only the relative ordering (Grigg, 1981).

For project appraisal it was considered important to identify both the strength of response to specify attributes as well as their relative importance. Both approaches were adopted in the main survey design.

3.4 Questionnaire Design

In the absence of any clearly defined method for eliciting and measuring people's attitudes to a road construction scheme it was proposed to use information taken from the detailed interviews with people prior to the road scheme to construct a number of statements which reflected the main feelings and beliefs towards the road scheme. This technique was adapted from an experimental design used by Argyle (1980) to explore the effects of different socially embarrassing situations. By adopting this approach the actual structure of the final survey design moved away from the classical repertory grid towards a multi scaling matrix. Each statement (independent variable) would then be assessed against a number of rating scales representing important evaluative dimensions (dependent variables) identified again from the detailed interviews. Each individual then would produce for those statements which he or she considered relevant to their evaluation a matrix of 'scores'. This produces a matrix of reaction scores for each individual with six dependent variables.

Starting from this simple matrix, the objective of the analysis is to examine relationship (correlations) between different groups of dependent and independent variables. In this case we are interested to identify whether high scores (implying say an unfavourable reaction) on different statement/scale combinations are matched by high scores on other statement/scale combinations, and therefore whether the meaning underlying any statement/scale combinations imply the meaning underlying other statement/scale combination. Figure 3 shows the type of matrix used in the study and the response scores for one individual to three hypothetical questions.

Hypothetical Questions:

During the construction of the road scheme:

(1) I have been aware of the noise from the machinery on site.
(2) I have been woken up in the morning.
(3) I have been concerned about the damage to the house from the construction work.

Figure 3: An Example of a Scalar Technique for Measuring an Individual's Responses

AGREE	1	2	_	_	_	_	2	DISAGREE
UPSETTING	_	3	_	_	_	_	1	NOT UPSETTING
ANNOYING	_	_	_	_	3	_	1	NOT ANNOYING
SOMETHING I EXPECTED	1	_	_	_	_	_	3	SOMETHING I DIDN'T EXPECT
MAJOR NUISANCE	_	_	3	_	_	_	1	MINOR NUISANCE
SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	1	_	_	_	_	_	3	NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

From this example the second question is not pursued after the first scale since they disagree with the statement. The first statement is strongly agreed with but is assessed as having had little effect on the person directly although other people have been heard to complain about the scheme. The third statement is also agreed with and produces generally strong adverse reactions on each of the scales except for the complaints by other people.

As well as the matrix type question, individuals were asked to rate the overall nuisance from the road as well, in terms of noise, dust, fumes, danger and loss of recreational space overall. The results from these questions could then be compared to the responses to the statements included in the matrix. From this the extent to which general questions capture specific issues could be ascertained. In addition, further specific questions about the intensity and frequency of noise and dust impacts were asked as these were considered to be particularly important physical impacts.

Choice of Statements and Scales

The independent variables (in the statement content) were selected on the basis of their salience from the unstructured interviews. These were found to comprise of four aspects of the road scheme - disturbance in the home; disturbances outside the home; effects on the neighbourhood and beliefs about the planning and design of the road scheme. A total of 30 statements were used in the main household surveys. Each statement was written in a form to establish whether, during the construction of the road scheme, a particular disturbance had been experienced, or whether people believed that an issue had arisen in the planning and design of the road scheme. The full list of statements used in the study is shown in Appendix 1.

The dependent variables (the rating scales) were identified from the interviews as being the most relevant to the issues under consideration. By using a written statements format the first requirement of the matrix was to identify whether people agreed with the statement. The first scale therefore was used to measure how strongly people agreed or disagreed with the statement. Where an individual judged that the statement contained information which was relevant to his/her evaluation a further three scales were included to measure the level of annoyance, upset and nuisance the particular "impact" represented in the statement had been during the construction of the road. A further two scales were also included. The first of these asked for each statement whether the individual had expected the particular "impact" or "issue" represented in the statement to occur. This was an attempt to identify retrospectively whether certain impacts which had perhaps not been expected or anticipated were more highly correlated with negative evaluations than those impacts which had been expected.

The final scale attempted to measure whether other people's views affected assessment of other items. In other words it was intended to identify whether people's rating of statements against nuisance or annoyance or expectancy were related to the views of other people. Here again the scale attempted to capture

in a single measure those influences from other social groups which had been identified in the unstructured interviews.

A sub-sample of individuals was asked to complete a second set of statements (see Appendix 2). These statements related to the future operation of the road scheme. This information then forms the basis for comparing views of individuals prior to the operation of the road scheme to their actual experience of the road scheme. This represents the final stage of the project, to be undertaken at some date in the future. Individuals asked to respond to the multi-attribute utility questionnaire (as noted referring to the operational phase of the road) were asked to complete questions from the other strand of the journey relating either to the construction phase or operational phase.

3.5 Uncertainty and Environmental Evaluation

Perhaps even more than with the attitudinal and microsocial element of the study, the attempt to formalise residents' valuations of the anticipated impacts of the operation of the Welbeck haul road and to make some recognition of the inevitable uncertainties surrounding the evaluations was an exploratory and essentially methodological exercise. Much of the value of the work resides in the clearer perceptions of the problem now held and our better appreciation of the strengths and weaknesses of the methodologies applied. The specific empirical results are of some interest, but must be seen against the background of small sample sizes and methodological experimentation which characterised this aspect of the project.

The first point which deserves attention in assessing the uncertainty and environmental evaluation work is the role of this type of evaluation in the decision-making process. A superficial understanding of social cost-benefit analysis (CBA) might suggest that an adequate evaluation for decision-making purposes can be obtained by forecasting the impacts of the different options under consideration, and evaluating these in money terms, using appropriately adjusted market prices or shadow prices. However, both in theory and practice, there are many reasons to doubt how truly such a process will capture the full social consequences of different options. Two doubts in particular may be mentioned. Firstly, CBA usually assumes that a single, appropriately adjusted market-based evaluation of each impact is appropriate to all members of society. This overlooks the fact that, especially with spatially specific schemes, such as road investments, local residents may well have very different evaluations and yet be unable to respond to them in the way required by the theory of CBA, because of social or other rigidities. Secondly, many of the techniques for evaluation of environmental impacts are regarded as far from reliable. Hence the evaluation through CBA of options where there are substantial environmental impacts may be particularly questionable.

The multi-attribute utility approach to project evaluation (dubbed the "management science" approach to CBA in Pearce and Nash, 1981) is the one explored in our work on project evaluation in the context of the Welbeck haul road. In it, the weights applied to permit an aggregation of all the many impacts of a scheme into a single indicator are specifically derived (from an

individual or group of individuals) in the context of the project under consideration. As well as being (strictly speaking) scheme-specific, they are subjective. They cannot, therefore, easily be justified as alternatives to the shadow prices used in CBA for the comparison of widely differing projects, where the link, however tenuous, to market prices, provides a common anchoring point.

Where the strength of the multi-attribute approach lies is as one input to option choice for a single project. Here, set alongside conventional financial or economic indicators, it has the potential to capture more faithfully than CBA, the evaluations of those concerned (local residents, scheme proponents, political groups, etc) of the options available. As argued earlier, these evaluations may well vary from those which would arise from the application of conventional CBA.

A further important consideration is uncertainty, a fact which underlies the choice here of (the rather more analytically complex technique of) multi-attribute utility theory (Keeney and Raiffa, 1976), rather than multi-attribute value theory (Dyer and Sarin, 1979). The key factor here is that, insofar as it is deemed desirable to input the valuations of (say) local residents to option choice, it is likely that the valuations obtained (inevitably prior to scheme construction) will be reached in a state of considerable uncertainty about the true impacts of the scheme. Not only does this have a potential effect on the ranking of options prior to implementation, but it also means that residents' long-run, posterior evaluations of the scheme (which are arguably the ones that should be applied in option choice) may differ from their prior evaluations. It is hoped to explore this issue through a follow-up study of the Welbeck road, once the scheme is fully operational. The question of liable values is an important one, not only for this reason, but also because, in circumstances where people are uncertain about their values, the means by which they are elicited can have a major influence on what they state their values to be (e.g. Fischhoff et al, 1980).

Clearly this aspect of the multi-attribute work overlaps with the attitudinal aspects of the other section of the project. A particular point of contact arises through MAUD, a computer program for decision analysis developed by Humphreys (see, e.g. Humphreys and McFadden, 1980). This program uses an approach based on Kelly's repertory grid (which is similar in certain respects to the approach used here to explore residents' attitudes to the construction of the haul road) to specify the different impact dimensions and then attributes for a multi-attribute evaluation. One inadequacy, it could be argued, of the multi-attribute evaluation exercise undertaken here was that it asked respondents to choose attributes from a pre-specified list of five, rather than permitting them to create their own perception of the likely effects of the operation of the road. Although this has the advantage, in public decision making terms, of inducing some comparability across individuals, there is clearly some potential for distortion. An interesting extension of this pilot project would be to explore the potential of MAUD and similar programs (see Humphreys and Wishuda, 1987) for

helping to elicit evaluations of road schemes and similar options.

3.6 Multi-attribute Utility Method

There is no single, universally accepted basis for modelling choice under uncertainty. Where there are both multiple dimensions of impact and uncertainty, the closest there is to an accepted methodology is the multi-attribute utility analysis deriving principally from the work of Keeney and Raiffa (1976). It is well known, however, that there are considerable practical problems in operationalising this analysis. Nevertheless, in the absence of any other candidate methodology which straightforwardly comprehended multiple dimensions of impact and uncertainty, it was decided to experiment with a multi-attribute utility approach albeit in a somewhat crude form. A further virtue of the multi-attribute approach is that it directly permits an individual's attitude to risk to affect evaluation and choice. In circumstances of considerable (prior) uncertainty about the final impacts of the scheme, it seemed especially important to employ a technique which threw some light on how averse to risk people in the area were and to permit eventually an assessment of whether there was any substantial change after the road scheme was operational.

For this study, it was assumed that a simple linear function of the evaluation (utility) of each separate dimension would be adequate as an overall evaluation:

i.e. $$\text{Valuation} = w_1 U_1(X_1) + w_2 U_2(X_2) + \ldots + w_n U_n(X_n)$$

where wj are weights and Uj(Xj) is the utility level associated with an impact level Xj in the jth dimension.

To allow for uncertainty about future events and in particular people's attitudes toward risk, the utility function has to be estimated in a way which represents their choices under uncertainty. The normal way to do this is through the 'standard gamble' technique, which can be implemented as follows:

a) identify the best and worst extremes in each dimension (i.e. maximum and minimum conceivable Xj (j = 1...n) in these circumstances);

b) call U(Xj worst) = 0; U(Xj best) = 1;

c) ask people to identify the "certainty equivalent" level of Xj that they regard as of the same value to them as various "gambles" on the two extreme possibilities, e.g. what level of Xj with certainty, would you regard as equivalent to a 50/50 bet on the two extreme values Xj worst, Xj best?

d) the utility curve is then built up plotting the chosen certainty equivalents against the probability given in the corresponding gamble to the best payoff (see Figure 4).

e) Xj is a "good" thing (i.e. more = better) and people are averse to risk, the U(Xj) curve will be concave from below.

In principle, the standard gamble question can be repeated to identify other points on the U (Xj) curve. In this survey, we did not do so because of lack of time, asking only about the certainty equivalent to the 50/50 bet.

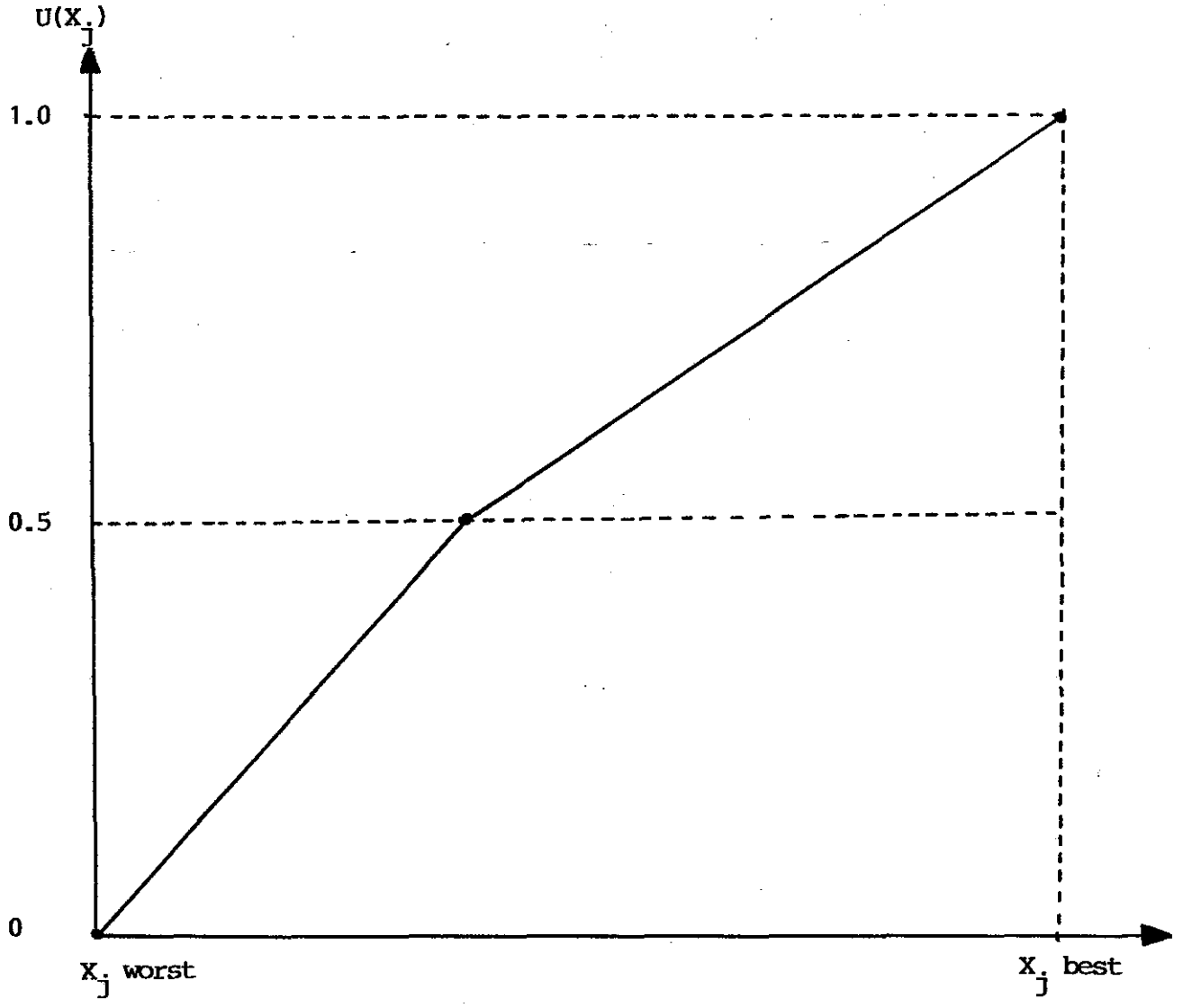


Figure 4:

Proxy Variables Adopted

The method requires that the Xj be measured in units which have a concrete referent as well as being comprehensible to both interviewer and the person questioned. A measurement of noise in decibels, for example, is unlikely to mean much to the lay-person and poses difficulties in 'gambling' between different noise levels. The unstructured interviews with residents (discussed in the next section) both confirmed that there was considerable uncertainty about the road scheme and produced valuable information concerning the types of variables which people themselves referred to in the course of conversation. The actual attributes and the proxy variables adopted were as follows and built directly on information gleaned from the interviews:-

Attribute	Impact Specification	Dimensions Best	Worst
Noise	Number of lorries	0	200
Dust on windows	Number of times clean windows	As now	5 times more often than at present
Danger	Extra lorries on A655	0	200
Fumes/ Smell	Number of times keep windows shut	As now	10 days extra per month during summer
Loss of amenity/ recreational space	Distance of road from household	400 m further away	As now planned

The MAUT questionnaire used in the main household surveys is shown in Appendix 3.

Considerable debate surrounded the specification of the impacts and the choice of the worst and best levels for the different attributes. This was due to the differing perceptions of those affected by the scheme of its possible impacts and differences in the views of the project members about the possible interpretations of labels by those who were expected to respond to the questions. In the final design our judgement played a considerable part in the specification of impacts and their extreme levels. The success of our judgement will be discussed in the results section.

4. Pre Construction Study

4.1 Introduction

This section reports on the household interviews carried out prior to the road construction and the construction of a framework showing the range of factors which appears to be relevant to individuals' evaluations. This section also provides the opportunity to discuss in more detail some of the difficulties which were encountered in attempting to structure certain information revealed during the course of the interviews.

Interviews were carried out at 40 households between 11-26 July 1986 to identify residents' views about such matters as perceptions of their home area, the salience of the Welbeck project prior to its mention by the interviewer, and how much people knew about the Welbeck project and the haulage road scheme from the public consultation.

Each interviewer was instructed to discuss openly and record views relating to the construction of the road scheme. Each was allowed to develop his/her own style of discussion although, to ensure some degree of comparability, a series of topic headings was provided. The interview form used is shown in Appendix 1. Items which were specified as being of particular importance to the study were:

a) mention of an environmental attribute e.g. noise;
b) description of those attributes e.g. loud, humming;
c) anticipated effects of those attributes/descriptions e.g. will wake me up, will damage property;
d) beliefs about the Welbeck project, the haulage road or the public consultation.
e) sources of information relating to topics (a-d).

Interviewers were briefed not to prompt any responses but to allow each respondent to comment at length on each of the above topics.

In response to information about the points listed above interviewers were asked to pursue lines of questioning using two simple guidelines. In relation to 'feelings', people were asked 'what they felt about a given aspect of a scheme'; or in relation to a belief, why they held that particular view.

As well as recording individuals' comments on paper, ten interviews were tape-recorded to provide a permanent record and to allow a fuller analysis of views likely to be important in the main survey design. A number of these have been transcribed (see Appendix 4).

40 households were initially selected randomly from the electoral register. In the event of a refusal an interviewer was instructed to call on the lower numbered adjacent property until an interview was achieved. Appendix 5 shows the list of addresses called at and where interviews were obtained in this stage of the study. The refusal rate, two refusals for every one interview, was higher than those normally experienced in household interview work. Accordingly the final sample produced

a grouping made up of a majority of residents with a specific interest in the road scheme - those living closest; rather than a purely random sample representing a cross section of views of people living at different distances from the road scheme. Nonetheless it was felt that in this study it would have been difficult to define what comprised a representative sample and, given the difficulties of actually obtaining interviews, that the results should be read as being a representation of the views shared and partitioned across interested individuals within the community, rather than the more neutral convention of the "community response". The three most common reasons given for refusing to participate in an interview were:

a) general suspicion about the purpose of the interview and any association with the district council;

b) a lack of concern or interest about the Welbeck project and the haulage road, often related to the distance of the property from the road;

c) that the haulage road decision had been made and there was no point in giving their views at this stage.

This high number of refusals has two important implications. Firstly, the results presented below should be interpreted with caution. Many of those who excluded themselves from the study were aware of and to an extent were 'interested' in the Welbeck project and haulage road scheme; their non-involvement being a possible feeling of powerlessness in the event of a planning decision already being passed, rather than 'apathy'. Secondly, with respect to the main survey it identified the importance of obtaining the respondent's reasons for not wanting to be interviewed. In this case a refusal based on a lack of concern or interest in the haulage road project during the construction phase is as relevant to the evaluation of community response as a fully completed interview. The interpretation of findings and their applicability to residents in other locations should therefore be set against these considerations.

4.2 Findings

Table 1 shows that the sample contained a similar percentage of male and female respondents under the age of 65 but a higher percentage of male to female OAPs. The majority (78%) of residents had lived in their homes for more than 5 years; although only half of the sample owned their own homes. Only one person was dissatisfied in any way with his home or the Woodhouse estate. Residents were asked initially to express their likes and dislikes of living on the estate. The most favourable comment about it was its peace and quiet, although nearly 1 in 5 mentioned noise from children as a dislike. Clearly from this table one would expect noise to rank highly as an objection to the haulage road.

Table 1: Classification Data and Residents' Views About the Woodhouse Estate and Their Home (N = 40)

		%			%
Status of Informant	Male under 65	35	Satisfaction with House/ Area	Yes	98
	Female under 65	42		No	2
	Male over 65	18			
	Female over 65	5			
Length of Residence	Post-1985	2	Likes about Estate * (unprompted)	Quiet	32
	1 - 5 years	20		Friendly	24
	6 - 15 years	30		New houses	20
	16 - 25 years	48		Near family	20
				Countryside	16
Type of Home Ownership	Private	25	Dislike about Estate * (unprompted)	Noisy children	16
	Council (owned)	25		Soot/dirt	12
	Council (rented)	50		Vandalism	8

* Includes more than one item per respondent.

Next, respondents were asked a number of general questions about their knowledge of the Welbeck scheme and the associated haulage road.

Table 2 indicates that, in spite of the public consultation 2, out of every 5 residents were unaware of the Welbeck project, and altogether only 20 per cent were judged to have a good knowledge of the scheme. Over half (55%) claimed to be 'not very' or 'not at all' interested in the Welbeck scheme, although more than three-quarters (77%) judged the adequacy of information publicising the scheme to be 'poor'. Clearly the latter might have influenced the level of interest in the scheme.

One person in five had attended a public meeting. The most frequent reasons given for non-attendance were 'unaware' or 'not bothered'. The most common way people had learnt about the Welbeck project was through 'friends' (38%) and 'newspapers' (42%). Over three quarters (80%) of those interviewed were aware of the first stage of construction of the road. Only two people had experienced nuisance as a result of this first stage. Somewhat surprisingly there was higher concern expressed about the operational phase of the road (64%) than the second phase of the construction (48%).

Table 2: Residents' Views, Level of Awareness and Interest in the Welbeck Project (N = 40)

		%			%
Awareness of Welbeck project	Yes	60	Attendance of Public Meetings	Yes	20
	No	40		No	80
Good Knowledge of Welbeck Project (All respondents)	Yes	20			
	No	80			
Level of interest in the Project	Very	10	First Learnt About Scheme	Newspapers	42
	Quite	35		Friends	38
	Not Very	20			
	Not at all	35			
Judged Adequacy of Information	Good	2	Aware of first stage of construction	Yes	80
	Fair	21		No	20
	Poor	77			
			Expressed concern about:	Operational Phase	64
				Construction Phase	48

4.3 Attitudes, Beliefs and Uncertainty

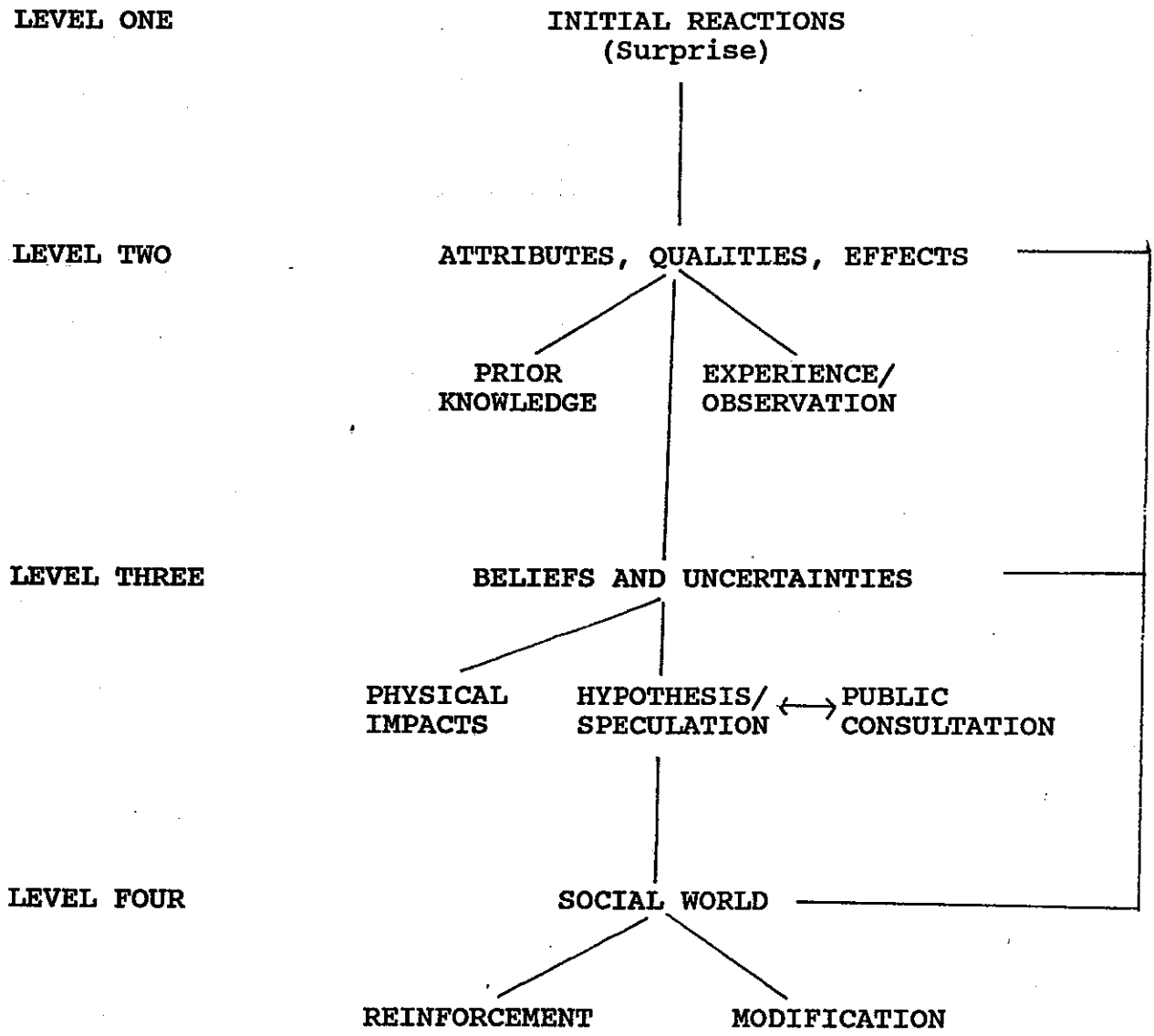
The main analysis of the interview material from this stage of the study was specific to the methodological issues discussed in Section 3. The following section develops a framework based on the content of the interview material, showing the apparent factors in the opinion formation process.

In constructing this framework it was necessary to impose a structure which involved simplifying some of the views expressed. A four-tier framework provides the clearest way of presenting the results, although this does not mean that the different elements are hierarchically arranged. For different individuals different factors appeared to have a different influence or in a different sequence to that shown. The four-tier diagram (see Figure 5) however presents some of the influences on the views held by local residents.

LEVEL ONE: Initial Reactions

Clearly people were surprised and upset at the speed of the planning. This in turn quickly led to mistrust and worry as rumours about the purpose of the road scheme developed. People felt the council had acted too quickly and with inadequate consultation, leaving people feeling they had been dealt with unfairly. The meetings held by the local authority were generally felt to be of little value in terms of actually altering or being given a real opportunity to affect the planning

Figure Five: Framework Showing Factors Affecting Formation of Opinions Towards Haulage Road Scheme



and design of the scheme. Here the notions of trust, fairness and suspicion are critical to the understanding of how people's attitudes form. Where there is a perceived lack of fairness or confidence in the purpose of consultation it is likely that initial attitudes will quickly become entrenched and be difficult to alter, even if the responsible authority attempts to clarify its motives at a later stage. Gaining public confidence in the planning decision appears a critical consideration for public consultation.

LEVEL TWO: Attributes, Qualities and Effects

The second level of Figure 5 relates to the immediate perceived nuisance likely to arise from the road construction. These are those aspects of the road scheme which people think (feel) will affect them in various ways and which they are worried, annoyed or anxious about. They are issues which relate to the physical planning and design of the road and are likely to be strongly correlated with distances from the alignment of the road.

Table 3 shows the attributes, descriptive indicators and attributed physical causes mentioned in relation to the road construction and operation. Six broad categories of attribute: noise and vibration, dust, recreation and amenity, danger, risk, and visual effects were mentioned by residents.

Under noise and vibration, descriptions of anticipated physical disturbances referred to particular sources of noise:

i) heavy machinery on site
ii) increased lorry movements on the A655.

A number of specific qualities such as 'bleeping noises' from lorries reversing or 'the humming and droning' of earth moving equipment were identified. Both of these had been experienced during the earliest phase of the road construction. Other descriptions of the noise experienced during the first phase of the road construction included droning, thumping and revving.

Blasting and drilling were identified as specific construction activities likely to give rise to dust and fumes.

Danger and risk were specified in relation to three specific "physical" sources: firstly, in relation to the steepness of the cutting and the danger to children who might play near it; secondly, from an anticipated increase in lorries on the A655 and the danger to school children who have to cross this road to reach the local school; finally, from a fear that the road was to be used to transport and tip toxic waste at the Welbeck site, and the risk this presented to local people generally. Each of these effects was mentioned as a specific source of worry and anxiety.

Mention about the loss of amenity and outdoor recreation related to the loss or diversion of footpaths, and the general loss of the "countryside atmosphere". The demolition of an historic farm building was perceived as a sign of 'things to come' and helped to assist further the view that what the local authority said wouldn't happen would eventually happen.

Table 3: Attributes; Descriptive Indicators and Physical Causes Referred to by Residents in Relation to Road Construction (C) and Operation (O)

NOISE	DUST	FUMES	DANGER	LOSS OF AMENITY
Unsocial Hours (C)	Wind Direction	Wind Direction	Number of Lorries (C,O)	Loss of Farmland (C)
Earth Moving (C)	Earth Moving	Earth Moving	Size of Lorries (O)	Loss of Footpaths (C)
Proximity to Road (C)	Proximity to Road		Children Attracted (C,O)	Demolishing Historic
Road versus Rail (C)	Not Washing Wheels		Obstacles for Pedestrians (O)	Buildings (C)
Lack of Maintenance (O)			Increased Main Road Traffic (O)	
Size of Lorries (O)			Mud on the Road (C,O)	
Number of Lorries (O)			Lack of Maintenance of Lorries (O)	
Gradients (O)				
Other Machinery (C)				

The visual impact of the road scheme was considered in two specific contexts. For people who claimed they could see the haulage road from their homes, the view of heavy machinery and lorries during the operational phase would be a constant reminder of the road's presence. Secondly, those people who walked across the field considered that a general mess would be created by the road construction.

Whereas the individuals were fairly clear in identifying the physical aspects of the road which they perceived as a likely source of concern during the road construction, the feelings which they expressed in relation to the different attributes were less easy to decipher. Overall the most commonly mentioned feelings in relation to the road construction were annoyance, worry, anger, anxiety and upset.

LEVEL THREE: Beliefs and Uncertainty

The third level of the diagram shows individuals' beliefs about the expected outcome of the road scheme prior to its construction. These can be considered for the sake of discussion to form three different types of belief, outlined in turn below.

Beliefs About Physical Effects of Attributes

The beliefs in this group appear to share in common their origin in observation and prior experience of similar schemes involving earth moving and haulage traffic. Clearly, for people living in a coal mining area schemes, involving widespread construction and disturbance are not uncommon.

Table 4 shows a selection of statements which refer to the effects of those attributes discussed above which people believed were likely to occur. Here we were interested in identifying the set of beliefs or expectations which appeared to underlie individuals' assessments of the physical aspects of the road construction likely to induce disturbance.

The anticipated effects of the noise during the construction of the road were referred to as effects on sleep and the need to keep doors and windows closed. There was also a widespread fear that the noise and vibration could trigger subsidence in the area and lead to damage to household foundations or to walls and plasterwork. One belief about the longer term effects of the road construction mentioned by a number of residents who owned their own property was the consequence of any damage, or noise and vibration nuisance during the operation of the road scheme, on house prices.

Table 4

Beliefs About Effects of Road Scheme

Noise and Vibration:

"It might damage the house"
"Them up the road, they're worried about sleeping during the day"

Dust and Fumes:

"I wont be able to sit out in the garden"
"I wont be able to hang out the washing"
"When its dry all the mucks going to blow up here"
"Windows have got very diry"

Danger:

"Some kids will get injured"
"Having a big road like that could be quite dangerous"

Loss of Amenity:

"Its going to transform the area from a peaceful to a congested area"

The effects of dust and fumes were anticipated to be most severe on days when the wind direction was blowing towards the housing estate from the direction of the road construction (SW). The specific beliefs mentioned in relation to dust and dirt was the need to clean windows more often, the possible damage to paintwork and garden plants and that it would make sitting out in the garden unpleasant. The effect of fumes was simply to give rise to unpleasant odours. The loss of recreational land and the location of the road was believed to be likely to lead to the sense of loss of a countryside feel to the area (see Figure 5).

Beliefs As Hypotheses

A second set of beliefs were apparent in people's assessments of the road scheme which were based upon hypotheses or predictions about its effects. The origin of these beliefs whilst again relating to physical aspects of the road scheme are different in that they are more speculative. In relation to noise and dust, for example, part of the expressed concern about noise from the operational phase of the road was based on a belief that the lorries using the road would be privately operated and therefore would be poorly maintained (increasing noise) and would be less likely to use the wheel wash (increasing dust emissions). Both of these beliefs can be seen to be associated with a negative attitude towards privately owned vehicles.

In relation to danger and risk there were five separate beliefs underlying attitudes to these attributes. Firstly, there was a general belief that the road scheme would increase lorry traffic on the surrounding road network (itself partly a misconception about the design and alignment of the haulage road) and thereby increase danger for people, particularly children, crossing the road or walking to school. Secondly there was a widespread belief that the haulage road would be used at a later date for transporting toxic waste. These beliefs about the road scheme share in common with the third group of beliefs a level of speculation. The third group however are different from the second group in being directly concerned with the lack of knowledge or inability to predict the future effect of the road scheme. These can be considered in terms of speculation and uncertainty.

Speculation and Uncertainty

The existence of both speculation and uncertainty in people's evaluations of the road scheme surround two particular aspects of the road's planning:

1) the amount of information people had about the road scheme;
2) the perceived motives and action of the local authority.

Looking at each of these in turn:

Information about the road scheme

Those individuals who were interviewed were generally not well informed about the details of the road scheme and therefore had numerous intepretations based on a mixture of fact and inference about its nature (see Table 5).

This lack of information related to virtually every aspect of the haulage road and from the interview transcripts it can be shown that people were uncertain about, amongst other things:

1) the road alignment;
2) the purpose of the road;
3) the amount of traffic likely to use the road;
4) the design of the road; and
5) the timing of the operation.

Arising from this uncertainty, it is almost certain that people's anxieties and concerns prior to the construction of the road will be different to their actual experience of the road, or will change as they obtain more information about the haulage road. As an example, an interview with one resident revealed a lack of concern about the operational effect of the road scheme because he thought it was being constructed underground. Another example shows a lady who was anxious about the noise effects of the road scheme because she believed that lorries would be operating throughout the night.

Effect of Public Consultation

A sub-set of speculative beliefs could be seen to have their origin in the way in which people had experienced the public consultation.

Residents' views about public consultation referred in the main to the perceived effectiveness of public meetings and the extent to which their concerns or interests were taken into account. Table 5 shows statements taken from the transcribed interviews which attempt to show the force of these feelings. The statements indicate the general belief that local opinions were not listened to and that there was little point in trying to "fight the council" or "get up a petition".

Somewhat related to views about the public consultation were views about the local authority and beliefs about the meeting and intentions of the authority.

Within the interviews with residents there emerged a general suspicion about the motive behind the construction of the haulage road (rather than other options) and dissatisfaction with the way the council had appeared to act throughout the planning process. This included the perceived failure to inform local people about the scheme and the purpose of the public meetings. This is in contrast to the view of the local authority who had gone beyond their statutory requirements to inform the public. From this perspective suspicions about "private lorries", "toxic waste" and

the "real" purpose of the road can be seen to be bound up with suspicions about the planning process.

However, residents' judgements and evaluations about the haulage road cannot be seen solely in relation to the planning process and the local council. At a third level there is the social world which people inhabit and which provides the arena in which evaluations are justified, reinforced and overturned. This social world is represented by a series of social groups and relationships at level 4 in the framework.

LEVEL FOUR: Social World

The previous section has indicated the importance of uncertainty and speculation in individuals' prior evaluations of the road construction and operation. At the fourth level a range of other influences, social in origin, can be identified which appear to influence individuals' evaluations in terms of their formation, reinforcement or justification. Amongst the different forms these social relationships took include: a resident asking his solicitor to check whether the road scheme would damage his property in any way; local councillors as information brokers about the road design or to challenge the local authority; and the trusted or authoritarian neighbour who "was taking a special interest in the scheme". These influences are difficult to isolate from each other. The following section however provides a description of the role and status which the different social groups appear to played in the development of individuals' evaluations. Much of this description is concerned to highlight the different ways in which people exchange information and the extent to which certain groups may require more attention in similar work of this type in the future.

Individual

The individual is usually the focus in most studies of environmental disturbance with the motive to identify those factors about the individual which may explain differences in reaction to the changes in conditions. Thus age, sex, employment characteristics and income level have often been used to determine possible differences in attitudes. In this study there were clear differences in the reactions of the sizeable population of old people living in the Queensway, the tendency being to show little interest in the project or else adopt a policy of ignoring ("head-in-sand") possible changes in conditions, compared to other people living at similar distances from the road scheme. These individuals, whilst indicating that they were not concerned about the road scheme were more prepared to discuss some aspects of it. Amongst those people who were living closest to the road scheme there was little evidence from our general analysis to suggest that age or sex were important factors in the type of reaction. Those people who owned their own homes were often more worried about the road schemes impact, although these people also lived closest to the road alignment.

Table 5: Statements Indicating Uncertainty About the Road Scheme and Beliefs About the Public Consultation

Uncertainty

"Don't know why they're building unless its to convert up to motorways."

"No problems yet but we're all thinking what it will be like."

"What is it going to be like with all those lorries?"

"Not certain why road's being built"

"Can't fully anticipate what it'll be like"

"Wish I had more information"

"People are waiting to see if they'll get all this noise/dust"

"Don't know anything about the scheme"

"I'd like to know how many lorries will be using it"

"Don't know what will happen when it's running"

"God knows what it'll be like"

"We're all speculating about what's going to happen"

Public Consultation

"Don't feel nothing because no-one will take any notice."

"I've never heard of anyone get a petition that's been any good."

"Wouldn't have made any difference to have had more information."

"Got impression from meeting that whatever we said didn't matter."

"It was a waste of time calling the meeting."

Family Relationships

The majority of individuals interviewed in the surveys were adults; married or living together, and a parent of one or more children. The family or adult partner often is an important relationship in terms of time spent together and type of decisions made.

Family involvement in the formation of evaluation was evident in a number of interviews. In one example, discussion about the road scheme and its different "impacts" was a regular topic with different members contributing different sources of information to the shared negative evaluation. In another example, a father and daughter were interviewed together. During the course of the interview both family members served to recall, assist and affirm the views of the other. In this sense also the family members operate in a way that perhaps reflects the way in which a consensus viewpoint is reached. Against this however a further example revealed a husband and wife to disagree on most issues about the road scheme, the husband being less concerned than the wife whose concern stemmed from the fact that she would be in the house for most of the period during which the road scheme was being constructed. Overall it must be noted that family relationships form an extremely important channel of information flow particularly in locations such as the Woodhouse estate, where for several groups from the same family to live on different parts of the estate is commonplace. Ideas thus generated in one group will possibly be transferred and taken up by groups who perhaps have no other reason for forming any views on the issues under discussion.

Neighbours

The views of neighbours and other residents in the street was referred to on a number of occasions by different people as a reinforcement to their own views. Frequently it was claimed that the road scheme would not affect the individual but would be worse for other people in the street (eg those on night-shifts, those with young children, those who were househbound, those living closer to the road alignment). This tendency to see others worse off than oneself reached its ultimate when the people living in the second closest house to the road scheme considered that the next door neighbour would be worse-off than themselves. Neighbours also provided an informal exchange of information about the latest plans and stage of development of the road scheme. Frequently people had heard something about the road, eg the original proposal, its alignment, its purpose, from other people in the street rather than directly. This then provides a clear route for the formation of views.

Local Councillors

Local councillors served two very important roles in the exchange of information. Firstly, local councillors as political representatives were represented to us as having been responsible for organising public meetings and for keeping people in touch about the different stages of the project. Accordingly these people had a particular level of status as information brokers, acting as representatives of local people's views but also

feeding information from the local authority committees and planning decisions to residents on the estate. Whilst it was not possible to trace the particular role of these central figures, it is clear that they have some influence on allaying or accentuating people's worries and anxieties. A second role, which only became apparent after the completion of the project, was that one local councillor stated that he had been consulted by residents whether they should agree to be interviewed as part of the study. Whether this is true or not, it indicates the need to identify early on in a study of this type local high profile figures whose own views and prejudices might trickle through to the remainder of a community.

Work Colleagues/Peer Groups

Colleagues at work and friends were mentioned on fewer occasions than other groups as sources of information about the road scheme. The fact that many residents on the estate work or know someone who works at Sharlston Colliery meant that there was a detailed knowledge about such matters as the life span of the colliery, the location of coal outcrops and the likely scale of disruption as a result of the road scheme construction. Much of this knowledge appeared to contradict the official view about such matters as the life span of the colliery, the structural requirements (and hence cost) for a railway route option and the likely difficulties of road alignment.

Newspapers

In this study we had no time to examine in detail the articles written about the Welbeck Scheme or to monitor the reaction to specific articles. However, the local weekly newspaper, Wakefield Chronicle, provided a number of residents with information on events relating to the Welbeck scheme. In several instances information from newspapers was referred to in terms of reinforcing particular views held, or triggering concern about, the longer term effects of the scheme. For those individuals, information appearing in the local newspaper is accredited a high status ("if it's in the paper it must be true"). Newspapers and the media generally can therefore serve to bring to people's awareness issues or accentuate existing concerns.

Legal Profession

Reference to the legal profession (solicitor) was made on two occasions. The first was in pursuit of possible compensation for disruption likely as a result of the road building and served to clarify and subdue a number of residents' hopes for double glazing. Secondly, one person had asked his solicitor to determine the extent of any disruption to the area prior to purchasing the property where the interview took place. This solicitor's advice was to confirm that there would be minimal disturbance to the particular property, although during the course of the interview it transpired that the respondent believed the road was being constructed within a tunnel. Once informed that this was not the case the respondent began to question the possible assurances received from his solicitor.

Local Authority

Certainly within the context of this study, the local authority were seen as the bad-guys; the agency responsible for bringing about the disruption to an otherwise quiet, green residential area. As shown before, the apparent haste of the planning procedure and the perception of the purpose of the public meetings meant the local authority were viewed with suspicion and bad-faith by a large number of residents. Whether the local authority could have processed the planning procedure in less haste or conducted the public consultation in a different way is not within our project remit. What is clear however is that the authority which took over from the dissolved West Yorkshire County Council were faced with an extremely difficult task in regaining confidence or credibility with the local residents. Part of this difficulty may have stemmed from the actions of local councillors and the media in presenting the authority as pressing ahead with plans without public opinion being adequately represented, although events such as the demolition of a listed building, which it had been stated would not occur, as a result of the road construction did little to help the case or cause of the council. Certainly it is difficult from this study to know whether the reaction of the local community would have been any different with a different approach to public consultation. Nonetheless, the local authority was responsible for establishing a liaison group, comprising representatives of the local authority and the affected residents, to facilitate communication between the groups. Again it was not within our remit to monitor or analyse the effectiveness of this committee, although it was clear that those members drawn from the local residents were consulted about different aspects of the road scheme and were important information brokers, feeding those residents who maintained an interest in the scheme.

4.4 Conclusions

Success of Interviews

The success or failure of the interviews carried out immediately prior to the construction of the road can be judged against a number of criteria. Firstly, in terms of the time period (approximately four weeks) between being asked to carry out the surveys and the actual start of the road construction, the level of planning and design of the interview format was less than would be usual in a study of this nature. This short time period meant there was little opportunity for in-depth training of interviewers or prior testing of the survey instrument. Certainly the semi-structured interview form did create some difficulties for interviewers who found it difficult to relate to the topics or order of events that residents themselves wished to talk about. Further, since the interviewers were generally unfamiliar with the area or topic, they found it difficult to respond to questions from the respondents about the road scheme. This occurred in many instances due to the lack of information or uncertainty on the part of the residents about the road scheme and wider Welbeck scheme development. The speed at which the interviews needed to be carried out meant that it was not possible to contact householders prior to the interview, leading to an approach whereby the first time the resident knew about our

study was when they opened the door to the interviewer. This cold-sell aproach is difficult at the best of times but coupled with the high number of council owned properties and apparent suspicion of "officialdom", plus the high proportion of old age pensioners who are reluctant to answer the door to strangers, meant there were immense difficulties in achieving a representative sample. Prior contact by letter and discussions with local councillors, social service officials and other local figures would have eased the problems faced. Overall, however, it is felt the interviews - particularly those which were tape-recorded - did provide a picture of the sources of annoyance, worry, anxiety, beliefs and disinterest in the road scheme. Ideally, more of these interviews could have been tape-recorded thereby releasing interviewers from the task of noting down points on the questionnaire forms (which was found to put some people off) and promoting a more natural form of discussion.

Methodological Construction

The main purposes of conducting the interviews, apart from providing information about people's views prior to the road construction, was to provide information to develop a structure for a survey instrument for the measurement of views during the construction of the road.

As well as achieving this, the interviews also showed the difficulties in attempting to structure a survey instrument to capture the main influences which affect or 'explain' an individual evaluation. This by itself provided a useful lesson for the research team, but meant that, particularly in the technique to measure the relationship between different elements of attitude, the attempt to capture the non-physical factors affecting evaluation were difficult to structure in the same way as the physical factors. With the multi-attribute utility technique it was clear that there was widespread uncertainty about the road scheme, hence justifying the area of investigation, but again the attempt to provide proxy variables for different attributes was more difficult than previously imagined. At a later stage in the project it was discussed whether in the design of a survey instrument it would be possible in future studies to amalgamate the unstructured and structured stages of the study. In other words, rather than attempting to formulate a survey instrument from detailed information and then presenting it back to individuals, is it possible to use the information at the time it is elicited to produce a "question" whereby the measurement task takes place within the precise context and meaning which that individual provides. Clearly, this approach would require much more consideration in terms of interviewer training, preparation of "questions" and the actual ways in which information is recorded and presented to respondents. Interactive computer techniques which are used in multi-attribute utility application with decision makers may offer some interesting ideas for experimentation in this area (Humphreys and McFadden, 1980).

Framework Development

The framework developed in this section provides a very simple representation of the views elicited during the interviews. We have attempted to show in a descriptive manner some of the linkages between the different elements of attitude, the role of social factors on individuals' attitudes and the extent of uncertainty underlying people's views. We were unable to identify or analyse in a formal way the way in which particular views formed or changed over a period of time in relation to external events or social influences. Further, it is important to note that the framework represents an amalgam of views from a sample of 40 residents. The framework therefore is not representative of any one individual's evaluative structure.

Whilst it is felt that the framework is useful in clarifying and highlighting the influences upon individuals' evaluations, there is a clear need in this type of work to study in more intensive designs the structure of influences on individuals' or small groups' evaluations and to discriminate factors which tend to produce similar or dissimilar outcomes.

Having set out the main findings from the preconstruction study the next section reports the findings from the structured household surveys.

5. Results and Discussion - Main Surveys

5.1 Introduction

A total of 120 interviews relating to the construction of the road and 60 to the operation of the road were achieved. A total of 40 multi-attribute utility interviews were achieved. One hundred and thirty residents refused an interview. The list of addresses where an interview was obtained/refused is shown in Appendix 6. This section deals firstly with the results from the attitudinal surveys followed by the multi-attribute questionnaire.

Breakdown of Sample

Table 6 provides a breakdown of the sample by distance from the road scheme; type of property; household type and sex. The majority (59%) of residents interviewed lived between 200 - 300 m, of the haulage road although nearly one in five (19%) lived within 150 m. Over half (59%) of those interviewed lived in privately owned homes. About 30 percent of the sample lived over 800 m from the nearest point of the road alignment.

Residents from the Queensway area of the estate (See Fig 1) provided nearly a quarter of the sample. Forty per cent of the sample were residents in the area of non-local authority built homes; a further 8 per cent lived along Elisicker Lane, an area of privately owned homes. In terms of being a representative sample, it is difficult to determine whether there was a disproportionate number of privately owned homes, since the layout of the estate in relation to the road meant that the privately owned homes were closest to the road. In analysing any results in terms of distance, however, it is important that consideration is given to the possible composition of households in the distance, band to avoid misleading interpretations.

Nearly half of the sample (46%) was based on households with two adults either living by themselves or with up to two children under the age of 18. The respondents were fairly evenly divided between males and females.

5.2 Rating and Ranking of Nuisance

The first part of the questionnaire asked respondents to select and then rate and rank those attributes which they considered had been a source of nuisance during the road construction periods. Table 7 shows the distribution of rating scores, and the percentage of respondents ranking different attributes in order of nuisance. Over a third (38%) of respondents stated they were not bothered at all during the road construction period by any form of disturbance; 15 per cent stated they were very bothered. Overall 62% of the sample had been bothered to some extent during the construction of the road. Looking at each of the attributes, bother by noise was more frequently mentioned (44%) than the other attributes. Disruption of outdoor recreation was more often rated a source of extreme nuisance (six on the rating scale) than the other attributes. Fumes/smells and danger were the attributes rated least frequently at the extreme end of the scale.

Table 6: Breakdown of Sample Characteristics - Main Survey

(% of Residents)

	N = 117
Distance From Road Scheme	%
< 100 m	3
100 - 150 m	11
150 - 200 m	21
200 - 300 m	54
> 300 m	11
Tenure of Property	
Private	54
Council (Owned)	17
Council (Rented)	28
Unclassified	1
Address of Interviews	
Sylvester Avenue	9
St Johns Crescent	6
Shakespeare Avenue	9
Clarke Crescent	12
South Street	16
Queensway	27
Hill Top View	4
Wakefield Road	4
Elsicker Lane	8
Long Row	5
Household Composition	
Single Person (< 65)	3
Single Retired Person	10
Two adults/head under retirement age	24
Two adults/head over retirement age	14
Small family (< 4 persons)	22
Large family (> 4 persons)	8
Adult household	19
Sex	
Male	45
Female	55

Table 7: Percentage of Respondents Reporting Different Levels and Relative Importance of Nuisance During Road Construction

(N = 117)

	Not at All Bothered 0	1	2	3	4	5	Very Bothered 6
Overall	38	9	10	16	7	5	15
Noise	56	3	3	4	7	7	8
Dust/Dirt	72	3	2	3	8	6	5
Danger	71	< 1	3	3	7	3	3
Fumes/Smell	84	2	3	4	3	2	< 1
Disruption of Outdoor Recreation	80	< 1	< 1	3	3	2	11

	Worst	Next Worst	Next Worst	Next Worst	Next Worst
Noise	18	7	2	< 1	< 1
Dust/Dirt	5	12	4	2	2
Danger	< 1	6	3	3	2
Fumes/Smell	2	2	3	2	< 1
Disruption of Outdoor Recreation	10	7	1	< 1	< 1
Not bothered by any impact	65	66	86	91	95

A high percentage of respondents rated overall nuisance at the extreme end of the scale than any of the individual attributes, suggesting either that other factors contribute to overall nuisance or else reactions to overall nuisance are the result of more than one attribute.

Noise was ranked most often (18%) as the source of worst disturbance during the construction of the road followed by disruption to outdoor recreation. These results confirm the findings from the rating of individual attributes. Dust/dirt was mentioned most often (12%) as the second worst source of disturbance during the road construction period.

Nuisance by Distance/Type of Property

The results in Table 7, whilst useful, do need to be treated with caution since they contain responses from households at greatly different distances from the actual road alignment. Table 8 shows respondents' rating and ranking of the same attributes as Table 7 by distance bracket.

The percentage of residents seriously bothered overall by the road construction at up to 150 m represents approximately 1/5th of the sample. Beyond 150 m about one in ten of those interviewed are seriously bothered. Up to 150 m one in ten of the sample report being seriously bothered by noise compared to 7% of the sample in the other two distance bands. Dust and Dirt, Danger, and Fumes and Smell are rated as serious sources of nuisance by a lower percentage of the sample in each distance band than for Noise. Disruption of outdoor recreation is assessed as a source of extreme nuisance by a higher percentage of the sample in the 150-300 m distance band. Of interest is the fact that a higher percentage (13%) rated this a source of serious nuisance than overall nuisance (20%).

Noise nuisance is ranked the most disturbing impact arising from the road construction in each of the distance bands. Interestingly, dust is ranked as the worst impact by a higher percentage in the 150-300 m distance band than the < 150 m distance band. In terms of planning and design of road construction schemes in similar types of locations under similar conditions it would appear that the effect of noise should be given highest priority followed by the effect on outdoor recreation to minimise disruption to residents.

5.3 Responses to Questionnaire Statements

Following these initial general rating and ranking tasks, each individual was asked to consider the list of statements referring to different aspects of the road scheme (see Appendix 2). Table 9 shows the distribution of scores indicating the level of agreement with each of the statements. A score of six denotes that the person totally or strongly disagrees with the statement (implying this effect was not relevant or a factor in that person's evaluation); a zero indicate a strong agreement. The statements have been summarised and categorised under three headings: sensory disturbances; activity disturbances; and beliefs.

Table 8: % of Respondents Reporting Extreme Levels and Extreme Importance of Nuisance During Road Construction Period

	Less than 150 m (N=45)	150 - 300 m (N=59)	> 300 m (N=13)
	Very Bothered		
Nuisance Overall	21	10	10
Noise	10	7	7
Dust/Dirt	6	5	0
Danger	4	4	0
Fumes/Smell	0	2	0
Disruption of Outdoor Recreation	11	13	0

	Less than 150 m (N=45)	150 - 300 m (N=59)	> 300 m (N=13)
	Worst Impact		
Noise	27	14	7
Dust/Dirt	6	18	0
Danger	2	< 1	0
Fumes/Smell	2	< 1	0
Disruption of Outdoor Recreation	0	< 1	< 1
None	63	78	93

The first point to note is the bipolar distribution of the results with a tendency for respondents to score their responses at the extreme ends of the scale. This is particularly the case in the distribution of response scores to the items under sensory disturbances

Table 9: Percentage of Respondents Agreeing with Different Statements

Statement Summary	Strongly Agree 0	1	2	3	4	5	Strongly Disagree 6
Sensory Disturbances							
Disturbed by general construction	21	5	5	3	<1	2	63
Early morning noise	21	6	8	3	3	2	57
Evening noise	9	4	3	3	2	1	76
Other noise esp. children	7	<1	4	3	<1	<1	80
House vibrations	5	<1	2	3	4	7	79
Smell fumes	7	3	<1	4	2	<1	82
Children's safety	21	4	7	7	<1	<1	58
Increase traffic A655	90	4	<1	2	<1	<1	3
Frightened	3	<1	<1	3	2	3	89
Dust/Dirt	22	<1	3	7	<1	<1	63
Activity Disturbance							
Walking disturbed	46	5	11	9	<1	<1	27
Woken up	20	3	3	<1	4	2	68
Television viewing	11	2	4	11	3	3	65
Window cleaning	31	5	3	6	3	2	50
Garden recreation	6	<1	2	<1	3	2	88
Windows closed	15	3	5	3	3	<1	72
Beliefs							
Nerves affected	2	<1	<1	6	<1	<1	92
Foundations disturbed	<1	2	28	2	1	1	65
Plasterwork cracked	4	<1	17	<1	<1	<1	77
House less pleasant	31	3	5	6	4	4	45
Loss countryside atmosphere	48	8	4	5	<1	3	31
Estate less pleasant	6	<1	5	10	<1	4	73
More damage necessary	22	2	3	17	3	8	45
Project badly planned	44	4	4	15	4	2	28
Unsocial work hours	10	3	4	14	2	3	64
No support	49	2	3	19	<1	<1	26
Badly informed	26	4	4	15	<1	2	47

These bipolar distributions can be explained in two ways. The most obvious explanation is that the survey itself; the choice and form of statements (possibly inviting a polemical response) gave people little option other than an extreme response rating. The second explanation is that the scale technique itself is a poor method for grading the strength of an individual's reaction to a statement in the context of this study. Whilst these techniques are widely used in many areas of psychological investigation they are abstract entities which whilst meaningful to the experimentor may have little meaning to the respondent.

Whilst careful training of interviewers and giving people sufficient time to examine the scales, it is not at all clear what this type of technique and the manner of presentation actually communicates to the person whose response is being sought. The choice of an unnumbered scale probably reinforced the tendency for individuals to avoid certain parts of the scale, although this effect has also been reported in studies which have used numbered scale positions (Grigg, 1981). Clearly in any further work we will need to examine the way in which these difficulties can be overcome.

From an analytical point of view these bi-polar distributions affect the choice of measure to represent any underlying trend in the sample. The use of any measure of central tendency will potentially obscure important differences between distributions (Grigg, 1981). Therefore only frequency of response was used to illustrate the distribution of responses to different aspects of the road scheme.

From Table 9 the aspects of the road scheme which people most readily agreed with, in order, are:

(1)	the increase in road traffic on the A655	(90%)
(2)	people's lack of support for the road scheme project	(49%)
(3)	loss of countryside atmosphere	(48%)
(4)	disruption of walking activities	(46%)
(5)	project had been badly planned.	(44%)

Looking at the effect of distance on responses, Table 10 shows that in a general way there is a higher level of agreement to the statements amongst residents living closest to the road. Notable exception to this are for the statements relating to "concern for children's safety"; "being frightened"; "interference with television viewing"; "pleasantness of the house"; and "information about the road scheme". Beyond 300 m the statements provoking the highest level of agreement were traffic increase on A655 (61%); disruption of outdoor recreation (31%); pleasantness of the house (30%) and lack of support for the road scheme (30%).

From these results it is clear that there is no particular distance at which concern about the different aspects of the road scheme suddenly decays or disappears altogether and that there may well be effects which are relevant to local people well beyond 300 m. This suggests that in the planning and design of similar schemes elsewhere a much larger boundary may need to be considered than that suggested and recommended by the MEA guidelines referred to in Section 2.2.

Agreement with a statement however only indicates that an issue has been noticed; it does not necessarily imply a negative evaluation of it. Table 11 shows the percentage of all respondents who scored each of the evaluative scales at the extreme point.

Comparing the percentage of respondents who rate the scales relating to "upset"; "annoyance"; "expectation"; and "major nuisance"; the results suggest that there is either little discrimination between scales - i.e. they refer to broadly

similar types of reactions (i.e. negative evaluation) or that people tend to score their position on the different scales in broadly consistent ways with the first scale.

Table 10: % of Respondents Agreeing with Statements by Distance from Road Scheme

	< 150 m (N=45)	150-300 m (N=59)	> 300 m (N=13)
	Strongly Agreed		
Sensory Disturbances			
General construction	31	17	7
Early evening noise	26	20	7
Evening noise	15	5	7
Other noise esp. children	8	6	0
House vibration	8	5	7
Smell/fumes	15	2	0
Children's safety	17	25	0
Increased traffic A655	95	86	61
Frightened	0	4	7
Dust/dirt	22	22	15
Activity Disturbances			
Walking	51	42	31
Woken up	29	15	8
Television viewing	8	14	0
Window cleaning	33	28	0
Garden recreation	13	0	0
Windows closed	22	12	0
Beliefs			
Nerves affected	2	2	0
Foundations disturbed	2	2	0
Plasterwork cracked	6	2	0
House less pleasant	40	54	30
More damage than necessary	24	19	23
Project badly planned	48	46	7
Unsocial work hours	4	13	0
No support	53	46	30
Badly informed	24	27	7

Table 11: Percentage of Extreme Rating Scores for Five Different Evaluative Dimensions

	Agree	I	II	III	IV	V
Sensory Disturbances						
General construction	21	4	6	17	8	45
Early evening noise	21	13	18	20	11	48
Evening noise	9	9	7	11	4	34
Other noise esp. children	7	4	4	8	8	69
House vibration	5	4	4	12	4	31
Smell/fumes	7	7	6	6	4	31
Children's safety	21	15	15	16	11	40
Increased traffic A655	90	59	65	49	47	79
Frightened	3	1	1	6	2	21
Dust/dirt	22	12	14	13	6	56
Activity Disturbances						
Walking	46	36	38	30	31	57
Woken up	20	14	17	11	8	36
Television viewing	11	2	6	4	3	37
Window cleaning	31	22	27	25	17	45
Garden recreation	6	4	5	5	5	26
Windows closed	15	11	12	12	9	32
Beliefs						
Nerves affected	2	1	2	4	3	22
Foundations disturbed	< 1	1	2	3	4	89
Plasterwork cracked	4	< 1	< 1	1	1	92
House less pleasant	31	5	6	6	10	82
Less countryside atmosphere	48					
More damage than necessary	28	15	14	20	15	78
Project badly planned	44	15	15	24	16	69
Unsocial work hours	10	5	7	7	6	82
No support	49	30	37	30	25	52
Badly informed	26	21	20	20	17	73

I = Very upsetting
II = Annoying
III = Something I expected
IV = Major nuisance
V = Something I have heard other people complain about

Relationship Between Different Statements

In order to examine the extent to which individuals' ratings of the road construction in terms of overall nuisance reflect their assessments of different aspects of the scheme, a test of correlation was carried out.

A high correlation would imply that specific aspects of the road scheme contributed more significantly to the assessment of overall nuisance than other aspects. As can be seen in Table 12 there are relatively few statements scored on the first scale (level of agreement) which achieve a correlation score greater than 0.20, suggesting that individual effects or beliefs do not by themselves explain overall nuisance.

Table 12: Test of Association Between Rating of Overall Nuisance and Specific Station

(Relationships greater than r = 0.20 only are shown)

Sensory Disturbances	
General construction	0.20
Early evening noise	0.26
Childrens safety	0.26
Dust/dirt	0.20
Activity Disturbance	
Woken up	0.30
Beliefs	
No support	0.30

Table 13 shows the test of association between the different statements scored on the first scale (agree/disagree). Here correlation scores greater than 0.50 only are shown.

Only 12 of the statements produce associations at the 0.50 level with at least one other statement. General construction activity and early morning noise produced the largest number of associations (3 and 4 respectively). There are only 2 associations betwen the statements referring to beliefs and those referring to sensory and activity disturbances, indicating that the former are generally independent in terms of affecting evaluation from the latter.

Table 13: Test of Association Between Different Statements

(Correlations greater than 0.5 shown)

Statements	Association With
Sensory Disturbances	
1. General construction	4, 8, 10
2. Early morning noise	3, 5, 8, 9
3. Evening noise	2, 9, 11
4. House vibration	1, 6, 8
5. Smell/fumes	2, 10
6. Childrens safety	4, 12
7. Increased traffic A655	10
Activity Disturbances	
8. Woken up	1, 2, 4
9. Television viewing	2, 9
10. Garden recreation	1, 5, 7
Beliefs	
11. Foundations disturbed	3
12. No support	6

Effect and Times of Noise and Dust Nuisance

Following the statements examining the range of issues which had been identified as likely to be important, a series of further questions about noise and dust were asked. These examined effects of increasing severity to identify any experienced by residents and more generally the time of day and day of the week of those disturbances (see Table 14).

The most frequently experienced noise effect from the list presented to residents was "windows rattling" followed by "outdoor rattling" and "floors vibrating". With increasing severity of effect, a decreasing number of residents notice the effect. Twenty-three residents notice at least one noise effect, although only seven claimed to experience more than three

effects. The noise effects were experienced most frequently in the early morning (before 8.00 a.m.) which perhaps reflects the increased probability that the respondent was in the house at this time of day. Nearly a quarter (23), and almost one in seven (15) of respondents report effects of noise on Saturday and Sunday respectively.

The most frequently experienced effect of dust from road construction was "dust on windows" (50) and "dust on car" (38). The effect of dust on individuals ("coughing", "in eyes") was mentioned by relatively few respondents. More people claimed to experience the effects of dust in the evening period than noise, although the mid-morning period was the most frequently cited time of day when dust effects were noticed. As for noise, residents report the effects of dust on Saturday and Sunday as well as on weekdays.

Table 14: Percentage of Residents Reporting Effects of Noise and Dust, by Time of Day and Day of Week (N = 117)

Noise Effects	%	Time of Effect	%
Windows Rattling	20	Early Morning	22
Doors Rattling	13	Mid-Morning	19
Floors Trembling	5	Lunch-Time	8
Floors Vibrating	10	Afternoon	11
Bed Shaking	1	Evening	11
Ornaments Rattled	3		
Ornaments Moved	1	Day of Week	
Flutters in Chest	1		
Tingling of Skin	1	Monday-Friday	39
		Saturday	19
At least one effect	19	Sunday	12
One - three effects	8		
More than three effects	4		
Dust Effects		**Time of Effect**	
Dust on Windows	44	Early Morning	11
Dust on Washing	18	Mid-Morning	23
Dust on Plants	18	Lunch-Time	15
Dust on Car	33	Afternoon	19
Dust in Eye	13	Evening	18
Dust Coughing	6		
Dust in Air	8	Day of Week	
At least one effect	42	Monday-Friday	29
One - three effects	24	Saturday	19
More than three effects	18	Sunday	12

Other Issues

Complaints About Road Construction

Residents were asked whether during any time of the period of road construction they had "complained" or felt like complaining to the council, newspaper or site contractor by telephone, letter

or in person. Table 15 shows that 34 complaints were claimed to have been made by residents (some residents may have complained more than once), most frequently in person to the council. Clearly there is no guarantee that those complaints were registered although it seems likely that the liaison committee for local residents and local authority officers provided the bulk of the "in person" complaints to the council. Perhaps not surprisingly the number of times "felt like complaining" was mentioned was higher than actual complaints made.

Table 15: Percentage of Residents Complaints About Road Construction

		Actually Complained	Felt Like Complaining
Council	(Phone)	0	5
	(Letter)	9	10
	(In person)	11	10
Newspapers	(Phone)	0	3
	(Letter)	2	6
	(In person)	0	2
Contractors	(Phone)	2	2
	(Letter)	2	4
	(In person)	3	5
		29	47

5.4 Conclusions and Discussion on Questionnaire

The conclusions from the main survey analysis can be considered in two parts, empirical and methodological. In certain respects it is the methodological conclusions which are the most interesting.

Empirical

Most of the main findings have been referred to earlier in this section. Overall noise was the most widely reported nuisance from the construction of the road scheme although a large part of this nuisance derived from the delays to and hence increase in noise from traffic on the A655. This is shown by the fact that the statements referring to construction noise nuisance produced much less agreement than that referring to increase in traffic. The second most widespread impact referred to the disruption to outdoor recreation. For both impacts, residents living beyond 300 m found these effects to be a source of nuisance.

In general there is a decline in the assessment of disturbance from the road scheme with increasing distance. The different evaluative scales produce broadly similar types of response.

Methodology

The main findings from the structured survey relate to the design of the measurement instrument and to its form of presentation. Three main weaknesses were:

(a) the particular frame of reference for the study;
(b) the form of statement and type of rating scale approach;
(c) the presentation of questions to individuals.

Potentially the most difficult aspect of the structured surveys, apart from actually obtaining the interviews, was the limitation imposed on the respondent by the survey context. At its simplest, we chose in this part of the survey to ask people to rate their reaction to a number of statements against a number of scales implying an evaluative dimension.

For many people, although they completed the questionnaires, this appeared to be a task which had little meaning or purpose and was certainly not familiar or easy.

One lurking suspicion underlying the observed performance of several respondents completing the questionnaire is that it was more a question of pride that they could complete the matrices rather than it being an opportunity (within the constraint of the survey design) to convey their reactions to the scheme. Evidence that people were puzzled or found the approach adopted difficult to comprehend came in a number of discussions after the completion of the questionnaires and from the interviewers themselves who carried out the majority of the surveys. In retrospect, the issues which people appeared to want to talk about and which therefore possibly represent the dimensions of evaluation could be summarised as:

(a) what were the sources of disturbance in general during the period of construction, and why?

(b) who was to blame for the disturbances and why?

(c) what action could or should have been taken to minimise those disturbances.

Our survey instrument covered part (a) at great length, but failed to touch parts (b) and (c).

Of most interest to (a) is that people's perceptions of disturbances are highly subjective and that the reasons people are annoyed, upset or whatever are often unique to that individual. In our approach, the twenty or more statements contained some of the effects and some of the reasons for some of the residents evaluating the road scheme negatively. In future work, we feel that there will be a need to allow individuals to be able to specify (possibly from a pool of issues) those which they consider to be important and to be <u>able</u> to expand on those issues in any direction they wish.

Using a pool of issues would give some element of experimental control but allow the respondents to define the basis for their

assessment in their own terms. Furthermore, it is considered that abstract assessment of disturbances without any discussion of blame, responsibility or recommended action for those disturbances produces a largely sterile survey instrument by severing the link between people's perceptions of problems and their abilities to make judgements about what possible courses of action. By failing to introduce discussion on (b) and (c) above we effecitvely gave people little reason or confidence to suppose that their responses were to be of any practical use and more importantly gave no opportunity for expression of detailed local knowledge about how to overcome or minimise some of the effects of the scheme.

In relation to (b) it was apparent from carrying out the structured surveys that our attempt to translate the factors identified as important to evaluation in the preconstruction interviews in the form of statements and scales was not entirely successful. The reasons for the particular design are numerous. Amongst the most important were the constraints on time - meaning that alternative designs were not adequately explored, and the objective we set ourselves, to interview 200 residents which meant we needed to adopt a standardised format in order to get the survey completed.

Alongside this the particular form of rating scale in relation to the statement formation produced a bipolar response set which reduced the ability to discern trends or patterns between the different sub-samples and between different scale-statement combinations.

The final point to note about the methodology relates to the way in which information (both questions and questionnaires) are presented. On reflection, the classical approach (questionnaires administered to individuals) to survey design would appear to be particularly inappropriate to many of the issues which people appeared to want to discuss in relation to the construction of the road scheme. In our judgement an approach which made use of presentational techniques and devices which break down the need to "write things down" or "rate a reaction" and the relationship of "interviewer" and "respondent" would be an important stage of development of this work. In particular, we would like to see firstly a move towards group discussions, and secondly the use of graphical and tactile materials for presenting issues and recording views. In the first instance, group discussion, we feel, would partly replicate the arenas in which people normally define and evaluate issues. Also it would serve to reduce the artificial arrangement which exists in an interview between the 'researcher' and the 'respondent'. By using material which conveys information in a form which is potentially more interesting and less dependent upon educational attainments, it is felt that this would reduce the perception of the study as "academic" and make the issues more real to those involved.

In the final section of this report (postscript) we make a case for the way in which we would approach both the next stage of this study as well as further work in the area. Next however the findings from the multi-attribute utility questionnaire are discussed.

5.5 Multi-Attribute Utility Questionnaire

Examining the results of the work undertaken, it transpired that even a simplified version of multi-attribute utility analysis proved difficult to apply in working with members of the general public. Only 12 of the interviews undertaken provided complete, usable responses. In addition to the inherent difficulty of the questions asked (especially the 'standard gamble' questions oriented towards gaining an understanding of attitudes towards uncertainty) it is also probably the case that inadequate time to instruct the interviewers working on this part of the survey contributed to the unsatisfactory response. Since it seems particularly important to take account of uncertainty (and hence to ask questions that explore this issue), future surveys should pay particular attention to elicitation techniques (such as MAUD provides) and to interviewer training. A small number of good responses is preferable to a larger number of poorer ones.

Two particular difficulties encountered in the design of the survey instrument and the analysis of the responses are as follows. The first, not a problem of multi-attribute utility alone, is difficulty in identifying adequate quantitative proxy variables in terms of which to analyse environmental impacts such as noise, dust and dirt, etc. within a very simplified survey structure. It seems that some of the proxies used (e.g. frequency of window cleaning as a proxy for dust and dirt) may have been difficult for all respondents to relate to. Hindsight has suggested no more satisfactory possibilities, although it may be worthwhile to investigate work on noise undertaken by the CAA. The second (and possibly related) problem is the one referred to earlier, the use of simplified standard gamble questions to try to assess the extent to which there was risk aversion to the uncertain environmental consequences associated with the road. Although there was on balance a leaning towards risk averse, rather than risk loving behaviour, it was less pronounced than might have been expected. Within the responses, however, there was a very wide range of variation and a suspicion must remain that respondents' understanding of the rather abstract alternatives between which they had to choose may have been limited in some cases.

More positively, the selection of which environmental concerns were significant in respondents' minds did not seem to cause any great problem. The frequencies with which they were identified as significant corresponded exactly in rank with those in Table (7). There was also no great difficulty in using the ratio technique to establish relative weights. Averaged across the 12 usable responses, the relative weights (as well as the frequencies) ranked the five areas of environmental concern in a very similar way to Table (7). The only difference was the reversal in the ranking of Dust and Dirt and Disruption of Walking and Local Outdoor Recreation. Of course, consistency with Table (7) is only a general indicator of success in this respect, since the questions underlying the Table (7) results concerned the construction phase and the multi-attribute utility analysis was addressed to residents' prior conceptions of the effects of the road scheme in operation. Nonetheless, the existence of a reasonably strong correlation between the two should perhaps be expected. It was noticeable, however, that

there were very wide variations between individuals in the weightings afforded to different impacts. Although it has not been possible to investigate the possible causes of the differences, the fact that there does appear to be a wide variety of views is a point which needs to be considered further in assessing the role of this type of work reported in this paper in influencing the planning process.

In those cases where the questionnaire was successfully completed, enough firm information was obtained to permit, for example, the evaluation and ranking by each individual of a series of hypothetical schemes. For example, one resident's multi-attribute utility function worked out as follows:

$$V = 0.15\ U_1(X_1) + 0.35\ U_2(X_2) + 0.05\ U_3(X_3) + 0.25\ U_4(X_4) + 0.20\ U_5(X_5)$$

where the wj's result from analysing the final question in the multi-attribute utility section of the survey questionnaire and the Uj(Xj) functions (j = 1, ... 5) derive from the preceding questions A to E and are pictured in Figure ( ). Using this resident's value function it would then be possible to rank the hypothetical schemes shown in Table ( ). Substituting the Xj values leads to values of V which are respectively -0.1125 for scheme A and -0.2395 and -0.1180 for schemes B and C. Hence, in this resident's view A represents the most desirable (least undesirable) alternative.

In summary, this part of the research project suggests the following:

(a) There is, as yet, relatively little experience of how to formalise local residents' views of the environmental consequences of road and similar schemes in order to assist with option choice.

(b) The technique explored in this study is a potentially valuable input to the choice process, but is not a replacement for CBA. In particular it is more appropriate for choice between options, rather than between widely differing projects.

(c) It is important to use a technique which explicitly allows for uncertainty in evaluation.

(d) A follow-up study which allows the issue of labile values to be explored further would be of great interest.

(e) It would be useful to explore the use of computer-based methods of value elicitation and evaluation (e.g. MAUD) in the context of road schemes and similar projects.

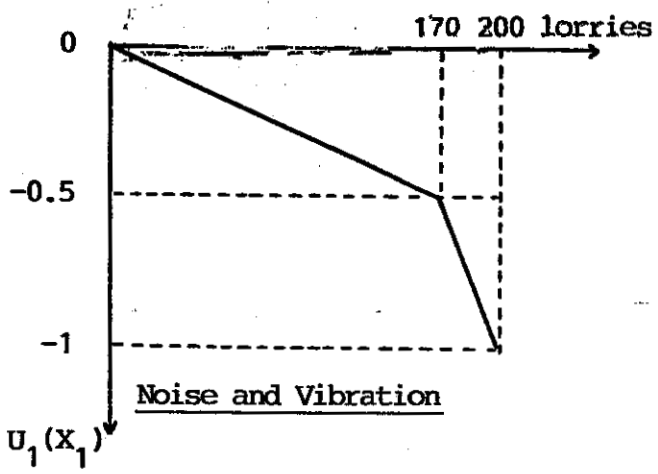
(f) The question of developing suitable proxy variables for environmental impacts has not been adequately resolved.

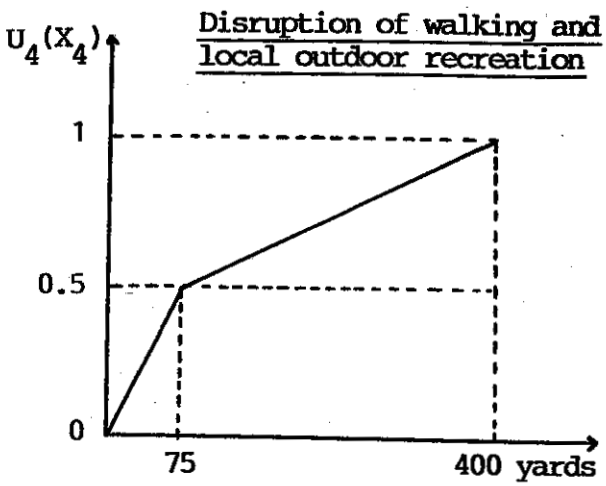
(g) It could also be useful to explore the extent to which the assumption of a linear additive value function can be justified, despite the often observed robustness of such choices.

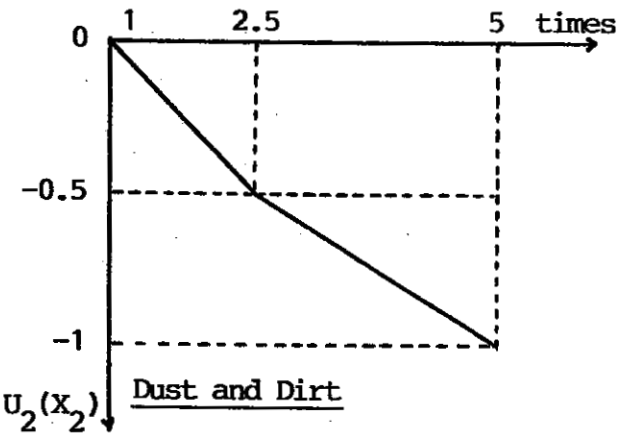
Table 16: Evaluation of Three Hypothetical Options

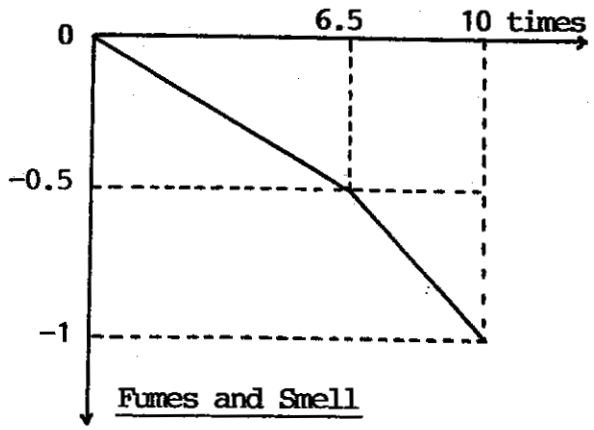
Project		A	B	C	
Impact	1	160	160	160	
	2	2	4	2	
	3	160	160	160	
	4	100	350	300	
	5	2	6	7	
					W
Utility	$U_1(X_1)$	- 0.47	- 0.47	- 0.47	0.15
	$U_2(X_2)$	- 0.31	- 0.78	- 0.31	0.35
	$U_3(X_3)$	- 0.56	- 0.56	- 0.56	0.05
	$U_4(X_4)$	0.53	0.88	0.78	0.25
	$U_5(X_5)$	- 0.19	- 0.44	- 0.53	0.20
	$w_1\ U_1$	- 0.0705	- 0.0705	- 0.0705	
	$w_2\ U_2$	- 0.1085	- 0.2730	- 0.1085	
	$w_3\ U_3$	- 0.0280	- 0.0280	- 0.0280	
	$w_4\ U_4$	0.1325	0.2200	0.1950	
	$w_5\ U_5$	- 0.0380	- 0.0880	- 0.1060	
	$\Sigma\ w_j\ U_j$	- 0.1125	- 0.2395	- 0.1180	

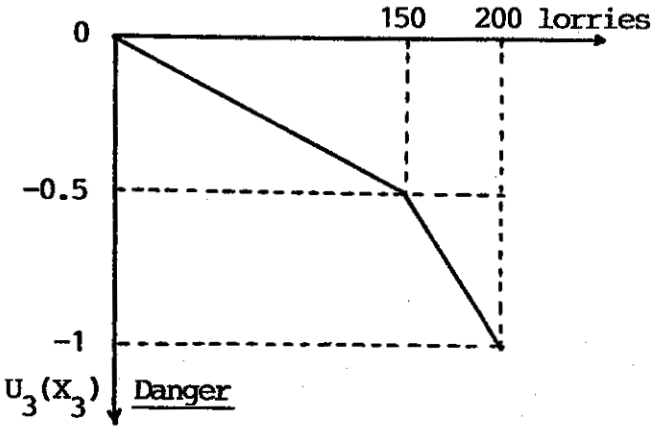
Figure .6: The Five Separate Utility Functions











(Note: Each exhibits risk aversion, except U_4 which is slightly risk loving)

6. Future Work

The project described in this report was intended to be innovative in the methodology it brought to bear on exploring some of the environmental issues raised by the building of the Welbeck haulage road. Bearing this in mind, the results are both interesting for the light they throw on residents' reactions to the Welbeck scheme and promising, in that they suggest that similar schemes could in future be effectively studied and managed with the aid of techniues of the type described here.

The section of the project concerned with gauging reactions to the construction phase of the work has given valuable insights into the way in which individuals' perceptions of such a scheme develop. It revealed a potentially complex set of influences to be operating and suggests strongly the need to understand much more fully the genesis of people's views, if the basis of their evaluations of proposals is itself to be understood and responded to in the design and evaluation of competing project options.

While the unstructured interviews provided much relevant information, it is clear that in this pilot project, the more formal, matrix based, methods used to try to quantify responses to the road construction did not faithfully capture views expressed in a way which was sufficiently responsive to variability between individuals. We intend to look again at the structured questionnaire aspect of the methodology in future work. The same holds for the multiattribute utility assessment applied to the operational phase of the road. In the very short time available to undertake the Welbeck project, it did not prove possible to tailor the methodology to the specific circumstances of the investigation, nor to undertake a properly rigorous training of the interviewers. Nonetheless, the use of the technique in similar circumstances to Welbeck merits further investigation. Mechanisms through which people's reactions to proposals which affect them can be captured quantitatively, made explicit and used as a basis for discussing alternative plans have a role to paly in the planning and design process. Moreover, multiattribute utility or similar methods, applied through a longitudinal survey, offer the opportunity to study how people's responses to environmental change behave through time. This in turn should provide important information relevant to the manner in which residents' initial reactions to proposals should be analysed in project planning and evaluation. A return to the site to investigate residents' views about the road now that it is operating is an important part of our plans for future work. A full copy of the plans for follow-up work to the Welbeck pilot project is available from the authors on request.

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A P P E N D I X 1
****

MAIN STUDY INTERVIEW FORM - CONSTRUCTION PHASE

A P P E N D I X 2
****

MAIN SURVEY FORM - OPERATIONAL PHASE

A P P E N D I X 3
****

MAIN SURVEY FORM - MULTI-ATTRIBUTE UTILITY QUESTIONNAIRE

ST JOHNS HAULAGE ROAD: HOUSEHOLD QUESTIONNAIRE

CODE | COL.

RECORD NUMBER _____

ADDRESS _____

DATE _____

TIME _____

INTRODUCTION

GOOD MORNING/AFTERNOON/EVENING. AS INDICATED IN OUR LETTER WE ARE INTERESTED IN FINDING OUT YOUR REACTIONS BOTH GOOD AND BAD TO THE CONSTRUCTION OF THE ST. JOHNS HAULAGE ROAD. WE HAVE A NUMBER OF QUESTIONS THAT WE WOULD LIKE TO ASK YOU.

---

1. TO BEGIN WITH WE WOULD LIKE TO FIND OUT HOW MUCH NUISANCE YOU HAVE EXPERIENCED OVER THE PAST FEW MONTHS DURING THE CONSTRUCTION OF THE HAULAGE ROAD. I. WOULD LIKE YOU TO THINK ABOUT ALL THE WAY THE CONSTRUCTION OF THE ROAD HAS AFFECTED YOU AND PICK A NUMBER FROM THIS SCALE (SHOW CARD A) WHICH BEST DESCRIBES HOW BOTHERED YOU HAVE BEEN? (WRITE IN SCORE)

_____

2(i) NEXT I WOULD LIKE YOU TO LOOK AT THE FOLLOWING LIST OF IMPACTS (SHOW CARD B) OF A NEW ROAD UNDER CONSTRUCTION. COULD YOU TELL ME WHICH, IF ANY OF THOSE IMPACTS, HAVE AFFECTED YOU PERSONALLY.

(IF ONLY ONE IMPACT IS IDENTIFIED)

(ii) CAN YOU TELL ME WHY THIS IMPACT HAS AFFECTED YOU BUT NONE OF THE OTHERS (RECORD ANSWERS BELOW) - IF STILL ONLY ONE IMPACT IS IDENTIFIED.

(AT THIS STAGE GO TO QUESTION 4)

(iii)NOW OF THESE IMPACTS THAT YOU HAVE IDENTIFIED CAN YOU THINK ABOUT THE RELATIVE IMPORTANCE TO YOU OF THE EFFECTS. I WOULD LIKE YOU TO PICK THE IMPACT WHICH HAS CAUSED YOU THE MOST NUISANCE (ENTER REPLY BELOW).

AND WHICH WAS THE NEXT BIGGEST NUISANCE - AND THE NEXT.

(OBTAIN THOSE RANKING FOR THESE IMPACTS DISCUSSED NOT THE FULL LIST. TIED SCORES ARE ALLOWED)

WORST _____

NEXT WORST _____

NEXT _____

NEXT _____

NEXT _____

(iv) FOR EACH OF THOSE IMPACTS THAT YOU HAVE MENTIONED COULD YOU PICK A NUMBER FROM THE FOLLOWING SCALE (SHOW CARD A) WHICH BEST DESCRIBES HOW BOTHERED YOU HAVE BEEN BY EACH OF THOSE IMPACTS (ENTER SCORE BELOW)

NOISE _____

DUST DIRT _____

DANGER _____

FUMES AND SMELL _____

DISRUPTION OF WALKING AND OUTDOOR RECREATION _____

NEXT I WOULD LIKE TO ASK YOU SOME SPECIFIC QUESTIONS ABOUT THE CONSTRUCTION OR THE HAULAGE ROAD AND THE WAY THAT IT MAY HAVE AFFECTED YOU PERSONALLY.

WE HAVE A NUMBER OF STATEMENTS WHICH REPRESENT IMPACTS ARISING FROM ANY ROAD CONSTRUCTION. (GIVE BOOKLET A TO RESPONDENT).

I WOULD LIKE YOU TO READ EACH OF THESE STATEMENTS AND THEN ON EACH OF THE SCALES UNDERNEATH MARK WITH A PEN THE POINT WHICH YOU CONSIDER MOST CLOSELY REPRESENTS YOUR FEELINGS ABOUT THE STATEMENT.

THE IMPORTANT THING TO REMEMBER IS THAT WHERE YOU PLACE A CROSS ON THE LINE, SHOULD DESCRIBE HOW YOU FEEL ABOUT THE ROAD CONSTRUCTION DURING THE PAST FEW MONTHS.

---

4. NEXT I WOULD LIKE TO ASK YOU SOME QUESTIONS WHICH REQUIRE A SIMPLE YES/NO ANSWER. THE FIRST QUESTION IS ABOUT ANY WAYS THAT YOU MIGHT HAVE COMPLAINED ABOUT THE ROAD DURING ITS CONSTRUCTION.

(i) AT ANY TIME DURING THE CONSTRUCTION OF THE ROAD HAVE YOU?

	YES	NO
(a) Applied for a rate deduction.	[ ]	[ ]
(b) Planned to move because of the road. (if home owner)	[ ]	[ ]
(c) Applied for a transfer to be moved. (if council tenant)	[ ]	[ ]

(d) complained to the .....by.....
(read out list below - tick appropriate box for a yes)

	Phone	letter	in person
papers	[ ]	[ ]	[ ]
council	[ ]	[ ]	[ ]
contractors	[ ]	[ ]	[ ]

(e) felt like complaining to the .....
by..... (read out list below - tick appropriate box for a yes).

	Phone	letter	in person
papers	[ ]	[ ]	[ ]
council	[ ]	[ ]	[ ]
contractor	[ ]	[ ]	[ ]

CODE | COL

5. NOW I WOULD LIKE TO ASK YOU WHETHER YOU HAVE YOURSELF HAVE NOTICED THE FOLLOWING EFFECTS THAT MIGHT HAVE OCCURED AS A RESULT OF THE NOISE, VIBRATION, OR DUST DURING THE CONSTRUCTION OF THE ROAD. FOR EACH OF THE EFFECTS I WOULD LIKE YOU TO TELL ME WHETHER YOU HAVE NOTICED THE EFFECT ON MORE THAN ONCE A WEEK, AND WHICH YOU THINK WAS CAUSED BY THE CONSTRUCTION OF THE HAULAGE ROAD?

(i) FIRSTLY THINKING ABOUT THE POSSIBLE EFFECTS OF NOISE AND VIBRATION HAVE YOU NOTICED?

		YES	NO	CODE	COL
(a)	windows Rattling and buzzing	[ ]	[ ]		
(b)	doors Rattling or buzzing	[ ]	[ ]		
(c)	floors shaking or trembling	[ ]	[ ]		
(d)	feeling vibration in the air	[ ]	[ ]		
(e)	feeling the bed shake	[ ]	[ ]		
(f)	ornaments rattling or buzzing	[ ]	[ ]		
(g)	ornaments moving	[ ]	[ ]		
(h)	fluttering sensations in the chest	[ ]	[ ]		
(i)	tingling of the skin	[ ]	[ ]		

(ii) NOW THINKING ABOUT THE POSSIBLE EFFECTS CAUSED BY DUST/DIRT. HAVE YOU NOTICED?

		YES	NO	CODE	COL
(a)	the windows being dirtier	[ ]	[ ]		
(b)	washing becoming soiled	[ ]	[ ]		
(c)	plants being covered in dust	[ ]	[ ]		
(d)	more dust in the house	[ ]	[ ]		
(e)	more dust on the car	[ ]	[ ]		
(f)	dust getting in the eyes	[ ]	[ ]		
(g)	dust causing coughing	[ ]	[ ]		
(h)	dust visible in the air indoors	[ ]	[ ]		

6. NOW I'D LIKE TO ASK YOU THE TIMES AND DATES WHEN YOU NOTICED ANY OF THE EFFECTS THAT WE HAVE BEEN TALKING ABOUT.

(i) FIRSTLY THINKING ABOUT THE TIMES WHEN YOU NOTICED THE EFFECTS OF NOISE AND VIBRATION. WHEN DID YOU NOTICE THESE EFFECTS (DO NOT PROMPT - ENTER REPLY BELOW).

(ii) ON WHAT DAYS DID YOU NOTICE THESE EFFECTS (DO NOT PROMPT - ENTER REPLY BELOW)

(iii) AT WHAT TIMES WERE THESE EFFECTS THE MOST BOTHERSOME? (DO NOT PROMPT - ENTER REPLY BELOW).

(iv) REPEAT FOR DUST/DIRT;

	NOISE AND VIBRATION
TIMES NOTICED	
early morning in bed	[ ]
morning	[ ]
lunchtime	[ ]
afternoon	[ ]
evening	[ ]
DAYS NOTICED	
Mon - Friday	[ ]
Saturday	[ ]
Sunday	[ ]

	DUST AND DIRT
TIMES NOTICED	
early morning in bed	[ ]
morning	[ ]
lunchtime	[ ]
afternoon	[ ]
evening	[ ]
DAYS NOTICED	
Mon - Friday	[ ]
Saturday	[ ]
Sunday	[ ]

. FINALLY TAKING EVERYTHING TOGETHER I WOULD LIKE YOU TO CONSIDER 4 DIFFERENT OPTIONS WHICH WERE CONSIDERED BEFORE THE CONSTRUCTION OF THE ROAD BEGAN. I WILL READ THESE OUT AND WOULD LIKE YOU TO TELL ME WHICH ON REFLECTION YOU WOULD HAVE PREFERRED.

(a) The first option is the one which you have experienced during the past few months. This involves construction and working from the site from 7.00 in the morning until 7.00 in the evening, from Monday to Saturday.

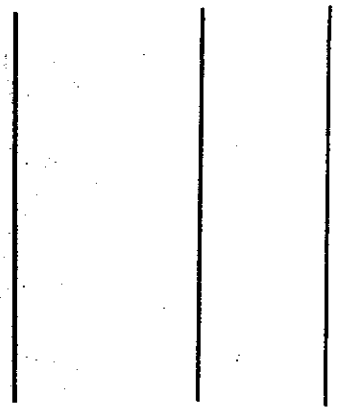
(b) The second option would involve construction work from 9.00 in the morning until 9.00 in the evening from Monday to Saturday.

(c) The third option would involve construction work from 9.00 in the morning until 5.00 in the evening seven days a week.

most preferred _____

next most _____

next most _____



BOOKLET A

QUESTIONS RELATING TO THE CONSTRUCTION OF THE SHARLSTON COLLIERY HAULAGE ROAD.

NAME OF INTERVIEWER _____

NAME OF RESPONDENT _____

TIME (24HR) _____

DATE ____/_____/ 86

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

I HAVE BEEN ABLE TO SEE THE EARTH MOVING LORRIES FROM MY HOUSE

	0					6		CODE	COL (27-32)
AGREE	—	—	—	—	—	—	—	DISAGREE		
UPSETTING	—	—	—	—	—	—	—	NOT UPSETTING		
ANNOYING	—	—	—	—	—	—	—	NOT ANNOYING		
SOMETHING I DID EXPECT	—	—	—	—	—	—	—	SOMETHING I DIDN'T EXPECT		
MAJOR NUISANCE	—	—	—	—	—	—	—	MINOR NUISANCE		
NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT		

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

I HAVE FELT THE HOUSE SHAKING BECAUSE OF THE VIBRATION

	6					0		CODE	COL (33-38)
DISAGREE	—	—	—	—	—	—	—	AGREE		
NOT UPSETTING	—	—	—	—	—	—	—	UPSETTING		
NOT ANNOYING	—	—	—	—	—	—	—	ANNOYING		
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	—	SOMETHING I EXPECTED		
MINOR NUISANCE	—	—	—	—	—	—	—	MAJOR NUISANCE		
SOMETHING I'VE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT		

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

NOISE FROM THE CONSTRUCTION SITE HAS BEEN A NUISANCE BEFORE 8.00 IN THE MORNING

CODE COL (39-44)

	0						6	
AGREE	—	—	—	—	—	—	—	DISAGREE
UPSETTING	—	—	—	—	—	—	—	NOT UPSETTING
ANNOYING	—	—	—	—	—	—	—	NOT ANNOYING
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	—	SOMETHING I DIDN'T EXPECT
MAJOR NUISANCE	—	—	—	—	—	—	—	MINOR NUISANCE
NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

I HAVE BEEN ABLE TO SMELL FUMES IN THE HOUSE FROM THE CONSTRUCTION VEHICLES

CODE COL (45-50)

	6						0	
DISAGREE	—	—	—	—	—	—	—	AGREE
NOT UPSETTING	—	—	—	—	—	—	—	UPSETTING
NOT ANNOYING	—	—	—	—	—	—	—	ANNOYING
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	—	SOMETHING I EXPECTED
MINOR NUISANCE	—	—	—	—	—	—	—	MAJOR NUISANCE
SOMETHING I'VE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN:

I HAVE BEEN WORRIED FOR CHILDRENS SAFETY PLAYING NEAR TO THE CONSTRUCTION SITE

CODE COL (51-56)

0						6	
AGREE	—	—	—	—	—	—	—	DISAGREE
UPSETTING	—	—	—	—	—	—	—	NOT UPSETTING
ANNOYING	—	—	—	—	—	—	—	NOT ANNOYING
SOMETHING I DID EXPECT	—	—	—	—	—	—	—	SOMETHING I DIDN'T EXPECT
MAJOR NUISANCE	—	—	—	—	—	—	—	MINOR NUISANCE
NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

NOISE HAS BEEN A DISTURBANCE IN THE HOUSE DURING THE EVENING

CODE COL (57-62)

6						0	
DISAGREE	—	—	—	—	—	—	—	AGREE
NOT UPSETTING	—	—	—	—	—	—	—	UPSETTING
NOT ANNOYING	—	—	—	—	—	—	—	ANNOYING
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	—	SOMETHING I EXPECTED
MINOR NUISANCE	—	—	—	—	—	—	—	MAJOR NUISANCE
SOMETHING I'VE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

I HAVE NOTICED TRAFFIC BEING HELD UP ON THE WAKEFIELD ROAD

	0						6	CODE	COL (63-68)
AGREE	—	—	—	—	—	—	— DISAGREE		
UPSETTING	—	—	—	—	—	—	— NOT UPSETTING		
ANNOYING	—	—	—	—	—	—	— NOT ANNOYING		
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	— SOMETHING I DIDN'T EXPECT		
MAJOR NUISANCE	—	—	—	—	—	—	— MINOR NUISANCE		
NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	— SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT		

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

I HAVE BEEN DISTURBED BY CHILDREN PLAYING NEAR TO THE CONSTRUCTION SITE

	6						0	CODE	COL (69-74)
DISAGREE	—	—	—	—	—	—	— AGREE		
NOT UPSETTING	—	—	—	—	—	—	— UPSETTING		
NOT ANNOYING	—	—	—	—	—	—	— ANNOYING		
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	— SOMETHING I EXPECTED		
MINOR NUISANCE	—	—	—	—	—	—	— MAJOR NUISANCE		
SOMETHING I'VE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	— NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT		

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

WALKING AROUND THE AREA HAS BEEN MADE UNPLEASANT BECAUSE OF THE DISTURBANCES

	0					6		
AGREE	—	—	—	—	—	—	—	DISAGREE
UPSETTING	—	—	—	—	—	—	—	NOT UPSETTING
ANNOYING	—	—	—	—	—	—	—	NOT ANNOYING
SOMETHING I DID EXPECT	—	—	—	—	—	—	—	SOMETHING I DIDN'T EXPECT
MAJOR NUISANCE	—	—	—	—	—	—	—	MINOR NUISANCE
NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

CODE COL (75-80)

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

I HAVE NOTICED MUCH MORE DUST IN THE HOUSE

CARD 2

	6					0		
DISAGREE	—	—	—	—	—	—	—	AGREE
NOT UPSETTING	—	—	—	—	—	—	—	UPSETTING
NOT ANNOYING	—	—	—	—	—	—	—	ANNOYING
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	—	SOMETHING I EXPECTED
MINOR NUISANCE	—	—	—	—	—	—	—	MAJOR NUISANCE
SOMETHING I'VE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

CODE COL (5-10)

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

I'VE BEEN WOKEN UP BY THE DISTURBANCES

0 6

CODE COL (11-16)

AGREE	— — — — — — —	DISAGREE
UPSETTING	— — — — — — —	NOT UPSETTING
ANNOYING	— — — — — — —	NOT ANNOYING
SOMETHING I DIDN'T EXPECT	— — — — — — —	SOMETHING I DIDN'T EXPECT
MAJOR NUISANCE	— — — — — — —	MINOR NUISANCE
NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	— — — — — — —	SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

I'VE HAD TO GET UP EARLIER BECAUSE OF THE DISTURBANCES

6 0

CODE COL (17-22)

DISAGREE	— — — — — — —	AGREE
NOT UPSETTING	— — — — — — —	UPSETTING
NOT ANNOYING	— — — — — — —	ANNOYING
SOMETHING I DIDN'T EXPECT	— — — — — — —	SOMETHING I EXPECTED
MINOR NUISANCE	— — — — — — —	MAJOR NUISANCE
SOMETHING I'VE HEARD OTHER PEOPLE COMPLAIN ABOUT	— — — — — — —	NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

I'VE HAD TO CLEAN THE WINDOWS MORE OFTEN BECAUSE OF THE DUST AND DIRT

0						6		CODE	COL (35-40)
AGREE	—	—	—	—	—	—	—	DISAGREE		
UPSETTING	—	—	—	—	—	—	—	NOT UPSETTING		
ANNOYING	—	—	—	—	—	—	—	NOT ANNOYING		
SOMETHING I DID EXPECT	—	—	—	—	—	—	—	SOMETHING I DIDN'T EXPECT		
MAJOR NUISANCE	—	—	—	—	—	—	—	MINOR NUISANCE		
NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT		

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

I'VE BEEN FRIGHTENED BY SOME OF THE NOISE AND VIBRATION FROM THE CONSTRUCTION SITE

6						0		CODE	COL (41-46)
DISAGREE	—	—	—	—	—	—	—	AGREE		
NOT UPSETTING	—	—	—	—	—	—	—	UPSETTING		
NOT ANNOYING	—	—	—	—	—	—	—	ANNOYING		
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	—	SOMETHING I EXPECTED		
MINOR NUISANCE	—	—	—	—	—	—	—	MAJOR NUISANCE		
SOMETHING I'VE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT		

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

THE TELEVISION PICTURE HAS BEEN INTERFERED BY THE DISTURBANCES

	0					6		CODE	COL (23-28)
AGREE	—	—	—	—	—	—	—	DISAGREE		
UPSETTING	—	—	—	—	—	—	—	NOT UPSETTING		
ANNOYING	—	—	—	—	—	—	—	NOT ANNOYING		
SOMETHING I DID'T EXPECT	—	—	—	—	—	—	—	SOMETHING I DIDN'T EXPECT		
MAJOR NUISANCE	—	—	—	—	—	—	—	MINOR NUISANCE		
NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT		

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

MY NERVES HAVE BEEN AFFECTED BT THE DISTURBANCES

	6					0		CODE	COL (29-34)
DISAGREE	—	—	—	—	—	—	—	AGREE		
NOT UPSETTING	—	—	—	—	—	—	—	UPSETTING		
NOT ANNOYING	—	—	—	—	—	—	—	ANNOYING		
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	—	SOMETHING I EXPECTED		
MINOR NUISANCE	—	—	—	—	—	—	—	MAJOR NUISANCE		
SOMETHING I'VE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT		

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

I'VE KEPT OUT OF THE GARDEN BECAUSE OF THE DISTURBANCES

	0					6		CODE	COL
									(47-52)
AGREE	—	—	—	—	—	—	—		DISAGREE
UPSETTING	—	—	—	—	—	—	—		NOT UPSETTING
ANNOYING	—	—	—	—	—	—	—		NOT ANNOYING
SOMETHING I DID NOT EXPECT	—	—	—	—	—	—	—		SOMETHING I DIDN'T EXPECT
MAJOR NUISANCE	—	—	—	—	—	—	—		MINOR NUISANCE
NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—		SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

DURING THE CONSTRUCTION OF THE ROAD THERE HAVE BEEN TIMES WHEN

I'VE NEEDED TO KEEP THE DOORS AND WINDOWS CLOSED BECAUSE OF THE DISTURBANCES

	6					0		CODE	COL
									(53-58)
DISAGREE	—	—	—	—	—	—	—		AGREE
NOT UPSETTING	—	—	—	—	—	—	—		UPSETTING
NOT ANNOYING	—	—	—	—	—	—	—		ANNOYING
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	—		SOMETHING I EXPECTED
MINOR NUISANCE	—	—	—	—	—	—	—		MAJOR NUISANCE
SOMETHING I'VE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—		NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

OVERALL THE CONSTRUCTION OF THE ROAD HAS

DAMAGED THE FOUNDATIONS OF THIS PROPERTY

	0					6		CODE	COL (59-64)
AGREE	—	—	—	—	—	—	—	DISAGREE		
UPSETTING	—	—	—	—	—	—	—	NOT UPSETTING		
ANNOYING	—	—	—	—	—	—	—	NOT ANNOYING		
SOMETHING I EXPECTED	—	—	—	—	—	—	—	SOMETHING I DIDN'T EXPECT		
MAJOR NUISANCE	—	—	—	—	—	—	—	MINOR NUISANCE		
SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT		

OVERALL THE CONSTRUCTION OF THE ROAD HAS

CRACKED THE PLASTERWORK IN THIS PROPERTY

	6					0		CODE	COL (65-70)
DISAGREE	—	—	—	—	—	—	—	AGREE		
NOT UPSETTING	—	—	—	—	—	—	—	UPSETTING		
NOT ANNOYING	—	—	—	—	—	—	—	ANNOYING		
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	—	SOMETHING I EXPECTED		
MINOR NUISANCE	—	—	—	—	—	—	—	MAJOR NUISANCE		
NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT		

OVERALL THE CONSTRUCTION OF THE ROAD HAS

MADE THIS ESTATE LESS PLEASANT TO LIVE ON

	0						6	CODE	COL (71-79)
AGREE	—	—	—	—	—	—	—	DISAGREE	
UPSETTING	—	—	—	—	—	—	—	NOT UPSETTING	
ANNOYING	—	—	—	—	—	—	—	NOT ANNOYING	
SOMETHING I EXPECTED	—	—	—	—	—	—	—	SOMETHING I DIDN'T EXPECT	
MAJOR NUISANCE	—	—	—	—	—	—	—	MINOR NUISANCE	
SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	

OVERALL THE CONSTRUCTION OF THE ROAD HAS

LOST THE COUNTRYSIDE FEEL OF THE ESTATE

CARD 3 RECORD NO

	6						0	CODE	COL (5-10)
DISAGREE	—	—	—	—	—	—	—	AGREE	
NOT UPSETTING	—	—	—	—	—	—	—	UPSETTING	
NOT ANNOYING	—	—	—	—	—	—	—	ANNOYING	
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	—	SOMETHING I EXPECTED	
MINOR NUISANCE	—	—	—	—	—	—	—	MAJOR NUISANCE	
NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	

OVERALL THE CONSTRUCTION OF THE ROAD HAS

MADE THIS HOUSE UNPLEASANT TO LIVE IN

0 6

AGREE	—	—	—	—	—	—	—	DISAGREE
UPSETTING	—	—	—	—	—	—	—	NOT UPSETTING
ANNOYING	—	—	—	—	—	—	—	NOT ANNOYING
SOMETHING I EXPECTED	—	—	—	—	—	—	—	SOMETHING I DIDN'T EXPECT
MAJOR NUISANCE	—	—	—	—	—	—	—	MINOR NUISANCE
SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

CODE COL (11-16)

OVERALL THE CONSTRUCTION OF THE ROAD HAS

OFTEN BEEN AT HOURS THAT ARE UNSOCIABLE

6 0

DISAGREE	—	—	—	—	—	—	—	AGREE
NOT UPSETTING	—	—	—	—	—	—	—	UPSETTING
NOT ANNOYING	—	—	—	—	—	—	—	ANNOYING
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	—	SOMETHING I EXPECTED
MINOR NUISANCE	—	—	—	—	—	—	—	MAJOR NUISANCE
NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

CODE COL (17-22)

OVERALL THE CONSTRUCTION OF THE ROAD HAS

BEEN WITHOUT MY SUPPORT

	0					6	
AGREE	—	—	—	—	—	—	—	DISAGREE
UPSETTING	—	—	—	—	—	—	—	NOT UPSETTING
ANNOYING	—	—	—	—	—	—	—	NOT ANNOYING
SOMETHING I EXPECTED	—	—	—	—	—	—	—	SOMETHING I DIDN'T EXPECT
MAJOR NUISANCE	—	—	—	—	—	—	—	MINOR NUISANCE
SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

CODE COL (23-28)

OVERALL THE CONSTRUCTION OF THE ROAD HAS

BEEN WORSE THAN WE WERE INFORMED AT THE BEGINNING BY THE COUNCIL

	6					0	
DISAGREE	—	—	—	—	—	—	—	AGREE
NOT UPSETTING	—	—	—	—	—	—	—	UPSETTING
NOT ANNOYING	—	—	—	—	—	—	—	ANNOYING
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	—	SOMETHING I EXPECTED
MINOR NUISANCE	—	—	—	—	—	—	—	MAJOR NUISANCE
NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

CODE COL (24-34)

OVERALL THE CONSTRUCTION OF THE ROAD HAS

CAUSED MORE DAMAGE THAN WAS NECESSARY

	0					6		
AGREE	—	—	—	—	—	—	—	DISAGREE
UPSETTING	—	—	—	—	—	—	—	NOT UPSETTING
ANNOYING	—	—	—	—	—	—	—	NOT ANNOYING
SOMETHING I EXPECTED	—	—	—	—	—	—	—	SOMETHING I DIDN'T EXPECT
MAJOR NUISANCE	—	—	—	—	—	—	—	MINOR NUISANCE
SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

CODE COL (35-40)

OVERALL THE CONSTRUCTION OF THE ROAD HAS

BEEN DESIGNED AND CONSTRUCTED WITH THE MINIMUM DISRUPTION TO RESIDENTS

	6					0		
DISAGREE	—	—	—	—	—	—	—	AGREE
NOT UPSETTING	—	—	—	—	—	—	—	UPSETTING
NOT ANNOYING	—	—	—	—	—	—	—	ANNOYING
SOMETHING I DIDN'T EXPECT	—	—	—	—	—	—	—	SOMETHING I EXPECTED
MINOR NUISANCE	—	—	—	—	—	—	—	MAJOR NUISANCE
NOT SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT	—	—	—	—	—	—	—	SOMETHING I HAVE HEARD OTHER PEOPLE COMPLAIN ABOUT

CODE COL (41-46)

A P P E N D I X 1
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MAIN STUDY INTERVIEW FORM - CONSTRUCTION PHASE

BOOKLET B

QUESTIONS RELATING TO THE OPERATIONAL PHASE OF THE SHARLSTON COLLIERY HAULAGE ROAD.

NAME OF INTERVIEWER _____

NAME OF RESPONDENT _____

TIME (24 HR) _____

DATE ___/___/ 86

WHEN THE ROAD IS COMPLETED AND IN OPERATION

I WILL BE ABLE TO SEE HAULAGE LORRIES FROM MY HOUSE

CARD # 1

								CODE	COL
	5								
WILL AFFECT ME	0						6		(12-16)
WILL BE UPSETTING	—	—	—	—	—	—	—		
WILL BE ANNOYING	—	—	—	—	—	—	—		
TO BE EXPECTED	—	—	—	—	—	—	—		
WILL BE A MAJOR NUISANCE	—	—	—	—	—	—	—		

WONT AFFECT ME

WONT BE UPSETTING

WONT BE ANNOYING

NOT EXPECTED

WILL BE A MINOR NUISANCE

WHEN THE ROAD IS COMPLETED AND IN OPERATION

I WILL BE WOKEN UP BY LORRY NOISE

								CODE	COL
	5								
WONT AFFECT ME	6						0		(17-21)
WONT BE UPSETTING	—	—	—	—	—	—	—		
WONT BE ANNOYING	—	—	—	—	—	—	—		
NOT SOMETHING I EXPECTED	—	—	—	—	—	—	—		
WILL BE A MINOR NUISANCE	—	—	—	—	—	—	—		

WILL AFFECT ME

WILL BE UPSETTING

WILL BE ANNOYING

SOMETHING TO BE EXPECTED

WILL BE A MAJOR NUISANCE

WHEN THE ROAD IS COMPLETED AND IN OPERATION

THERE WILL AN INCREASE IN THE NUMBER OF LORRIES ON THE WAKEFIELD ROAD

5

		CODE	COL
WILL AFFECT ME	WONT AFFECT ME		(22-26)
WILL BE UPSETTING	WONT BE UPSETTING		
WILL BE ANNOYING	WONT BE ANNOYING		
TO BE EXPECTED	NOT EXPECTED		
WILL BE A MAJOR NUISANCE	WILL BE A MINOR NUISANCE		

WHEN THE ROAD IS COMPLETED AND IN OPERATION

THERE WILL BE MUCH MORE DUST AROUND THE HOUSE

		CODE	COL
WONT AFFECT ME	WILL AFFECT ME		(27-31)
WONT BE UPSETTING	WILL BE UPSETTING		
WONT BE ANNOYING	WILL BE ANNOYING		
NOT SOMETHING I EXPECTED	SOMETHING TO BE EXPECTED		
WILL BE A MINOR NUISANCE	WILL BE A MAJOR NUISANCE		

WHEN THE ROAD IS COMPLETED AND IN OPERATION

IT WILL BE UNPLEASANT WALKING AROUND THE AREA BECAUSE OF THE DISTURBANCES

		CODE	COL
WILL AFFECT ME	WONT AFFECT ME		(32-36)
WILL BE UPSETTING	WONT BE UPSETTING		
WILL BE ANNOYING	WONT BE ANNOYING		
TO BE EXPECTED	NOT EXPECTED		
WILL BE A MAJOR NUISANCE	WILL BE A MINOR NUISANCE		

WHEN THE ROAD IS COMPLETED AND IN OPERATION

I WILL BE ABLE TO SMELL LORRY FUMES IN THE HOUSE

		CODE	COL
WONT AFFECT ME	WILL AFFECT ME		(37-41)
WONT BE UPSETTING	WILL BE UPSETTING		
WONT BE ANNOYING	WILL BE ANNOYING		
NOT SOMETHING I EXPECTED	SOMETHING TO BE EXPECTED		
WILL BE A MINOR NUISANCE	WILL BE A MAJOR NUISANCE		

WHEN THE ROAD IS COMPLETED AND IN OPERATION

IT WILL ATTRACT CHILDREN

								CODE	COL
WILL AFFECT ME	—	—	—	—	—	—	—	WONT AFFECT ME		(42-46)
WILL BE UPSETTING	—	—	—	—	—	—	—	WONT BE UPSETTING		
WILL BE ANNOYING	—	—	—	—	—	—	—	WONT BE ANNOYING		
TO BE EXPECTED	—	—	—	—	—	—	—	NOT EXPECTED		
WILL BE A MAJOR NUISANCE	—	—	—	—	—	—	—	WILL BE A MINOR NUISANCE		

WHEN THE ROAD IS COMPLETED AND IN OPERATION

THE LORRIES WILL CAUSE THE HOUSE TO SHAKE

								CODE	COL
WONT AFFECT ME	—	—	—	—	—	—	—	WILL AFFECT ME		(47-51)
WONT BE UPSETTING	—	—	—	—	—	—	—	WILL BE UPSETTING		
WONT BE ANNOYING	—	—	—	—	—	—	—	WILL BE ANNOYING		
NOT SOMETHING I EXPECTED	—	—	—	—	—	—	—	SOMETHING TO BE EXPECTED		
WILL BE A MINOR NUISANCE	—	—	—	—	—	—	—	WILL BE A MAJOR NUISANCE		

WHEN THE ROAD IS COMPLETED AND IN OPERATION

THE LORRIES WILL CAUSE INTERFERENCE WITH MY TELEVISION PICTURE

								CODE	COL
WILL AFFECT ME	—	—	—	—	—	—	—	WONT AFFECT ME	(52-56)
WILL BE UPSETTING	—	—	—	—	—	—	—	WONT BE UPSETTING	
WILL BE ANNOYING	—	—	—	—	—	—	—	WONT BE ANNOYING	
TO BE EXPECTED	—	—	—	—	—	—	—	NOT EXPECTED	
WILL BE A MAJOR NUISANCE	—	—	—	—	—	—	—	WILL BE A MINOR NUISANCE	

WHEN THE ROAD IS COMPLETED AND IN OPERATION

MY NERVES WILL BE AFFECTED BY ALL THE DISTURBANCES

								CODE	COL
WONT AFFECT ME	—	—	—	—	—	—	—	WILL AFFECT ME	(57-61)
WONT BE UPSETTING	—	—	—	—	—	—	—	WILL BE UPSETTING	
WONT BE ANNOYING	—	—	—	—	—	—	—	WILL BE ANNOYING	
NOT SOMETHING I EXPECTED	—	—	—	—	—	—	—	SOMETHING TO BE EXPECTED	
WILL BE A MINOR NUISANCE	—	—	—	—	—	—	—	WILL BE A MAJOR NUISANCE	

WHEN THE ROAD IS COMPLETED AND IN OPERATION

I'LL SPEND LESS TIME IN THE GARDEN BECAUSE OF THE DISTURBANCES

		CODE	COL
WILL AFFECT ME	WONT AFFECT ME		(62-66)
WILL BE UPSETTING	WONT BE UPSETTING		
WILL BE ANNOYING	WONT BE ANNOYING		
TO BE EXPECTED	NOT EXPECTED		
WILL BE A MAJOR NUISANCE	WILL BE A MINOR NUISANCE		

WHEN THE ROAD IS COMPLETED AND IN OPERATION

LIVING IN THIS HOUSE WILL BE UNPLEASANT

		CODE	COL
WONT AFFECT ME	WILL AFFECT ME		(67-71)
WONT BE UPSETTING	WILL BE UPSETTING		
WONT BE ANNOYING	WILL BE ANNOYING		
NOT SOMETHING I EXPECTED	SOMETHING TO BE EXPECTED		
WILL BE A MINOR NUISANCE	WILL BE A MAJOR NUISANCE		

WHEN THE ROAD IS COMPLETED AND IN OPERATION

I'LL NEED TO KEEP THE WINDOWS AND DOORS CLOSED BECAUSE OF THE DISTURBANCES

		CODE	COL
WILL AFFECT ME	WONT AFFECT ME		(72-76)
WILL BE UPSETTING	WONT BE UPSETTING		
WILL BE ANNOYING	WONT BE ANNOYING		
TO BE EXPECTED	NOT EXPECTED		
WILL BE A MAJOR NUISANCE	WILL BE A MINOR NUISANCE		

WHEN THE ROAD IS COMPLETED AND IN OPERATION

THE FOUNDATIONS OF THIS PROPERTY WILL BE DAMAGED

CARD 1

		CODE	COL
WONT AFFECT ME	WILL AFFECT ME		(6-10)
WONT BE UPSETTING	WILL BE UPSETTING		
WONT BE ANNOYING	WILL BE ANNOYING		
NOT SOMETHING I EXPECTED	SOMETHING TO BE EXPECTED		
WILL BE A MINOR NUISANCE	WILL BE A MAJOR NUISANCE		

WHEN THE ROAD IS COMPLETED AND IN OPERATION

THERE WILL BE DAMAGE TO THE PLASTERWORK OF THIS PROPERTY

		CODE	COL
WILL AFFECT ME	WONT AFFECT ME		(11-15)
WILL BE UPSETTING	WONT BE UPSETTING		
WILL BE ANNOYING	WONT BE ANNOYING		
TO BE EXPECTED	NOT EXPECTED		
WILL BE A MAJOR NUISANCE	WILL BE A MINOR NUISANCE		

WHEN THE ROAD IS COMPLETED AND IN OPERATION

THIS ESTATE WILL BE LESS PLEASANT TO LIVE ON

		CODE	COL
WONT AFFECT ME	WILL AFFECT ME		(16-20)
WONT BE UPSETTING	WILL BE UPSETTING		
WONT BE ANNOYING	WILL BE ANNOYING		
NOT SOMETHING I EXPECTED	SOMETHING TO BE EXPECTED		
WILL BE A MINOR NUISANCE	WILL BE A MAJOR NUISANCE		

WHEN THE ROAD IS COMPLETED AND IN OPERATION

THE COUNCIL WILL ALLOW WASTE FROM ALL OVER THE COUNTY TO BE BROUGHT IN

								CODE	COL
WILL AFFECT ME	—	—	—	—	—	—	—	WONT AFFECT ME	(21-25)
WILL BE UPSETTING	—	—	—	—	—	—	—	WONT BE UPSETTING	
WILL BE ANNOYING	—	—	—	—	—	—	—	WONT BE ANNOYING	
TO BE EXPECTED	—	—	—	—	—	—	—	NOT EXPECTED	
WILL BE A MAJOR NUISANCE	—	—	—	—	—	—	—	WILL BE A MINOR NUISANCE	

WHEN THE ROAD IS COMPLETED AND IN OPERATION

THEY'LL START TIPPING ALL SORTS OF WASTE AT THE WELBECK SITE

								CODE	COL
WONT AFFECT ME	—	—	—	—	—	—	—	WILL AFFECT ME	(26-30)
WONT BE UPSETTING	—	—	—	—	—	—	—	WILL BE UPSETTING	
WONT BE ANNOYING	—	—	—	—	—	—	—	WILL BE ANNOYING	
NOT SOMETHING I EXPECTED	—	—	—	—	—	—	—	SOMETHING TO BE EXPECTED	
WILL BE A MINOR NUISANCE	—	—	—	—	—	—	—	WILL BE A MAJOR NUISANCE	

WHEN THE ROAD IS COMPLETED AND IN OPERATION

THE DISTURBANCES WILL GET WORSE OVER TIME

5

		CODE	COL
WILL AFFECT ME	WONT AFFECT ME		(31-35)
WILL BE UPSETTING	WONT BE UPSETTING		
WILL BE ANNOYING	WONT BE ANNOYING		
TO BE EXPECTED	NOT EXPECTED		
WILL BE A MAJOR NUISANCE	WILL BE A MINOR NUISANCE		

WHEN THE ROAD IS COMPLETED AND IN OPERATION

THERE WILL BE NO BENEFITS FOR ME

1

		CODE	COL
WONT AFFECT ME	WILL AFFECT ME		(36-40)
WONT BE UPSETTING	WILL BE UPSETTING		
WONT BE ANNOYING	WILL BE ANNOYING		
NOT SOMETHING I EXPECTED	SOMETHING TO BE EXPECTED		
WILL BE A MINOR NUISANCE	WILL BE A MAJOR NUISANCE		

A P P E N D I X 3
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MAIN SURVEY FORM - MULTI-ATTRIBUTE UTILITY QUESTIONNAIRE

SECT.

MULTIATTRIBUTE UTILITY

This section of the questionnaire relates to how you think the road will affect you once it is completed and in operation. It is concerned only with the operation of the haulage road, not the Welbeck site itself.

1. Firstly, I would like you to look at the following list of possible impacts of the road when it is operating and tell me which, if any, you believe will affect you.

CODE COL

	Tick if will affect
A NOISE AND VIBRATION	
B DUST AND DIRT	
C DANGER	
D DISRUPTION OF WALKING AND LOCAL OUTDOOR RECREATION	
E FUMES AND SMELL	

2. (If only one impact is identified)

   Can you tell me why this impact will affect you but none of the others?
   Summarise response:

3. If still only one impact is believed important, go to next section of questionnaire. If 2 impacts named, go to the questions relating to each named impact after

I would now like to talk in more detail about how you feel about each one of the effects you have just picked out. To begin with I want to talk about them individually. Later we will talk about how you think they compare with each other.

CODE COL

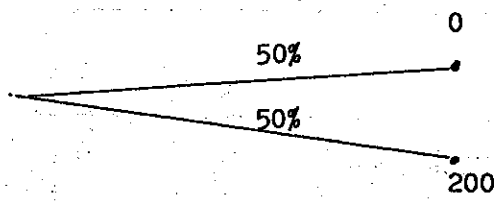
A. NOISE AND VIBRATION

A1. The amount of any noise from the road may depend closely on the number of lorries that use the road each day.

Suppose that the maximum number of lorries that would ever use the road in a day is 200. So the worst noise you would ever experience in a day is "200 lorries worth".

A2. Suppose now you were offered this choice of noise levels

1. A 50/50 possibility that there might by either 0 or 200 lorries each working day (you don't know which)



2. The certainty that there would be 100(n) lorries on each day. Which would you prefer, 1 or 2?

	Tick Box	
n = 100	1	2

A3. Repeat A2, changing n, in units of ± 20 in (2) until a change of choice occurs. i.e. if (1) is initially preferred, decrease n in jumps of 20 until (2) is preferred. If (2) is initially preferred, increase n in jumps of 20.

a. (1) Initially preferred:

Tick after each repeat of A2 for which (1) still preferred to (2)

n = 80	n = 60	n = 40	n = 20

b. (2) Initially preferred

Tick after each repeat of A2 for which (2) still preferred to (1)

n = 120	n = 140	n = 160	n = 180

B. DUST AND DIRT

CODE COL

B1. One way of thinking about the amount of any dust and dirt from the road is to think about how often the windows of a house are cleaned.

About how often, on average, are they cleaned at present?

[Translate answer to the form, once every X days]

IF RESPONSE IS "WINDOWS NEVER CLEANED" OR SIMILAR, TRY

B1. (Alt.) Another way of thinking about the amount of any dust and dirt is to think about how often, say, the main living-room needs to be dusted.
About how often, on average, is it dusted at present?
(Translate answer to the form once every X days)

B2. It's not yet clear how much extra dirt there will be arising from the operation of the haulage road.
Let's assume that you want to keep the windows(living room) as clean as they are (it is) now.
Suppose you were offered the following choice

(1) A 50/50 possibility that <u>either</u> you might only need to clean as much as is done now <u>or</u> that you might need to clean 5 times as often as now, that is, about every [x/5] days.

(2) The certainty that cleaning would be needed three times (n=3) as often as now.

Which would you prefer (1) or (2)?	Tick Box 1	2

B3. Repeat with n = 2 if (1) preferred; n = 4 if (2) preferred.

		Tick Box 1	2
If (1) preferred:	(n = 2)		

		Tick Box 1	2
If (2) preferred:	(n = 4)		

Code C2

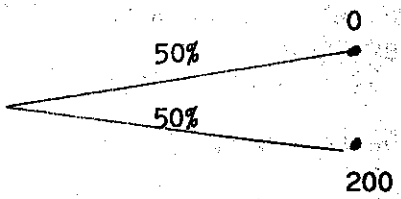
C. DANGER

C1. It is possible that the extra traffic on the road may generate sources of danger - to pedestrians, children, motorists using the main road, etc. The amount of danger may well depend closely on the number of lorries that use the road each day.

Suppose again that the maximum number of lorries using the road in a day is 200. So the worst danger which might be caused is 200 "lorries' worth".

C2. Thinking only of danger (not noise), suppose you were now offered this choice of danger levels:

1. A 50/50 possibility that there might by either 0 or 200 lorries each working day (you don't know which)



2. The certainty that there would be 100(n) lorries on each day. Which would you prefer, 1 or 2?

	Tick Box			
n = 100	1		2	

C3. Repeat A2, changing n, in units of ± 20 in (2) until a change of choice occurs. i.e. if (1) is initially preferred, decrease n in jumps of 20 until (2) is preferred. If (2) is initially preferred, increase n in jumps of 20.

a. (1) Initially preferred:
Tick after each repeat of A2 for which (1) still preferred to (2)

n = 80	n = 60	n = 40	n = 20

b. (2) Initially preferred
Tick after each repeat of A2 for which (2) still preferred to (1)

n = 120	n = 140	n = 160	n = 180

E. FUMES AND SMELL

CODE | COL

E1. One way of thinking about the possibility of any fumes or smell from the road (again, not the waste tip) is to think about whether on some days, perhaps because of wind direction, fumes would stop you from opening your windows in summer for ventilation.

Do you have double glazing, or any other reason why you would not open the windows for ventilation.

IF RESPONSE IS "WINDOWS NOT OPENED", TRY

E1. (Alt.) Another way of thinking about the possibility of any fumes or smell from the road (not the tip itself) is to think about whether on some days, perhaps because of wind direction, fumes would stop you from sitting or working in the garden.

It is not clear how much fumes might affect this house.

E2. Suppose that, with the worst possible wind directions, you were forced to keep your windows shut (stay out of the garden) on 10 extra days each month when normally you would have had them open (go out).
Now suppose you were offered the folllowing choice:

(1) A 50/50 possibility that either you might be able to open the windows as (go out into the garden) often as you do now or that you might be forced to keep them closed (stay in) on 10 extra days each month when ideally you would choose to have them open (go out).
(2) The certainty that you would have to keep the windows closed (stay in) an extra 5 (n) days each month.

Which would you prefer, (1) or (2)?

Tick Box

1		2

E3. Repeat E2, changing n in units of ±1 until a change of choice occurs. If (1) is originally preferred, decrease n; if (2) is originally preferred, increase n.

a. (1) Initially preferred
Tick box after each repeat for which (1) still preferred to (2)

n = 4	n = 3	n = 2	n = 1

b. (2) Initially preferred
Tick box after each repeat for which (2) still preferred to (1)

n = 6	n = 7	n = 8	n = 9

D. DISRUPTION OF WALKING AND LOCAL OUTDOOR RECREATION

CONS COL

D1. The extent to which you may feel less like walking in the local area may be influenced by how close to your home the haulage road passes.

D2. Thinking just of how you feel about outdoor recreation of this kind, suppose you were offered the following choice.

(1) A 50/50 possibility that either the road would be built in its present position or that it would be shifted 400 yards away (you do not know which).

(2) The certainty that the road could be shifted 200 (n) yards away.

Which would you prefer, (1) or (2)?

	Tick Box
1	2

D3. Repeat D2, changing n in units of ±50, until a change of choice occurs. If (1) is initially chosen, increase n in jumps of 50; if (2) is initially chosen, decrease n.

a. (1) Initially preferred
Tick box after each repeat for which (1) still preferred to (2)

n = 250	n = 300	n = 350

b. (2) Initially preferred
Tick box after each repeat for which (2) still preferred to (1)

n = 150	n = 100	n = 50

A P P E N D I X 4
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TRANSCRIBED INTERVIEWS FROM PILOT STUDY

Name of Street	House Numbers
Clarke Crescent	29, 31*, 11, 11A, 25, 25, 4, 8
Elsicker Lane	1
Goosehill Lane	4
Hawthorne Mount	61, 63, 67
Hilltop View	23, 9
Long Row	42*, 43*, 46*, 36, 35, 14, 20, 3, 6, 7, 8, 10, 11, 12, 14, 15, 18, 20, 29, 31, 33, 35, 37, 38, 39
Queen Elizabeth Drive	153, 189, 170, 199, 200, 206
Queensway	149, 145, 153, 9, 15*, 19*, 29, 35, 41, 47*, 49*, 109*, 111*, 51*, 67, 77, 61, 79*, 81*, 95, 97, 99, 105, 107, 2, 8, 16, 20, 22, 121, 123, 24, 30, 34, 36, 38, 40, 42, 44, 50, 86, 80, 82, 90, 4, 6, 10, 14, 32, 46, 48, 129, 133, 32, 34, 24, 58, 64, 66, 74, 109, 111, 113, 117, 119, 131, 135, 139, 82, 90, 2, 16, 18, 28, 80
Shakespeare Mount	3, 4, 5, 10, 13, 16
South Street	3, 8, 9, 11, 15, 17, 19, 18, 21, 23, 22, 24, 26, 33
St Johns Crescent	4*, 6, 7*, 2, 13, 14
Sylvester Avenue	11*, 9, 20, 10, 18, 2, 16
Wakefield Road	41, 43, 335, 325, 327, 331
Warmfield Lane	31, 17, 21, 25, 27, 37, 51, 55, 59

Transcriptions from Household Surveys

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* Don't know great deal about new road fetching rubbish from one pit to another where they're going to flatten land out ...
First information ... a circular, got a petition against it. Neighbours said would get a lot of dust. Petition made no difference. Don't know how will fare. Would get more noise - as if we haven't enough.
Think it's a waste of money - causing so much noise - so expensive and is costing so much, can't be just for making countryside a little bit better. Once pit is closed road will be no good (useless).

* Don't know other reasons why building unless to connect the motorway. Think they've already got an idea. What else they're doing it for.
Or to get rid of some money.
Majority on estate think there are other reasons for road.
One person up the top put his house up for sale because of road, but has changed his mind.

* Don't feel nothing because no-one will take any notice. They seem to be able to do what they want nowadays. You can't fight council.

* I've never heard of anyone get a petition up yet thats done any good.
Foreman came round to see everyone and said if there were any problems they'd be on site.
No problems yet as only just started, except one big lorry shed its load in the road.
Keep pestering in one street for water, at 7/8 o'clock in morning. Go to grate in street to fill up steam-roller.
Should go and complain.

* Ones up there, Sylvester Avenue, are worse off.
Sent just one sheet round about why building road, what it was for and if any problems would have meetings at community centre. Nobody's been, using a spokesman.

* Haven't had problems as they haven't really started using road yet. All can do is think what they're going to get.

* We'll get problems, money on rates.

* Seems strange. They'd spend money on a road to bring waste from a pit thats only got a few years left open. I really am suspicious of it.

* All those years that pits been there and nobody's ever thought of a road. A main road to the motorway.
* They will use as they've said first off, but then when pit closes they'll ue it as probably a motorway.

* Pits supposed to have 10 years, but is probably 5 years.

* They haven't given any information through the papers.

* No information other than from the sheet and others on estate.

* Get a spokesman up as they couldn't do with everyone turning up at the community centre.

* There has been an increase in big lorries coming since they started building it * about 4 months * supposed to be a 20 week job.

* Unnerving to see these great big things coming up road.

* Get on and live with it.

* I'd think of selling but he wouldn't.

* Supposed to be starting at Sharleston and finishing over Newland.

* Wouldn't have made any difference to have had more information.

* Probably like more information now but at that time didn't bother.

* Have had time to think and see whats going on.

* If I did get more information and realise it was vital what they're doing I suppose I could change my mind.

* Some people up here reckon its a road they're going to use for taking nuclear waste and whatnot * I wouldn't like that. I hope not.

* We have enough noise and dust already without them adding to it. It sounds daft that nuclear waste, but you don't know these days.

* Didn't say what'd happen eventually when pit closed, when they'd finished with it. I'd like to know what they're going to do when they have finished hauling waste down it.

* Once that pits closed they'll have no waste to haul down it.

Well...I used to live in Sandal...with my parents and this is the actual first house that I've bought on my own...and I was born in this area, a lot of my family live in this area...I work in Dewsbury but I could end up travelling so we're quite near the M62 network and the M1 motorway network...and so it's quite near the countryside as well...so really it's just a congenial place.

Well, it's not too far to travel from work, yet it's far enough from work. It's far enough from parents and yet it's quite near parents. I know the area, I know the people and...it just seemed to suit me to move this way.

In Sandal, Aggrig way, Sandal...3 miles, it's just over Heathcommon...a semi-detached house I used to live in, similar to this.

Not particularly because Normanton [?], it's quite a dirty place...you know, towards the town centre...it's quite antiquated as well, it could do with modernising. But this is actually on the outskirts of the town...so, I travel...I don't know which direction it is...but towards Wakefield and then I come into contact with all the countryside there...and then I actually go Normanton way, so it's on the boundary.

I actually like to go all over...that fast road along Heathcommon.

Mainly the house, the house attracted me because it had everything that I wanted...I'm not a particularly handy person...this house I thought would be quite well appointed...so that attracted me to it...it had everything that I wanted and yet the siting of it was quite nice as well. *

It's quite near the countryside, near the main roads...not near a city centre and not near a town centre...and Normanton as well...so all those things.

No, not the centre, I don't think it's anything to offer at all...it really needs modernising, technology...

Yes, it's fairly dirty, it's a sooty area....it's very near a mining community...I knew this when I bought it...and...I suppose you have to live in a place before you realise just how dirty it can be. But, you know, I think the fact that it's a non-smokeless area, sorry, a smokeless area...that creates a lot of dirt. The people are friendly though, you know, they're really nice people, I get on quite well with the neighbours...so I don't

see any problems at all.

That's right, created by the smokeless fuel...the non-smokeless fuel.

No, not in this location. As I say, I've very little to do with Normanton at all, the only way I would go that way is if I've to get on the M62. I mainly travel across country towards Wakefield and so I see myself in this location as being apart ~~from~~ Normanton really. I mean, I'm just in the boundary, but really I don't associate myself as being in Normanton.

I saw quite a few properties, bearing in mind that I wanted a property that suited me...that I could move more or less straight into and not have much to do in it. I knew Normanton, I knew this particular area and...you know, the house and the siting seemed to appeal to me straight away.

There's a built up area towards the...shall we say...the east of the town. It's very quite here and that's important as well.

Yes, tranquility, yes, you know. You can, sort of, go out and find noise, but I think it's important that it should be quiet within your own surroundings.

Definite views, yes. I wanted it quiet, I wanted it...well appointed, and I...wanted it...quite near countryside as well.

That's right, for work, yes, that's it.

Well, I looked around Osset, which is quite near where I worked. But, I thought, you know, that seemed too built up. Horbury, Addle, down there...Kirkstall, which is quite near here, that's quite nice, but I didn't seen any properties which appealed to me there...more or less round that area.

Well, I'd looked...twice, really. Once four years ago for about three months, and then this last spell, about three months before I bought this one.

What I know is that it's something to do with the National Coal Board...I think they're transporting either fuel or wastage away from Charleston Colliery...and...is it a sub-terrainian road, part of it?

That's right, it's going underneath and I thought at the time, you know...I wonder how this will effect me. I didn't do too much research into it, I just left the solicitor to...find a little bit out and advise me. They showed me, from their observations and findings that it would be all right...so I took their word for it.

They said that there would be no disruptions to the foundations of the house, there'd be no problems, noisewise, that there'd be very little disruption with traffic and...

Yes, I could imagine big lorries and things like this...noisy lorries and probably congestion on the roads somewhere along the line.

Sort of an interuption of what, currently, is a nice straight road and a nice quiet road. I must admit, you know, now as I pass that road frequently I sometimes look there and just...what it will all be like and whether there will be any...repercussions, I don't know.

Well, it's such a big project. I know it seems as though it's been advertised...along the roadside and that if you're passing it you can't help but see what's going on, but I think really until...until it's completed and actually functioning, you don't really know what it's going to be like. And so I think you've always got to doubt it until you see something working...and it's that I think. No, no complaints about it just now...a little bit of dust blowing this way...but, no complaints about it noisewise or interruptions, disruptions or anything like that at present and if once it's finished and it's running satisfactorily and it's like now, well, no problem. But, as I say, until it actually is, I'll not be convinced and I'll not be sort of settled.

Well, the actual house appealed to me and so I thought, well, they're professional people, they should know what they're doing, they're there to advise me, I'm paying for their service, you know, I'll go ahead with it. But, I suppose, at the back of my mind, you know, until it's actually working, and I see how it's functioning, I still will be a bit apprehensive.

Yes, out to the pit...By the boarding at the side of the road...by observing, you know, the direction that the work's taking...from information I've picked up from neighbours, and also the solicitor...what he advised me.

It says "haul road from St Johns to"...I just forget now... supported by the Department of the Environment...things like

that.

That's right, actually crossing, coming along the road and seeing which direction it takes, you know...you can more or less see... what progress is going on, where it's heading, where it looks as if it's going to head to. The solicitor who got plans or information from the local authority and the National Coal Board, I would presume...the neighbours who've lived in this locality longer than me, they seem to have been talking about it to themselves and...you know, they sort of advised me a little bit about it.

Well, just that it's...a road from the pit outwards and that it's goint to be used for transporting fuel or wastage, that it's going underground and that they've been told that it's going to cause no problems.

Well, I don't know, you know, I've only lived here since April... I don't sort of...I haven't had too much to do with them.

No, no. It's just sort of talk, I suppose...people in the area are concerned like I am...any conversation, they just latch on to.

(?)

I don't know whether they got some from the National Coal Board because I paid for an NCB research. But what the solictor told me...I did a lot of my work with a solicitor in Dewsbury, which is quite a way from this area. She told me that she asked one her colleagues to look into it who worked in the Wakefield branch of their department...she said he actually came out and had a look at it and had a look at it in relation to my house and the feedback she got was that he considered it all right.

Oh, yes. As I say, until it's actually working I think I always will have.

Yes, yes...I suppose it depends on the way the wind's blowing and what have you or how much there is blowing. I've noticed there has been a little bit of dust...on the window...that's about all.

No, afterwards...This way, it was the lad next door, he told me that it was...you know, to do with the actual coal road and it was going underground and what have you...he sort of confirmed what the solicitor told me.

No...he didn't seem bothered, in fact...he said "I don't think I'll have any problems..."

I don't know, that's probably before I...before I came. (?)

All I know is that...I used to travel along this area quite... well I have done for a lot of years, and it was always a really nice, quiet, straight run...climb the hill out of Normanton and straight on to Heathcommon and no problems and to me it just seems a really...major interruption to what it was formerly like

That's right, I can remember what it was like, how nice, peaceful, sort of, all the farmers' fields and what have you...and it seems, harmless. Now, it seems as if though could be a little bit imposing, a little bit threatening.

No, before it was thought of...when it was a road, sort of, running along Normanton to Wakefield and nothing either side.

And now I feel it's being interrupted, its...you know, obviously there's going to be a lot of activity there and I just wonder whether or not it'll fit in with the...previous...or whether it'll be too much of an interruption...too much of a problem.

Yes. I was actually born...it's a house that's been pulled down now, but I was actually born...three or four hundred yards from this house...and I know the mining community's always been here, Normanton is a mining community, a lot of my family worked in the mines and, you know, I just found this house...sort of... sufficiently away from the local authorities side, near the country side.

That's right. And if I...may repeat what I've said, until it actually works I won't fully know about it, so...

Oh, yes. I would. You know, I've seen you with pamphlets and things like this and so I think, probably if my solicitor had've got me some information, let me have a look at it, in the early stages of the conveyancing...I would have been much happier. Since I've arrived here, there's been no literature through the door, you know, saying what progress has been going on or any problems that they've encountered or any delays, anything about it, you know. It just seems as if it's underway...and...that's it, you know.

I don't know...I suppose if you look at it two ways. One - that it's all going satisfactory and that there's no...reports to give people. But I think...the NCB, the Department of the Environment, they should realise that people would be worried, and I think...some literature reassuring people that it's going...that it's progressing steadily that there's no problems and that...whatever they predicted's working out all right... you know, that would reassure people living in the area.

I think, seeing as I was living so near...so near the...activity and what have you, I'd like to fully know exactly what's going to happen when it's done, when it's completed, statistics and things, because things like that, you know, do interest me...and if they were going to say that X number of lorries are going to be passing I could sort of realise, you know, the magnitude of it all.

If I thought about it long enough I'd probably think of some place to go to try and find out...

I don't know...whether they occurred before I came here. No, I had't read anything in the local press either about it.

All I get is...it's called "Midweek Extra", it's a free paper issued by the Wakefield Express group and I had'nt seen anything in there.

It's a weekly free paper, issued to all the locality.

As I say, probably traffic haulage [?] and traffic...traffic lights, things like that and interruption in the flow of traffic from Normanton to Wakefield and the other direction. I would think there would probably be a little bit more noise, probably from the...probably heard by the houses at the back there and on the main road. Probably I could get away with it [?] but I think that the road would be more noise for them. I hope that there won't be any subsisdence at all caused by going underground but...you know, that's a worry as well. Once again, I think it could be more of a worry for people on the perimeter of the activity rather than [?] a little bit further inland. All things like that, you know - noise, subsidence, dirt I suppose, you know, you can't disregard that...there'll probably be more dust flying around and that'll be carried all over...

Well, you always get subsidence with the mining industry and I think that, sort of, under this area...the shafts, the mining [?] things that have been worked and any subsidence has occurred is over and done with probably long before this house was built but

So, obviously, that's what they considered when they were thinking about through traffic...I didn't realise that, I thought it would probably be underground for a while, you know, like a longish tunnel, once out of the locality it would be up again.

So, if they're just talking about going underground for a while and then up again...I think there'll be...the subsidence aspect pleases me, but I think now, there will be more dust and more noise.

Noise. But there again, you know I mean, I like to be out in the garden.....[?]....

Subsidence. After that...I could stand a little bit of dust, but I could'nt stand a lot of noise.

Yes, because I think when you've been working all day, when you've, sort of, been in a job where there's some pressure, you like a little bit of tranquility, you want some peace and if you're going to have this intrusion by an outside body, you know, noise that you're not creating yourself...you think it's, sort of, an intrusion.

It varies, any time...from half four to six.

Yes, I like to keep that tidy...you know, it's the first year now and I've had a go at it and next year I hope it'll be better. I don't think the road will effect the garden in any way, even if there's an excess amount of dust, I think the plants will be able to cope with that, that doesn't worry me. It's more how it'll effect the paintwork and the windows, things like that.

And dust, if you like the windows open dust will get inside, and you'll have more cleaning to do.

Well, it'll effect them in the same way it'll effect me, obviously, you know...if there's any subsidence, they'll be affected...dust, noise. I think a lot of people in this area have lived here for quite a while and so they're probably more anxious about it than I am. I'm anxious about it from a newcomer's point of view, I want a perfect property, a congenial property for myself, but they've been here and they've seen very

little changes in the 25 years

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* First heard when ready to finalise plans. Stuck a little notice in the middle of field without telling anyone about it.

* That bloke came into back garden with machine. Your mum got to know cos' she works for a doctor and gets all sorts of information.
It were a bit of a con job. It nearly all get passed before anyone get to know about it.

* Heard rumours but nothing definite.

* Didn't have much time to get objective letter in.

* It were all end of last year. They were supposed to start it last September. Told it would all be finished in 6 months. Haven't even started this one yet.

* Went to meeting at the school.

* Got impression from meeting that whatever we said didn't matter. They wanted it.

* We went to 2 local council meetings. Could go and listen but couldn't say anything and 2 weeks later, when it were too late, went to local parish meeting where we could air us views. It were too late then.

* Don't know name of local councillor. Went to library, to surgery.

* He din't have a lot to say. All they were saying was they didn't want it cos' they couldn't afford it.
What got me was there's all us up here who didn't want the road. All Kirkthorpe obviously didn't want it because its all going to be dumped on their doorsteps. Stanley don't want it cos' of all the road disruption they're going to get down there. None of these local councillors got everybody together, or they all got together and said, look everybody's opposed to this scheme. It were all done in little groups. We had us own little group, everybody was trying to fight their own little bit, instead of saying we don't want the scheme full-stop.
We found out after the meeting at the school. Somebody let it slip. This road across, from the road to Sharleston, they could have it if they wanted, if they could get it. But the main concern were that road across other side of road. If they got this it were an added bonus.

* It was one of them at meeting, with McDonald, after meeting when he were talking to everybody.

* You see there is an adequate railway line in, there's no need to put that in.

* They wanted that one because the railways run out of tip.

Wakefield's run out of tipping space. They actually want that road in so the dustbin wagons can ....

* No, kept in dark. They tried to shove it through without anybody knowing, hoping they'd get it passed. We've since heard, I don't know if it's true, that they really struggling for money now, and they're putting road in because they're contracted to put it in. But they won't be able to afford to run it, when it's in.
We'd had a letter from O'Brien who'd been in touch with British Coal, who'd said that if council put road in, to tip over there, there would have to be subsidies from council as it'd cost more than what they could use over at Acton Hall or Snidal. Plus they'd got permission to stick a tip in over there.

* Council said if you don't have one you'll have the other, like, a bit of a threat.
Somes truth. Its very hard to find information out of the councils. When they first put plans in they asked for planning permission to put toxic waste over there. We questioned them and they said it's just normal and we don't envisage that we'll be tipping toxic waste. Wife said she'd been told they were going to tip toxic waste.

* Seemed to get more dust in house. Quite a bit of noise, even though we've got double glazing. Road roller kept coming up to fill with water. Trevor, on nights, complained but council said nowhere else to fill up.
Every night their burglar alarm on site goes off for half an hour until someone comes to shut it off.
During day wife can hear quite a bit of noise.

* Machinery noises, graders and noises from driving piles, thumping noise. They'll have to have traffic lights so it'll be a pig to get out of the street, traffics queueing and as soon as its gone they'll be coming the other way.
In winter it'll be bad with mud and snow.
They dismissed that as your sort of problem, hard lines, when we brought it up.

* They'll do what they want. The only thing we can do is put in for a rent rebate. We've already put in and the bloke came to see us and said at the moment if I were you I'd just withdraw it, if they start behind you've no chance and if it gets kicked out you've no chance later on.

* As much as possibly get. People came up here because they weren't supposed to be able to. Go behind its all fields.

* Well nobody wants tips.
They keep saying they're going to start.
We've had one or two wagons.

* We said if we've got to have road why can't you take it further up hill, and they said that to do it, it'd have to go through farmland. Farmhouse is listed building, but it was flattened before they started, so its another one of

their arguments gone for a burton.
They wanted it in whatever you said or did made no impression. They wanted road in and that was it.
They've gone for the cheapest option, I don't see how they did seeing as there's already a railway line there, but they said it were cheaper.
It didn't matter about any householders. For 50 years. Its going to be a mess.
I'm not happy about it at all. Apart from having a road in my back garden, 4 houses its going very close to. We're going to have extra noise because there's going to be quite a lot of 40 tonne wagons and its going to be a private road, so theres going to be no real control on exhaust fumes, wagons dropping to bits, noisy wagons and all that.
When its dry, and all stuffs dry, wind blows up this street so all muck's going to blow up here.
They've got something else in mind for this road they say once Sharelstons finished, which they give it 20 years, but I and others don't think its got near 20 years. So that's a con. Keeping men in jobs, once its shut. They'll shift road further through onto other roads. Dustbin wagons can come from Featherstone, Pontefract etc. and use it for household waste.

* You pick bits up here and there, somes rumours.

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* A woman who was on the committee of something, and the council, over there, arranged a meeting, about peoples views and that, and she says about 3 people turned up.

* She said it was a waste of time calling the meeting.

* I expected a bigger response cos' she says lots of other areas had a bigger response.

* I would (gone) just to have seen what they were talking about.

* It doesn't have any effect on us round here, not me personally.

* Fairly close, we don't hear it. We don't walk up that way.

* Its for colliery.

* It doesn't affect me personnaly. It doesn't make the slightest difference, having the road, or not having the road.

* Round here, yes, with the councillor, I thought he was the best person to have a meeting or call a meeting. He'd probably know more about it than, and he'd do more with the council, if anybody objected. But as I say they didn't turn up for meeting so that was it.

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* One of nicest places for 9 months of year, quiet, walk doggy, nicest until road gets going, we don't know what we're going to get until the road gets going.

* Twice a day, thats my walk.

* Its peaceful, nice avenue, nice people.

* Been here since 1961.

* Became aware when walking dog and saw surveyors measuring out and we were all wondering what was going to happen and one day I asked a chappie who was doing it and he said 'oh there's a road going to go through' and about a month after he came out with it was a haulage road was going through.

* I actually asked one of the men, whether he was a surveyor or not, I don't know.

* I mentioned it to Mr. Worth then.

* Could say I was one of first.

* About a month later then we did get letters informing us about it was a haulage road was going to go through and we could put objections in if we wished which we all did and hd various meetings.

* Well, the events following that was that everyone was going to sell their houses, we were all going to move, but of course, thats just there and then, its like everything else when things go off, but you just forget these things.

* We had various meetings. We went and lobbied the council, went to their council meetings

* The council meetings we just found out when they were on, the councillor for this ward more or less told us when the meetings were on and we just went and sat in.

* He could have informed 1 or 2 and they just passed it on or what, I don't know, its such a long time ago.

* I went to various council meetings and the ward meeting, where we didn't get anywhere at all. They all put their objections in.

* You can't fight the metropolitan can you, I mean a little group can't.

* Three, I'm on my own, if there's a man there you're more braver.

* It doesn't look too bad and to be honest it doesn't bother me much because I'm not going to be in very much. Next door, she's an invalid and she's got the noise all the time. Really it doesn't bother us that much, we've had no noise,

and no noise of traffic, as such, just yet, that will come later when the road starts moving.

* I'm in and out.

* (Noise) We have to have the door closed. I had it that much that I couldn't keep the door open which was a nuisance with a dog and nice weather.

* You couldn't have sat out in the garden.

* Bleepings, continuous and a lot of bleeping.

* Dust, we're in a very windy area.

* The wind normally comes this way.

* Windows very dirty. Not usually very dirty, but you couldn't see out of them actually.

* I'm not looking forward to it, because of the noise and the foundations of the houses. It's going to be terribly near these 4 houses, and they're going to have to dig deep to come under the road. There is subsidence up the road. I don't know if its going to weaken the foundations at all. You've all that thought in your mind. Also, what is it going to be like with all these big heavy lorries start moving around with all the dust and the dirst and the windy days. It's not going to be very pleasant actually. But this roads going through, so there isn't anything we can say.

* They say they'd tidy it all up and make it decent for us. If they do do that it won't be too bad, but will they? They promise these things ...

* Will tidying it up stop these silly devils who bring their rubbish up. There's no need for it in Normanton.

* Some are more concerned. One up above's got a younger family what's working night shifts, so obviously they're worried about sleeping during the day.

* When the fields ploughed it won't seem as far away.

* On the plan it looks to come very close.

* We've more or less accepted it and we hope its going to be as decent as possible and not cause us any trouble. We do at the moment have some mad boys going backwards and forwards on motor bikes. I only hope they can't get on this road or else it'll be like these motorcylce race tracks.

* I'd take my complaints to Mr. Worth.

* At the moment I think he's going to try and fight and get us double glazing.

* You're used to road noise here. It sounds like every heavy lorry's going to come into your front garden.

* They would never sleep in the back when it starts. My sleep wont be affected.

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* Well me personally, we live in a council house which is not desirable cos I'd like to own me own house, but we're lucky insomuch as we live right on the edge of the estate and we live next door to the private estate, so it's almost as if we're on the private estate and we don't have many people round here with lots of kids etc. I just find a pleasant place to live. It's quiet, yes, that more or less sums it up.

* It's easy to get to work.

* It's a bit too far from town for me.

* (Move) We'd like to very much, status I suppose. I'd like to move down south, within the next five years.

* Only thing I know is it's a road being built for benefit of Sharleston colliery to transport whatever from the colliery to Welbeck. That's really all I know about it.

* First heard about it in the Wakefield Express. They were getting up meeting, I do believe they came round.

* I think it was the councillor. They were getting this big petition up about it. There was a big hue and cry when we first found out, cos they'd put up notices about it but nobody knew what they were cos they were so high up the telegraph poles. Right at the end where the roads going to cross over road they put up one post with a little notice about it. I don't think a lot of people saw it. It was actually in the middle of the brush, not near the path where people walk, but about 30 yds into the brush, so it was covered up.

* So we didn't know anything was going off. Personally we think they've kept it very quiet. I don't think a lot of people knew about it until they actually put it in the paper saying we're building a road.

* An article in the paper, that they'd got wind of building this road and they'd decided to put an article in the paper and see if they got any reaction, which they did do. Up until the passing of the permission to build this road, I don't think a lot of people even knew they were considering it.
They said we're building a road here and you'e got, sort of, a month to appeal, but the notice were so far away, I don't think a lot of people could've possibly seen it.
They were going to build fence to sort of block us in, but now they've change that. I don't know whether that's through protest or what.

* (Protest) I don't think there's been as much as there ought to be. There's been no petitions or nothing like that. I'm afraid nowadays, with this government, it's no good trying to say anything.

There were a couple of meetings, apathy, we never went.

* Selfish as it sounds I don't want to think 5 years from now we're going to be here, so that's why I didn't go. I know it's a bad attitude, is there any point. They talk to you as if you don't know owt. We didn't feel as if we could do anything anyway.

* I think its going from Sharleston colliery to that area.

* To me it was very underhand and passed through very quickly without anybody really having time. Whatever happens I'm not that keen on staying here now, so it has had an effect on us. I would certainly have liked to have had more information about it beforehand.
There's been no information, none at all.

* Why couldn't they have used the old railway lines.

* Its noisewise it could affect us, because, I don't know how true it is, there's supposed to be one about every minute, lorries going to be going by so whether or not the noise will ffect us, I don't know.

* It reduces the price of the houses knowing thats outside their doorstep and the elderly people, its really not on, their going to have a motorway in their back yard. For the old people, the noise, its supposed to affect them. I think the children having a big motorway like that it could be quite dangerous. It's going to transform from a very peaceful area to a very congested area. It's going to be like spaghetti junction. It's going to affect others more than us I think.

* The people in the private houses - they stand to lose a lot of money - but nothings happened.

* We've been told that Sharleston's only got 5 years left so whats the point in building a road that's going to be obsolete in 5 years. Why couldn't they have used the railway?

* It just seems like a very expensive answer to something that isn't going to last a very long time.

Mr. Worth --- Mr. Worth he got it all in detail and - I mean - he spoke about it at two meetings that he had. They cried him down at both meetings really. Well quite a - well some of the top boys in the Council and one thing and another. He, he, he did have it all wrote out in detail.

I don't know where he got it from he had gone into it in depth - very much so.

Yes.

He told us you know all what was going to happen and he spoke at these meetings and they sort of cried him down. We attended all the meetings but Mr. Worth goes now to represent the Avenue.

Well he said, my husband said at one of the meetings he said its all right till you start bringing these private contractors in and you know they says that there will be none of that but it was in the night paper. I will just see if I can find it.

I know my daughter spotted it in the night paper.

Yes.

She saw it - he might just have burnt it. It was something about - something about private contractors - something like that. Well what they wanted I think they wanted money.

It's not in that paper.

It was in one of them this week so you'll probably see it. It was in the Yorkshire Evening Post one night this week. It was something about private and they are wanting people to take it on you know like private.

Something like that because my husband said "See what I told you".

And seemingly I don't think they have got enough money now I am not sure - don't quote me on that.

We we objected from the word 'go' because these two houses specially it's going to affect. I mean they were supposed to start that on the 22nd July. This this road was supposed to start and they let us know that it was going to be started on the 22nd July. That was Monday and they have not started yet but the noise that we have had when they have been doing it over there has been terrible.

They also said they would only work 9 till - was it 8 while 5 - they have been at it from 7 in the morning till 7 at night and on Sunday as well. In fact Mr. Worth went over and I rung them and complained about the noise, the noise was terrible, you could

feel the house literally shaking. So it's God help us when they start on this just out here.

The construction of that side - "Audrey how long have they been on with that over there? 6 months isn't it?" But they said that they were behind they said that due to the bad weather they have got behind.

But we did complain about that noise didn't we I mean they were working on a Sunday working there. I know it was before Christmas - before Christmas, well before Christmas that they started but they, I mean, everybody objected to it. I mean we got a petition up on this Avenue and on the other ones as well. Mr. Worth was the best one he did have all the detail didn't he Audrey? He told the Councillors and they cried him down didn't they? And all what he said is coming true.

Well it wakes you up on a morning doesn't it Audrey. Yes it wakes you up on a morning - I mean the place - see this is it it's going to be finished in 50 years and we are having to put up with such noise and disturbance with something we will probably never see.

No we get all the hassle, the disturbance, dirt, the discomfort but we are not going to probably see it.

It were all day weren't it what - well I mean them days that we objected they were at it from 7 on a morning.

When Mr. Worth went across they did stop they stopped about 11 but you see they should not be working on a weekend.

Well it starts it is first thing on a morning and during the day well it's mainly all day isn't it when they are at it. It has been a bit quieter.

It holds the traffic up a lot down on the main road - yes. Yes it affects the traffic a lot.

Well the traffic were having to stop and slow down they have lights on I mean. At one stage they put a board up at the end of this Avenue and anybody going down this Avenue could not see to get out of the Avenue and we had to ask them to move it.

Well we never really noticed it I mean you get used to that I mean that's something you get used to. Obviously when you have lived here all the time you get used to it.

25 years.

Because of the area - it was private and it was supposed to be a green belt area that

See these houses especially on this side people sort of - they're waiting for people to put them up for sale - especially

them at this side because it is so private. You've got see that hedge is the Wakefield boundary line. That hedge comes at the top of our garden and it was because it was - especially this side - it was the most private - that is why we chose to come here. Yes I mean we never expected this coming.

Well there's yes but everybody is worrying now about the devaluation of property.

I think it will be - yes I mean - people's going to be put off aren't they? Obviously I mean a thing like that at back of them they are going to say well we're not coming.

I would say aout £26,000 - that's the lowest that's the least. Well one of them was up for sale at 30 something thousand.

I mean the rates are very high, rates are very high. We have put in for a rate rebate but they have said they cannot do anything until all those lorries start moving - can't claim a penny for the noise or anything just once those lorries start moving that's when we can claim.

Well we are going to put in again, I mean, we have had all the - the gentleman that's come to represent it we have had to retract what we sent in for a rent rebate because he said you cannot claim until the lorries have started because they say that that disturbance is only temporary.

Very close - it's er - I don't know how many yards it is from me. These two houses and then Mrs. Frame and Mrs. Sykes they are going to be these 4 houses are the worst but these two are the closest.

The noise, the dirt, the dirt.

The dirt's going to come over obviously I mean. You aren't going to be able to sit outside or anything because of the dirt and the noise I mean. The noise over there was bad enought but to be able to want to sit out in your garden here -

I do - I do.

I mean I cannot get out so I can only get out into the garden but I mean other people that live round about even they don't want to put up with that.

And we have said we mainly said the devaluation of property as well.

We have got it all down on paper there are going to be - how many lorries did they say a day Audrey?

140 each, that's 140 each way is it? They have all to go and come back.

Well when the first meetings we went to we didn't think that we got anything from the Council. In fact everybody was disgusted with the Council itself and the Council took the vote as I say before just the odd one said he'd gone into some depth but the others I don't think had realised just what it entailed.

Quite a few of them, yes, yes. And they just voted for it I mean this Welbeck scheme looking at it on this plan is going to be marvellous but as we say in 40 years' time and we will never see it but now, you see, we have seen it odd times in the paper. They're frightened now because there's going to be a tip over there and they're frightened of this toxic waste what is going to be toxic waste.

And this is what the Council and they have contacted the MP about this.

Well it was in the paper that the Councillors - one or two of the Councillors - contacted the MP.

Well yes I think so yes had contacted the MPs with regard to finding out just what is this toxic waste going to be.

Well we don't know but I mean we have heard it's going to come from all over. They are going to bring rubbish they said from Sharlston and then we've heard it is going to come from is it South Kirby, Kirby pit and somewhere else because I mean Sharlston isn't going to stay open for a long time. It's pit waste and then they are thinking of some other waste.

Mr. Worth he told us about the toxic waste but don't quote any of this. He said about the toxic waste in the first he told he warned us about this and he told them and they just said it would be ordinary sort of household waste but you see there's been different articles in the paper with regard to this. And all the other night in the paper when they were saying about private contractors and methane was mentioned in the night paper but if you could get hold of the night paper there was an article in there but I think my husband must have burnt it on the fire.

I don't know. My daughter read it out I didn't actually read it she read it out. And she says about methane. My husband said something but I didn't catch what he said.

Yes, yes.

No.

I think we've been trying - I thinkwe've had the sort of, what's the expression, had the wool pulled over our eyes quite a lot. I mean when we went to one meeting down at Woodlands they tried to really pull the wool over us eyes but quite alot of the people didn't believe them.

I mean they told us for a start off that we won't get any

compensation. If there is anything done if anything's done to the house we'll not get any compensation. What we will have to do is sue the - is it the Metro - whatever it is who's in charge first each one individually and this is what was said, you know. It's the cost of going to court individually because we asked about them double-glazing and putting sound-proofing in and they just said 'no' and it's up to you about your rates. This is what they just said there would be no compensation.

At the Woodlands meeting.

Well I really er Doroth was speaking on behalf of the County Council and then they had this Professor MacDonald because he was mentioned in the evening paper the other night. His name was mentioned. He was there and there was one of the of these surveyors bods or whatever they are. They was there and they were trying to blind us with science, they were trying to blind us with science.

Well yea I mean I mean yes people they even wrote to the MP and this is what I told one of the reporters. I said I don't know why we did it I don't know why we wrote because we knew from the word 'go' that it would go through. They had to write to the MP, the Environmental Health Minister - I think it was Jenkins or somebody then - and they had to write all over. People did they got the letters back that it was in hand but we knew from the word 'go' that that road would go through but a lot of the objection was why build a road when there was already a railway there. There was already a railway from Sharlston which could have been used. Or take the road further back.

Well we wrote we all we wrote I mean quite a lot of people wrote but you know these things cut and dried. I mean you see every day on the television these that's having these nuclear power stations they are all objecting but they know that they will be put there. This is what I mean as an example.

You can write till you're blue well or speak till you're blue in the face, write to whatever but you know it's still going to go through. The powers that be they, they know from the word 'go' that it's going through and that's it no matter what your objections you make.

Yes, yes.

But more so use the existing railway line that was already there.

Yes.

See where we live we're going to have it coming along the back and when you look out of the front lounge window you can see that road all across the road so you've no outlook now. We had fields you could just see the fields you can just see got this great big road winding its way across the fields. Yes you can see it out of the front. I mean if you were standing at my front gate you

can see it from there.

Well it is I mean obviously the people that live on the front of the road they haven't got a very good outlook out of their front

This table shows the results of peoples ratings of statements for the expected effects of the operational phase of the road scheme.

As can be seen between one-fifth and half of respondents agree that there will be negative effects associated with the road scheme during its operation. These findings will form the starting point for the next phase of the project.

Table

Level of Agreements with Individual Statements

(Future Conditions) = N = 78

	AGREE						DISAGREE
	0	1	2	3	4	5	6
Haulage lorries	20	1	3	5	4	5	62
Woken up	29	7	8	8	<1	5	43
Increase lorries	46	8	5	3	5	<1	34
More dust	47	4	9	5	<1	3	33
Unable to walk across fields	42	5	4	6	4	3	37
Smell lorries	30	5	3	6	1	5	50
Attract children	24	4	3	5	1	3	60
Damage foundations	25	4	1	<1	18	4	48
Interfere TV	29	<1	1	19	2	<1	48
Affect nerves	18	<1	2	9	3	<1	68
Affect garden	17	<1	3	8	<1	5	68
House unpleasant	22	<1	9	15	3	4	47
Have to keep doors closed	36	4	6	5	3	1	45
Damage foundations (2)	23	1	<1	24	<1	4	46
Damage plaster	30	1	3	22	3	3	38
Estate less pleasant	44	4	3	11	1	<1	37
Waste money	52	3	3	10	3	3	28
Tip other waste	47	1	3	10	1	1	36
Disturbances get worse over time	50	3	1	14	3	4	25
No Benefits	20	1	3	18	1	1	56

A P P E N D I X 5
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PILOT SURVEY SAMPLE

Name of Street	House Numbers
Clark Crescent	1, 2, 3, 5, 6, 7, 9, 12, 17, 19
Congrow	33
Elsicker Lane	57, 75
Hilltop View	9, 23
Queensway	84, 86, 88, 101, 141, 143, 137, 15, 1, 28, 22, 11, 25, 26, 1, 12, 70, 60, 111
Shakespeare Avenue	5, 8, 11, 1, 6, 9, 15, 14, 2, 7
South Street	1, 2, 4, 5, 6, 7, 10, 11, 14, 16, 35, 12, 47
St Johns Crescent	3, 8, 9, 11, 10, 12
Sylvester Avenue	4, 7, 14, 16, 1, 6, 12, 3, 5
Wakefield Road	329, 333

A P P E N D I X 6
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MAIN SURVEY SAMPLE

Names of Street	House Numbers
Alder Grover	4
Birch Road	9, 14, 27, 30
Clark Crescent	17
Elm Road	3
Hawthorne Mount	32, 37, 48, 55
Maple Grove	2, 3, 14
Queen Elizabeth Driver	14, 31, 50, 136, 138, 152, 160, 212, 224, 229, 234, 249, 250, 263
Queensway	15, 24, 28, 37, 39, 41, 52, 53, 54, 55, 66, 77, 79, 80, 82, 103, 104
South Street	14, 17, 18, 19, 21, 31
St Johns Crescent	3
The Meadows	8, 10, 22

Name_of_Street	House_Numbers
Birch Road	8, 32
Clarke Crescent	1, 10, 17, 21, 25
Hawthorne Mount	61, 63, 67
Hilltop View	9, 23
Maple Grove	22
Meadway	42, 58, 62, 72, 78
Queen Elizabeth Drive	24, 32, 34, 153, 170, 187, 199, 200, 206, 245
Queensway	5, 32, 35, 42, 51, 54, 84/9, 103, 111, 159
Shakespear Crescent	2, 8
South Street	29, 59, 67
St Johns	6
Sylvester Avenue	4, 6, 8
The Meadow	7

A P P E N D I X 7
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RESULTS FROM SURVEY FORM ABOUT OPERATIONAL PHASE OF STUDY