

Sizewell C Impact Assessment

Summary Report

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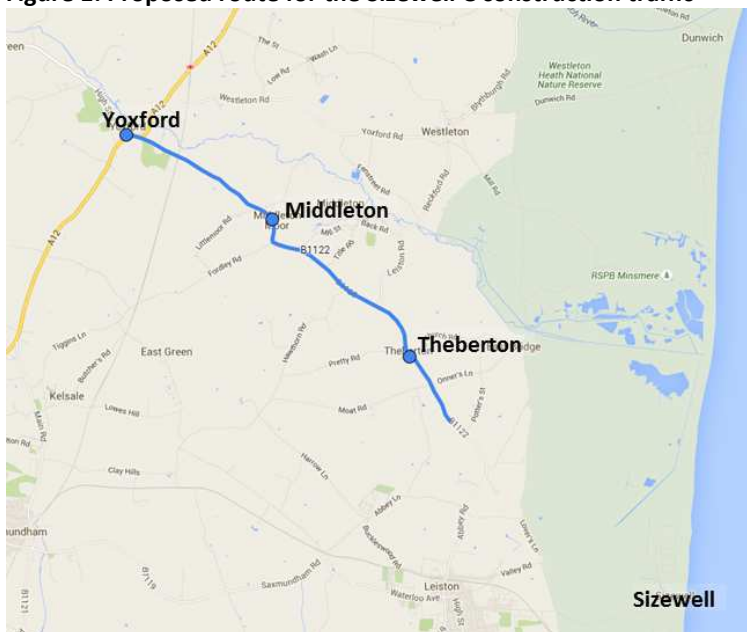
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1. INTRODUCTION

1.1 Background

EDF Energy proposes to build the Sizewell C new nuclear power plant in Suffolk. As illustrated in Figure 1, EDF Energy has proposed that the majority of construction traffic associated with the development of Sizewell C will use the A12 to Yoxford and then the B1122 through Middleton Moor and Theberton to a new site entrance to the north of Leiston.

Figure 1: Proposed route for the Sizewell C construction traffic



The construction route will need to accommodate heavy goods vehicles (HGV) for the delivery of materials, coach traffic for transporting workers to the site, abnormal loads and car trips by individual workers and visitors. It is therefore expected that the construction traffic will cause significant disruption to the local communities along the route during the anticipated ten year construction phase.

The assessment of traffic impacts is typically undertaken using the Department for Transport's WebTAG and Design Manual for Road and Bridges methodologies supplemented by Guidelines¹ produced by the former Institute of Environmental Assessment. However, Suffolk County Council is concerned that such an approach could overlook and understate the extent of impacts experienced by local communities. Suffolk County Council therefore commissioned Accent to conduct the present research study, with the overall aim of directly engaging with communities along the route to understand *"the consistency in views on the nature, scale and range of traffic-related impacts that are perceived as likely to arise with the construction of Sizewell C."*

¹ Guidelines for the Environmental Assessment of Road Traffic' produced by the Institute of Environmental Management and Assessment (IEMA) in 1993.

1.2 Overview of The Study

The study consisted of the following four phases:

- A **Literature review** covering the social impacts of road traffic (including the impacts of the construction of the Sizewell B power station) and methods for assessing those impacts.
- An **Initial consultation survey** to understand the awareness and concerns of local residents/businesses about the project within the three parishes of Yoxford, Middleton and Theberton & Eastbridge (the study area). This survey consisted of 122 face-to-face interviews and 145 online interviews.
- 20 **Depth interview case studies** with a subsample of those who took part in the Initial consultation survey, to gain deeper insight into the views of local people.
- An online **stated preference survey** with 105 participants in the same study area, to measure the relative impact that local people perceived would accompany different aspects of the increased traffic, and their priorities with respect to a range of possible mitigation options.

1.3 Report Structure

The remainder of this summary report presents the main results from the study as a whole organised by theme, followed by some concluding remarks. It is structured as follows:

- Part 2: Pre-construction perceptions, experiences, and recollections of Sizewell B
- Part 3: General views on Sizewell C
- Part 4: Perceived impacts due to traffic increases
- Part 5: Priorities for mitigation initiatives
- Part 6: Conclusions

2. PERCEPTIONS, EXPERIENCES, AND RECOLLECTIONS OF SIZEWELL B

The assessment of the impacts of Sizewell C can benefit from the results of assessments of similar projects, particularly of the Sizewell B project, which led to increased traffic levels in the same region in the period 1987-1995.

Previous studies about the impact of the Sizewell B project revealed that traffic-related issues were identified by local residents before the construction of the power station began, but that they were not the main concern. The visual impact of the power station and the effects on the coastal environment were identified by more residents as a negative impact, compared to construction traffic. The majority of the complaints to Nuclear Electric in the first year of that project were about traffic, but the number of these complaints subsided relatively quickly.

In the present study, 40% of the participants who were living in the area when Sizewell B was constructed stated that the impact was worse than they had expected before the construction began. Only 5% said the impact was better than expected.

The aspect of Sizewell B construction traffic that most participants recalled (Figure 2) was the traffic volume (mentioned by 54% of the participants). Other aspects most frequently remembered were the number of lorry and other heavy goods vehicles (45%), traffic speed (35%), noise during the day (26%), and the duration of works (26%).

Figure 2: What do you remember about the construction traffic [for Sizewell B]?

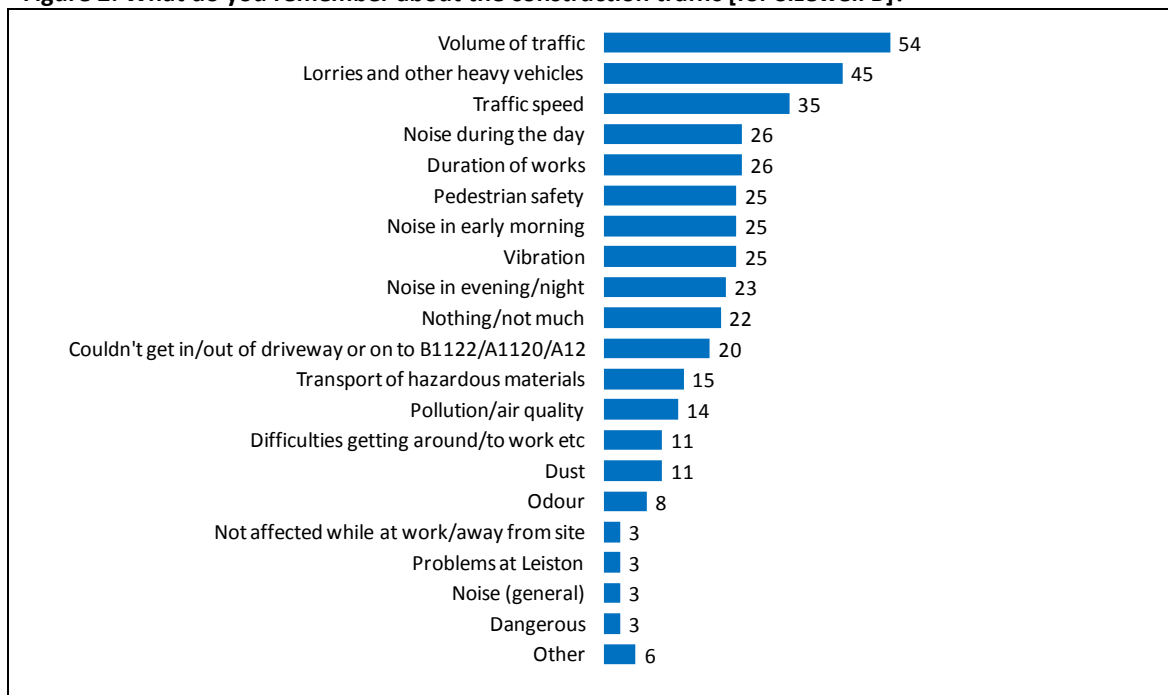
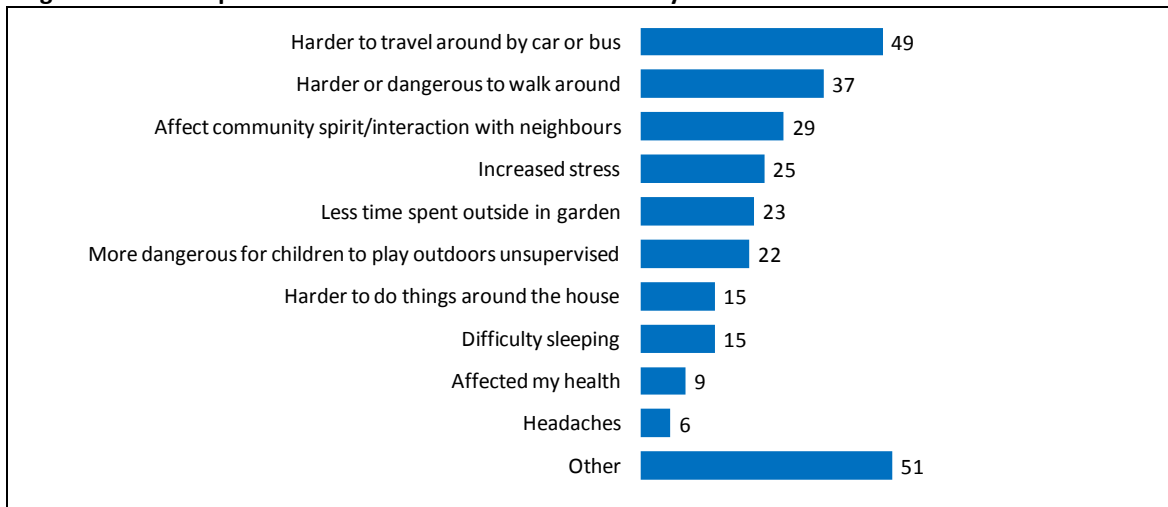


Figure 3 shows the percentage of participants stating that they were affected by a series of impacts of Sizewell B construction traffic. The main impact was the effect on trips by car or bus, mentioned by almost half of participants. Other important impacts

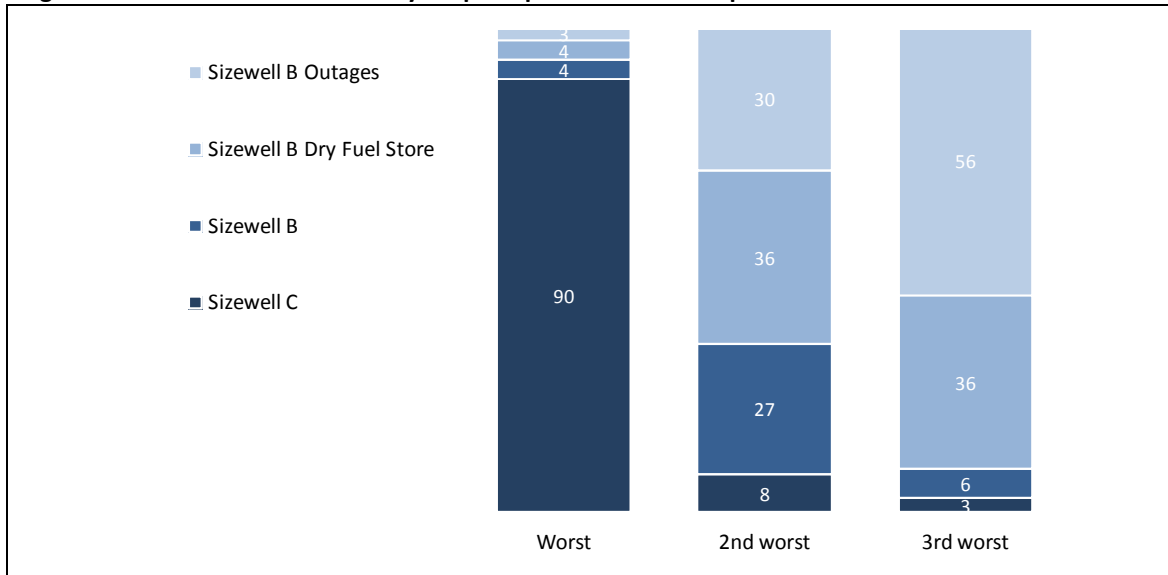
were the effect on walking trips (37%), community spirit and interaction (29%), and increased stress (25%).

Figure 3: What impact did the construction traffic have on you?



The survey participants who stated that they were aware of at least one of the Sizewell B works (Sizewell B Power Station construction, Sizewell B Dry Fuel Store construction, and Sizewell B outages) were asked to rank the perceived traffic impacts of Sizewell C in relation to the impact of those works. Figure 4 shows that a vast majority (90%) expected Sizewell C to have the worst traffic impacts.

Figure 4: Please rank in relation to your perceptions of traffic impacts



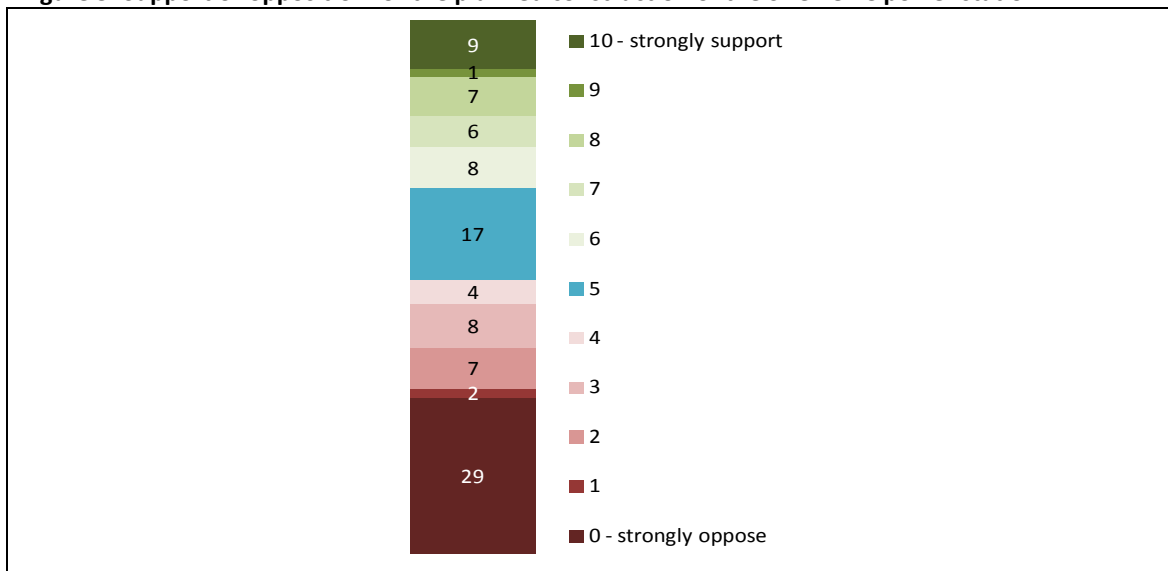
3. GENERAL VIEWS ON SIZEWELL C

All survey participants were aware of the planned construction of the Sizewell C power station at the time of survey completion. Overall, 58% had taken part in the Stage 1 consultation through attending meetings, responding to the consultation questionnaire or responding in another way. Furthermore, 48% had also taken part in other activities related to the planned construction of Sizewell C such as Parish Council or Local Authority meetings.

Survey participants were asked to rate, on a scale from 0 to 10, how supportive they were of the Sizewell C construction (Figure 5). Of these, 29% were very strongly opposed (rating of 0) and 50% were more opposed than supportive (rating lower than 5); 31% were more supportive than opposed (rating higher than 5) and only 9% were strongly supportive (rating of 10).

Further analysis (not shown in the figure) revealed that Yoxford participants were significantly more likely to support the planned construction than those from Middleton and Theberton. Those who lived in the area during Sizewell B construction, and therefore had some prior experience, were significantly more supportive than those who did not. Men were significantly more supportive than women and younger participants (aged between 16 and 34) were significantly more supportive than older participants.

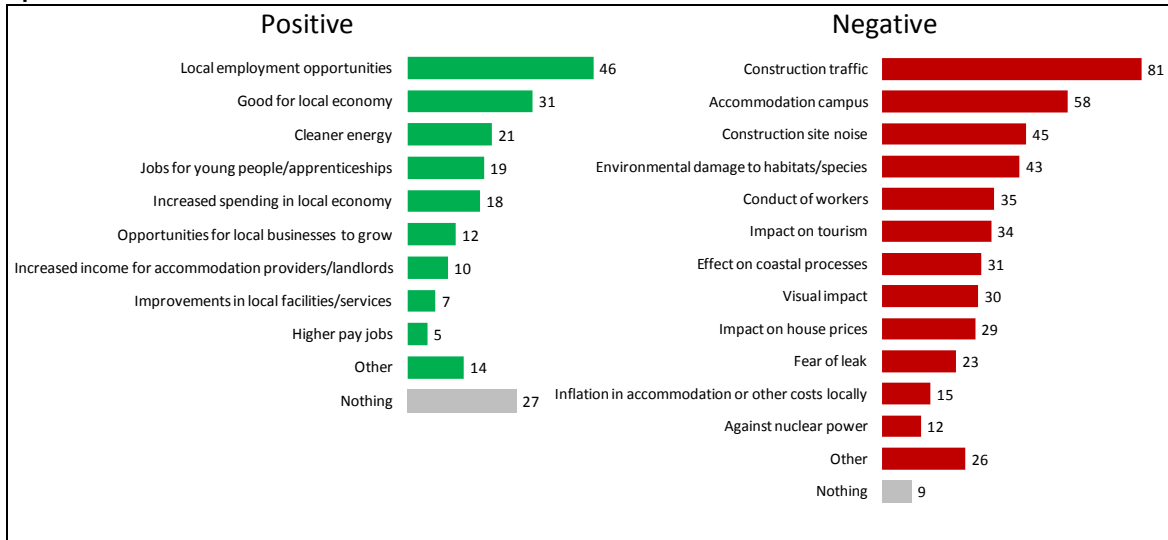
Figure 5: Support or opposition for the planned construction of the Sizewell C power station



Participants were also asked to identify the positive and negative aspects of the construction of Sizewell C (Figure 6). The main positive aspects were local employment opportunities (cited by 46% of participants) and benefits for the local economy (31%). 27% said that there would be no benefit at all. Construction traffic was the main negative aspect (cited by 81% of participants). Other concerns were problems related to the accommodation campus (58%), site noise (45%) and environmental damage (43%).

Further analysis (not shown) revealed that those living close to the road were more likely to be concerned about the construction traffic than those living further away.

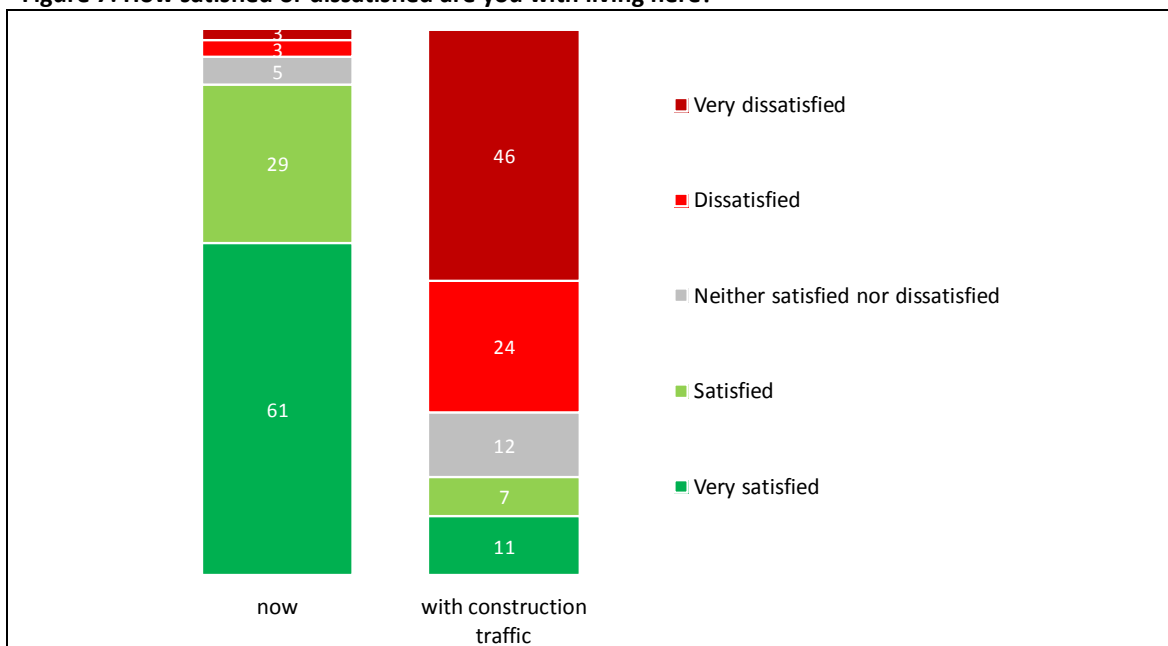
Figure 6: What positive and negative things may come from the planned construction of the Sizewell C power station?



There is also a striking contrast between levels of satisfaction with living in the area with and without construction traffic (Figure 7). The vast majority of participants said they were very satisfied (61%) or satisfied (29%) with living in the area at the present time. However, only a minority anticipated they would be very satisfied (11%) or satisfied (7%) with living in the area after the construction traffic started. Almost half of participants (46%) anticipated they would be very dissatisfied with living in the area.

Further analysis (not shown) revealed that those living closer to the road would be more dissatisfied with living in the area than those living further away.

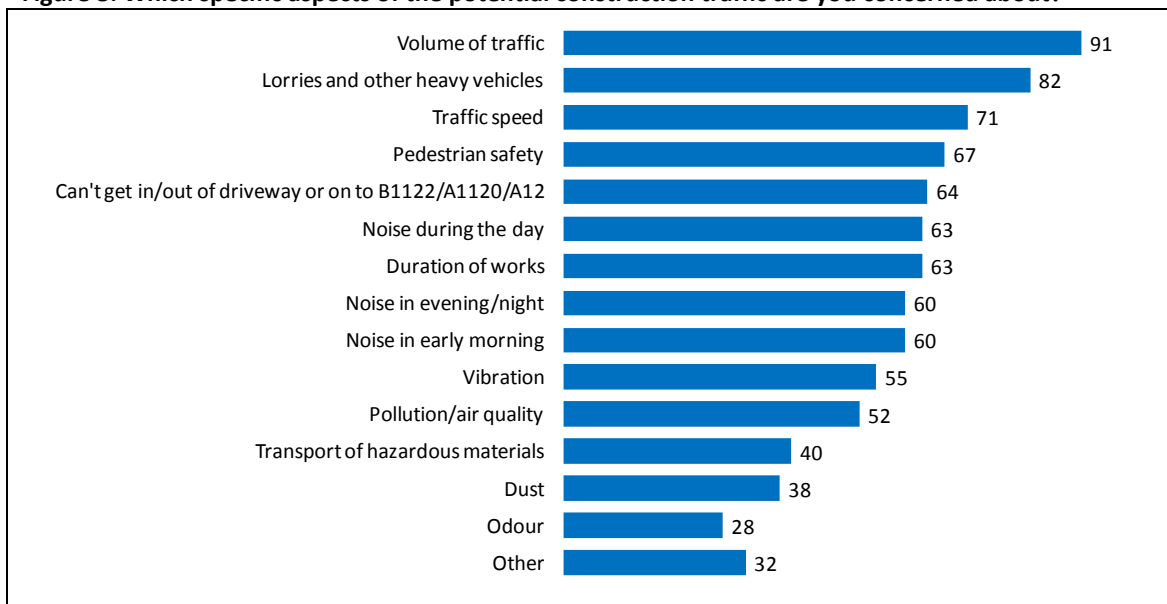
Figure 7: How satisfied or dissatisfied are you with living here?



4. PERCEIVED IMPACTS DUE TO TRAFFIC INCREASES

The participants who voiced concerned about construction traffic were asked to indicate which specific aspects they were concerned about (Figure 8). The aspects most frequently mentioned were the volume of traffic (91%), number of lorries and other heavy goods vehicles (82%), traffic speed (71%), and pedestrian safety access (67%).

Figure 8: Which specific aspects of the potential construction traffic are you concerned about?

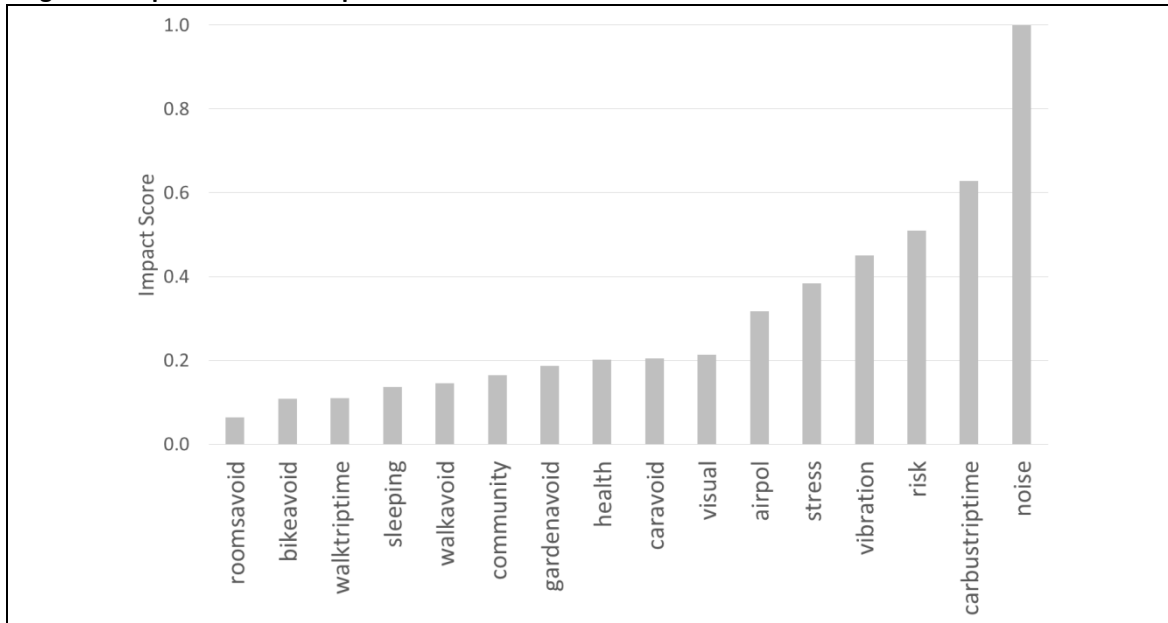


In the depth interviews, participants mentioned a large number of potential direct impacts of the traffic increase on their day-to-day life, including noise, vibration, air pollution, difficulties getting around, and the visual impact of traffic and of changes to highway infrastructure (such as street lighting). There was a widely held view that the volume of traffic was too large for the narrow local roads. There were also wider concerns related to economic aspects, such as the devaluation of property, and the potential effect of congestion on local trade and tourism.

The participants in the stated preference survey were asked several questions in which they chose the most and least impactful aspects of the traffic increase, from a large set of options. The most impactful aspect overall was increased traffic noise. Figure 9 shows the derived impact scores of each aspect, in relation to noise. The most impactful aspects, after traffic noise, were extra time added to car/bus journeys (impact score of 0.63) and increased accident risk (0.51).

Other aspects were given an impact score of less than 50% of the one given to noise. This is the case of (in descending order of impact score) vibration, stress, air pollution, visual impact, not making car trips, health impacts, less time spent outside in the garden, loss of community cohesion or character, not making walking trips, making sleeping more difficult, increased journey time when walking, not making cycling trips, and making some rooms in the house unusable.

Figure 9: Impacts of traffic aspects relative to "Noise"



Further analysis revealed that these preferences depended on the place where people lived. For example, the time added to car and bus travel journeys was more impactful to participants living far from the road, and in Middleton. Vibration was more impactful to participants living near the road, and in Yoxford. Accident risk and air pollution were also more impactful in Middleton and Yoxford than in Theberton.

The perceived impacts also depended on personal factors. For example, participants living in households with children under 10 years old were more concerned with accident risk, air pollution, vibration, and making fewer cycling trips, compared to other participants. Younger people (<65 years old) were more concerned with the impact of traffic on their time spent outside in garden. Individuals in full-time employment were more concerned with making fewer walking trips and with the loss of community character. Income level was also significant: the higher the income, the higher the concern about stress and air pollution, and the lower the concern about the walking trip times.

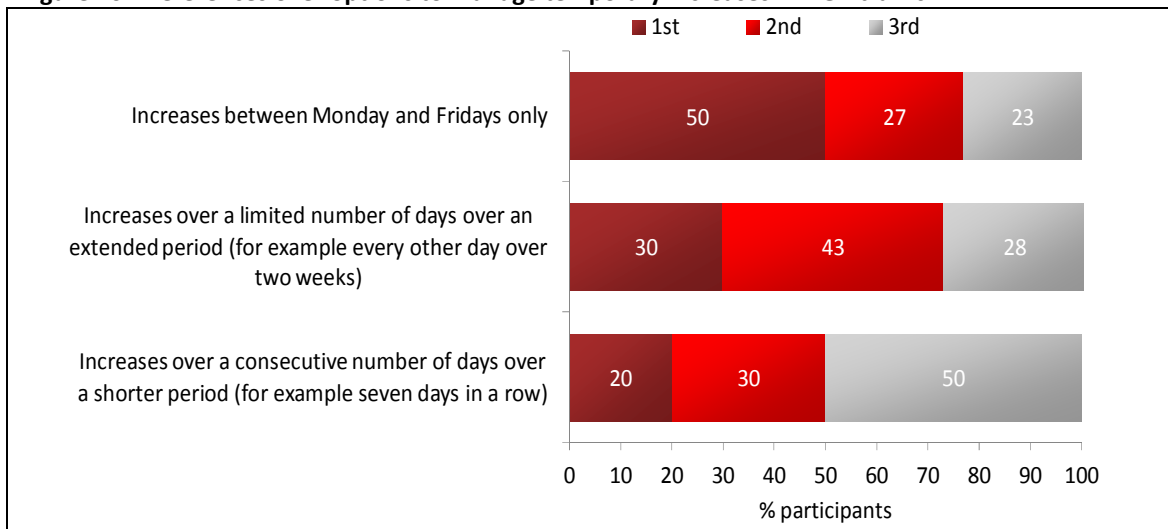
5. PRIORITIES FOR MITIGATION INITIATIVES

In the depth interviews, local residents brought up the advantages and disadvantages of a relief road. It was suggested that a relief road would mainly pass less fertile farm land and very few houses, would be a shorter route into Sizewell than the route via the three parishes, and would provide a direct exit route out from Sizewell in case of an emergency in future. On the other hand, there were also concerns about the environmental impact of this relief road. Transport by sea and/or rail was mentioned as a possible opportunity to reduce traffic on the B1122.

Some participants expressed doubts about the effectiveness of some measures for mitigating the impact of traffic along the designated construction route. The narrow roads and the proximity of dwellings along the proposed route were thought to preclude consideration of mitigation measures such as noise screening, pedestrian crossings, bicycle lanes, and widening of the roads. There were also diverging views on the hours vehicles should be restricted. Some people preferred night-time restrictions to avoid sleep disturbance, whereas others favoured day time restrictions to limit congestion.

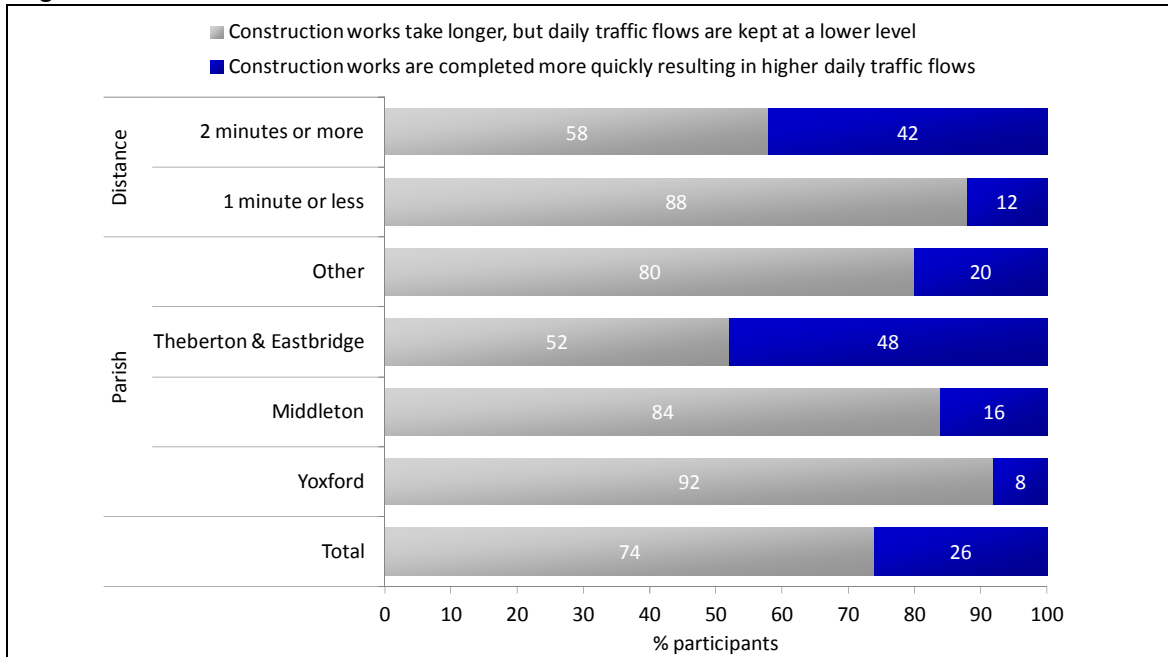
The results of the stated preference survey quantified the prevalence of these different views about measures to control any temporary increases in HGV traffic (Figure 10). Half of the participants preferred to have increases on weekends only, 30% preferred increases over a limited number of days over an extended period, while 20% preferred increases over a consecutive number of days over a shorter period

Figure 10: Preferences over options to manage temporary increases in HGV traffic



Participants were also asked if they preferred longer constructions works, with daily traffic flows kept at a lower level, or quicker construction works, resulting in higher daily traffic flows. The majority (74%) preferred lower traffic flows rather than quicker works (Figure 11). This preference was stronger for people living in Yoxford (92%) and nearer to the road (88%).

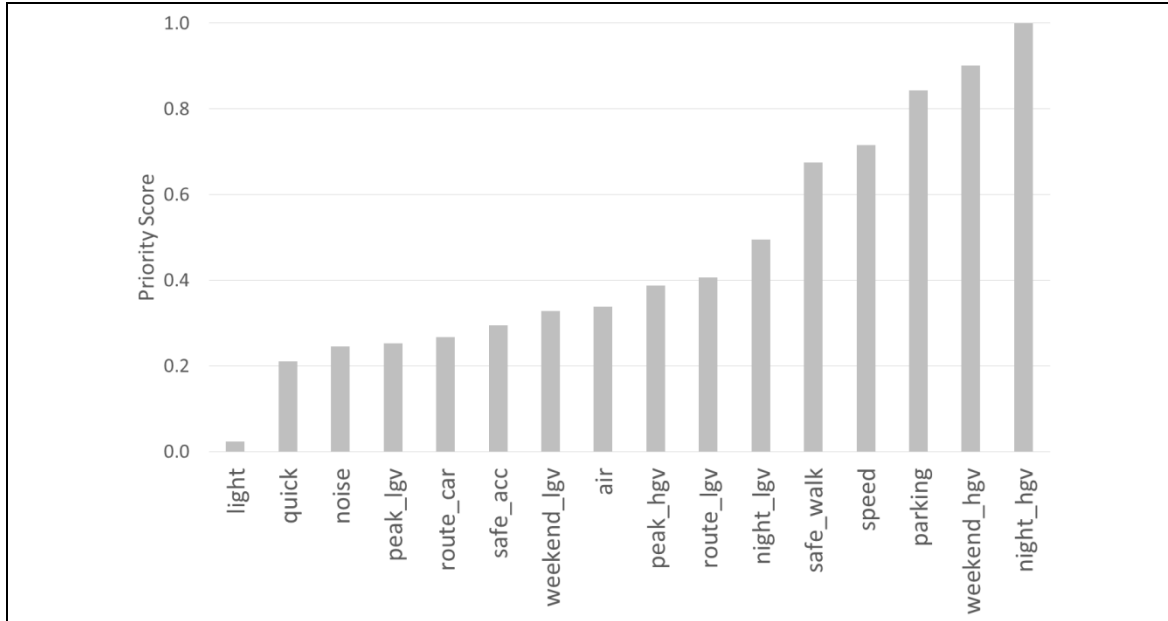
Figure 11: Less traffic or shorter construction works?



Participants were asked several questions in which they chose the mitigation measures they would give the highest and lowest priority, from a large set of options. Overall, the measure with the highest priority was the introduction of night-time restrictions to HGVs. Figure 12 shows the priority scores of each measure, in relation to this. The measures with the next highest priority were weekend restrictions to HGVs (priority score of 0.9), less onsite parking – to encourage greater use of buses rather than cars by staff, and hence lower traffic volumes overall (0.84), enforcement of speed limits (0.72), and safety measures for pedestrians/cyclists (0.67).

Lower priority measures included night-time restrictions to light goods vehicles (LGVs), routing restrictions to LGVs, peak-time restrictions to HGVs, maintenance of air quality standards, weekend restrictions to LGVs, safety measures for private accesses to properties, routing restrictions for cars, peak-time restrictions for LGVs, noise reduction measures for properties, and construction works to be completed as quickly as possible. The measure with the lowest priority was provision of street lighting, with only 2% of the priority assigned to night-time restrictions to HGVs.

Figure 12: Priority of measures, relative to "Night-time restrictions to HGVs"



These preferences depended on the place where people live. Participants living in Theberton had a stronger preference for weekend restrictions for HGVs, compared to participants living in other parishes. People living in Middleton had a stronger preference for less onsite parking, enforcement of speed limits, and safety measures for pedestrians/cyclists. Participants living far from the road had a stronger preference for safety measures for pedestrians/cyclists, route restrictions for LGVs, and quicker construction works, while those living near the road had a stronger preference for weekend restrictions for HGVs and enforcement of speed limits.

Preferences also varied with personal factors. For example, the preference for night-time restrictions for HGVs in relation to other measures was smaller in households with children under 10 years old. Women were more likely than men to prioritise measures such as peak restrictions to LGVs and HGVs, weekend restrictions to HGVs, noise reduction measures for properties, safety measures for private accesses to properties, and air quality standards. Older people (above 65 years old) were more likely to prioritise quick constructions works, parking restrictions, and enforcement of speed limits. Individuals in full-time employment were more likely to prioritise weekend restrictions for LGVs and HGVs, and those with high income more likely to prioritise the maintenance of air quality standards.

6. CONCLUSIONS

The present study has found that the traffic associated with the Sizewell C construction project is likely to have a wide range of impacts on the quality of life of people living and working along and near to the proposed construction traffic route. These impacts are perceived to be worse than those that were experienced with the construction of Sizewell B.

The main traffic aspects local people identified as causing concern included traffic volume, speed, and the proportion of HGVs. The aspects of traffic that were perceived to have the highest impact on participants included noise, extra time added to car and bus journeys, and accident risk.

The mitigation measures given highest priority by residents included restrictions to HGV traffic at night-time or during weekends, less onsite parking (to encourage greater bus use and lower car use along the route), enforcement of speed limits, and safety measures for pedestrians/cyclists. The perceived impacts and preferred mitigation measures depended on the participant's location (parish and distance to the road) and on personal (socio-economic) characteristics.

The results found here are consistent with those from previous studies in that they confirm noise to be the most tangible effect of increased traffic levels. The fact that local people gave a high priority to restrictions on HGVs traffic at night-time and on weekends also confirms that the perceptions about the impact of traffic depend not only on traffic volume but also on its composition and timing. On the other hand, the differences between the impacts perceived by younger and older people were not as marked as those found in previous literature. Household type (particularly the presence of children) was found to have a higher influence on preferences regarding impacts and mitigation measures.

The application of the methods used in this study also revealed aspects that can be used to complement current methods for the assessment of traffic impacts, such as the Department of Transport's WebTAG framework, and the Guidelines for the Environmental Assessment of Road Traffic, as these methods tend not to include information about the perceptions of the communities affected by traffic about the different aspects of the traffic, and their priorities regarding mitigation measures.

Overall, the study has produced a rich set of insights into the perceptions and concerns of local people concerning Sizewell C construction traffic issues. These insights should be a valuable resource to inform future discussions in relation to Sizewell C.