Understanding the Needs, Attitudes and Behaviours of Teleworkers

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DISCLAIMER

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Executive summary

Chapter 1: Introduction

This report presents findings from a qualitative study conducted for the Department for Transport by the National Centre for Social Research (NatCen). The broad aim of the research is to provide an in-depth understanding of the needs, views and behaviours of teleworkers. Teleworkers are defined for this research as people who work from home for some of the time, instead of travelling to a place of work, and who are dependent, to varying degrees, on information and communications technology (ICT) for working from home.

The objectives of the study were to describe attitudes towards teleworking, the factors and conditions motivating and facilitating different groups to work this way along with any barriers preventing this type of working, and to describe the impact of teleworking on travel choices and behaviour.

The research involved 49 qualitative in-depth interviews with employed and self-employed teleworkers. This qualitative approach facilitated a detailed exploration of individual teleworking patterns and experiences.

Participants were drawn from a sample frame of working adults who had taken part in the 2006 and early 2007 National Travel Survey. The sample frame included people who had stated that they worked from home, or were able to work from home, for some of the time, instead of travelling to a place of work. A screening exercise was conducted to ensure diversity in the achieved sample in terms of frequency of teleworking, age, gender, household occupancy, employment status and type and geographic area.

Chapter 2: Nature and practices of teleworking

The research has demonstrated that teleworkers are not a homogenous group. Considerable variation was found in the nature and practices of teleworking depending on participants’ employment status, their role, and work or personal/domestic-related motivations for working from home.

Features of participants’ employment such as role and level of seniority were associated with teleworking frequency. Participants who worked from home at least once a week tended to be in either more senior positions or part-time administrative roles. The pattern of teleworking also varied with some participants engaging in partial teleworking (for part of their day) while others would work for whole days from home. Frequency and patterns of
teleworking were also shaped by seasonal variation related to either work or personal demands, which could both increase and decrease frequency of teleworking.

There was also diversity in how working hours were managed amongst the teleworkers. For example, some participants worked the same number of hours as they would do at their workplace but started earlier or later, or spread their work hours over a longer time period with extended breaks. In other cases working from home was used by participants as means to work longer or shorter hours than they would normally at work.

Underpinning patterns of teleworking and time management when teleworking were participants’ motivations for working from home. Work-related and personal or domestic-related motivations included task-related productivity, commute displacement or reduction, family contact and work-life balance. These motivations were also the key positive impacts or outcomes of teleworking for participants.

**Chapter 3: Impacts of teleworking on travel behaviour**

Teleworkers generally relied on their cars to meet their travel needs. The decision about whether to use the car or another transport mode for work and personal trips was shaped by a range of factors including efficiency, dependability and practicality.

The interaction between work and personal needs was central in explaining the extent of individual and household travel and the impact of teleworking on travel behaviour.

For teleworkers who had either or both high work and high personal travel needs, the overall extent of individual and household travel tended to remain high on teleworking days. For example, where there was a combination of both high work and personal needs, there tended to be extensive patterns of travel, particularly by car, both within and outside of ‘regular’ working hours.

For participants with high travel needs, the impact of teleworking was evident in terms of moving the timing of journeys to a different part of the day. Teleworking, therefore, was more likely to be part of a strategy to help participants more effectively and efficiently manage their high travel needs, rather than reduce them.

Conversely, those with low work and personal needs tended to describe a decrease in travel as a result of teleworking. This reduction in travel was sometimes a conscious decision for personal reasons such as environmental or financial concerns, and / or maintaining a personal work ethic during working hours.

**Chapter 4: Facilitators and barriers to teleworking**

Underpinning the practice and experience of teleworking was the nature and extent of information and communications technology (ICT) provision available to participants when
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working from home. This research identified three levels of adequacy in relation to ICT provision. This encompassed a minimum level where hardware and software were provided by the teleworker themselves, through to an ideal level where the employer provided hardware, software, remote access and technical and financial support. A key finding from this research is that ICT acts as a key facilitator for teleworking, with those who have good provision being able to work from home more efficiently, effectively and ultimately more frequently.

The attitude of the employer also influenced the frequency of teleworking. As such those working for employers who favoured working from home tended to do so more than those whose employer did not promote or encourage teleworking.

A further facilitator was the personal attribute of self-discipline, described by participants as essential to successful teleworking.

Barriers to teleworking included disquiet about the blurring of the work-life boundary where participants described being unable to switch-off, and an increased sense of isolation when teleworking, and in particular missing the sociability and face-to-face interaction associated with the workplace.

Chapter 5: Conclusions and policy recommendations

Findings from this research have highlighted the high work and personal/domestic travel needs of teleworkers. Many participants often worked from home for only part of the day (partial teleworking). They then travelled, usually by car, either to a place of work or for work purposes (i.e. business travel). Participants working from home for part or whole days tended to describe extensive travel patterns on those days, using their cars, for personal or domestic reasons (e.g. childcare or shopping). And, although some participants did trip chain (combining various journeys into one longer journey) they were nevertheless still engaging in high levels of travel and car use when working from home.

The research has shown however, that although participants need for travel remained broadly the same; their travel behaviour was impacted by teleworking. People valued being able to telework because of the high degree of flexibility it gave them in terms of deciding when to travel and how to organise their journeys. Thus it would appear that teleworking was more likely to be part of a strategy to help participants more effectively and efficiently manage their high travel needs, rather than reduce them.

There was, however, one group of teleworkers with low work and personal travel needs, whose teleworking did reduce their travel. This would suggest there is scope for encouraging or incentivising working from home amongst people who wanted to use teleworking as a means of reducing their car use and emissions.
Overall, teleworking could have a positive impact on reducing congestion, but a limited impact on overall levels of carbon emissions. Teleworkers in this sample tended to be high car users. On the whole, this was because travelling by car was the most time-efficient way of making journeys, especially multiple trips ‘chained’ into one journey. In contrast, public transport tended to be considered unreliable, time-consuming, impractical and expensive. This research suggests that for car use among teleworkers to be reduced, public transport and other schemes such as park and ride, car sharing and car pools as would need to be both promoted and delivered as credible, reliable and affordable alternatives to the car.

Teleworking has clear transport policy implications and is a sensible option when attempts to reduce peak time travel are considered. However, teleworking also has cross-government implications where the nature of particular policies may in fact be a barrier to the promotion of teleworking amongst employers. This relates specifically to the Data Protection Act and Health and Safety policy. This research has indicated that there will be considerable expenditure for some employers in order for them to fulfil these legislative obligations for staff who telework.

As well as the impact on transport initiatives, teleworking can also have a bearing on housing and urban planning policy. Some teleworkers described how working from home enabled them to live a significant distance from the work place because they didn't have to commute to the office every day. Consequently, when affordable housing policy is implemented, these homes do not have to be built in urban areas or city centres to meet the travel needs of teleworkers.

Teleworkers were also clear that a key motivation to work from home was for personal/domestic reasons and that for some, working from home meant exactly that in terms of location used. This then has implications for urban planning policy as it would appear to show a limited need for the construction of new telecentres to support the needs of teleworkers.

1. Introduction

This report presents the findings of a qualitative study commissioned by the Department for Transport (DfT) exploring the needs, attitudes and behaviours of teleworkers. Teleworkers are defined for this research as people who work from home for some of the time, instead of travelling to a place of work, and who are dependent, to varying degrees, on information and communications technology (ICT) for working from home.

The overall aim of the study was to provide an in-depth understanding of the experiences and transport behaviours of teleworkers. The research had three key objectives. These were to describe:

1. the nature and practices of teleworking among a diverse range of individuals;
attitudes towards working from home, the factors and conditions motivating and
facilitating different groups to work this way, as well as barriers preventing teleworking;
and,

the impacts of teleworking on individual and household travel choices and behaviour.

The research is one of several studies following up subgroups of participants from the
National Travel Survey (NTS){superscript}1 and is intended to inform the Department's understanding of
how teleworking impacts on travel demand and contribute to the wider debate as to
whether it should be further encouraged.

1.1 Background to the research

There are two main sources of information on the prevalence of teleworking in the UK; the
Labour Force Survey (LFS) which collects information on the UK labour market and the
National Travel Survey (NTS) which collects information on personal travel in the UK. The
LFS and NTS present evidence that working away from the traditional office environment,
for some of the time, is becoming increasingly popular in the UK. The LFS has found that of
approximately 28 million people in employment in 2005, one million worked at least one full
day at home in the reference week of the survey (LFS, in Ruiz and Walling, 2005). This
figure had increased from around half a million in 2001. According to the NTS, 14 per cent
of people in employment are able to work from home for some of the time instead of
travelling to a place of work{superscript}2. The NTS also demonstrates that there has been an albeit
slight and non-significant increase in the frequency of working from home amongst this
group; whilst a quarter worked from home once a week or more in 2002, this had increased
to three in ten in 2007.

Evidence points to three overarching factors underpinning the rising frequency of
teleworking: an increase in the accessibility and use of ICT; social and psychological reasons
centred on individual needs and preferences; and, economic and organisational concerns
(ILO, 2001).

Policies and strategies introduced to improve work-life balance focus on the flexibility of
working arrangements, not only in respect of actual working hours, but also by giving
employees the opportunity to work from home. For example, the Department for Business,
Enterprise and Regulatory Reform (BERR) formerly the Department for Trade and Industry
has produced guidance on teleworking for employees (DTI, 2003). This document covers
aspects of teleworking such as health and safety, equipment, organisation of work and
taxation. More recently, teleworking has drawn support from both government and business.
The Department for Transport (Smarter Choices, 2004) has promoted teleworking as a
means to reduce traffic during peak times and car use within households per se. In addition
it has founded the National Business Travel Network which offers guidance for smarter work
based travel and the sharing of best practice between businesses (NBTN, 2008). Support for
teleworking has also come from those who telework. The Telework Association has recently

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1 The National Travel Survey is a continuous survey which collects information on people’s travel
patterns and behaviour. It is funded by the Department for Transport. A series of qualitative follow-
up studies conducted by the National Centre for Social Research (NatCen) has explored the travel
behaviours, experiences, needs and aspirations of older people, young adults, low income
households, and disabled people.

2 NB. This percentage excludes those who always work from home.
petitioned the Prime Minister to extend the practice of teleworking and flexible working as a means of not only reducing congestion and pollution but also improving work life balance (The Telework Association, 2008).

Research to support the policy agenda promoting teleworking as an important component of 'smarter travel' initiatives (i.e. influencing people's travel behaviour towards more sustainable options) has explored the impact of teleworking on individuals' travel behaviour (DFT, 2006). Analyses of NTS data (see Appendix A) show that although teleworkers carry out fewer commuting trips, the annual distance travelled by people who do not telework is considerably less. When the types of trip are analysed separately, and all commuting travel is removed, those who are able to work from home for some of the time carry out more trips and travel greater distances annually for a range of personal, business and leisure purposes compared to those who cannot work from home. Transport modes utilised between the two groups also differ, with 88 per cent of teleworkers' commuting trips made by car compared to 74 per cent amongst those that do not work from home.

These travel trends, particularly the difference in frequency of commuting, have instigated studies exploring the possible scope for extending teleworking in the future as means of reducing transport use. Lake et al (DfT, 2004) give details of the 'teleworkability' of employees of Cambridgeshire County Council. Here 30 to 50 per cent of the tasks carried out by managers were location independent meaning that they could be performed from home with the use of ICT. The paper concludes by proposing that within Cambridgeshire County Council all roles have some potential to be carried out away from the main office. As such, any employee could become a teleworker. On a larger scale, the Institute of Employment Studies (IES, in Hotopp, 2001) explored occupations considered suited to teleworking in the EU. Data indicate that in the UK, 23 per cent of men and women in employment could potentially telework.

Despite the gap between the increased potential for teleworking and actual take-up by employees, there is a dearth of research exploring the range of attitudes and circumstances of teleworkers. In particular, the negative effects of teleworking are largely neglected in the literature, warranting only a brief paragraph in the Smarter Choices paper with respect to a case study at British Telecom (Hopkinson in DfT, 2004). Here, along with the benefits of teleworking reported, negative impacts such as working longer hours, feeling isolated from colleagues, and domestic conflict were also discussed. A qualitative study by Tietze (2002) has also explored the practice of teleworking and its impact on roles within the household. Tietze presents three different ways teleworkers manage the experience of working from home: 'home sweet home' where work is completely integrated into home life with no division between working and personal or family time and space; 'the assembly line' where time and space are rigorously managed to ensure that boundaries exist between work and home life; and, 'fleeing back to the office' where people consider a return to the office, despite the additional problems this would create, in order to achieve a more 'normal' working day.

Notwithstanding an increase in the prevalence of teleworking and the policy drive toward promoting this further in the UK, research indicates an unclear picture concerning the bearing teleworking has on individual's transport behaviour and wider quality of life. Therefore, to inform current and future transport policy robust evidence is needed concerning the diversity of attitudes, needs and transport behaviours of teleworkers.

1.2 Methodology

The study involved qualitative in-depth interviews with a sample of teleworkers. The exploratory and responsive nature of qualitative research allowed the individual
circumstances and experiences of participants to be explored in depth, facilitating a detailed examination of individual teleworking patterns and the impact of teleworking on travel behaviour.

1.2.1 Sampling and recruitment

Participants were drawn from a sample frame of people who had taken part in the 2006 and early 2007 National Travel Survey and who had given their consent to be re-contacted about participating in future research. Eligibility criteria for inclusion in the sample frame were that they worked from home, or were able to work from home, for some of the time, instead of travelling to a place of work.

Purposive sampling was used to ensure diversity of coverage across certain key variables. Rigorous purposive sampling is important in order to capture and explore the full range of experiences and processes, and to explore the factors underpinning attitudes, choices and behaviours of teleworkers. Purposive sampling involves the setting of quotas for each different sampling criterion. For this study these were:

Frequency of teleworking: Quotas were set so that both frequent and occasional teleworkers were included in the sample. Frequent teleworkers were those who worked from home at least once a week and occasional teleworkers worked from home less frequently than this.

Age: Participants were recruited in three age groups: under 30s; 31-50 and over 50s.

Gender: Across each of the age groups, a balance of male and female participants was sought.

Household occupancy: Quotas were set to include those living alone, those living with a partner or other adults and those living with children.

Employment status and type: Quotas were set to include both employed and self-employed participants across managerial, professional and skilled occupations.

Geographic area: Quotas for geographic areas were also set to ensure that people from diverse locations across England with variable transport provision were included.

Secondary sampling criteria were also utilised. These encompassed main mode of transport for travel to place of work, size of employer and distance from usual workplace. Although quotas were not set, these criteria were closely monitored to ensure diverse sample coverage.

A letter and information sheet was sent to potential participants, and this was followed-up with a telephone call to find out if they would be interested in being interviewed as part of the study. If they were, a short screening questionnaire was conducted to ensure they would fulfil the sample quota requirements (copies of the recruitment materials and screening instrument are provided in appendices B to E). A table showing the composition of the achieved sample in relation to the primary sampling criteria is provided below.
### Table 1.2: Sample profile (N=49)

<table>
<thead>
<tr>
<th>Primary sampling criteria</th>
<th>EMPLOYED</th>
<th></th>
<th>SELF EMPLOYED</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Number achieved</td>
<td>Quota set</td>
<td>Number achieved</td>
<td>Quota set</td>
</tr>
<tr>
<td>Frequency of teleworking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequently</td>
<td>14</td>
<td>At least 10</td>
<td>19</td>
<td>At least 15</td>
</tr>
<tr>
<td>Occasionally</td>
<td>16</td>
<td>At least 10</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 30</td>
<td>3</td>
<td>At least 5</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>30 – 49</td>
<td>18</td>
<td>At least 5</td>
<td>9</td>
<td>At least 10</td>
</tr>
<tr>
<td>50 +</td>
<td>9</td>
<td>At least 5</td>
<td>9</td>
<td>At least 10</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>13</td>
<td>At least 9</td>
<td>13</td>
<td>At least 9</td>
</tr>
<tr>
<td>Female</td>
<td>17</td>
<td>At least 9</td>
<td>6</td>
<td>At least 9</td>
</tr>
<tr>
<td>Household occupancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lives alone</td>
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<td>At least 5</td>
<td>2</td>
<td>At least 5</td>
</tr>
<tr>
<td>Lives with partner/other adults</td>
<td>12</td>
<td>At least 5</td>
<td>11</td>
<td>At least 5</td>
</tr>
<tr>
<td>Lives with children</td>
<td>10</td>
<td>At least 5</td>
<td>6</td>
<td>At least 5</td>
</tr>
<tr>
<td>Economic activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managerial/professional</td>
<td>25</td>
<td>At least 10</td>
<td>14</td>
<td>At least 10</td>
</tr>
<tr>
<td>Skilled occupation</td>
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<td>At least 7</td>
<td>5</td>
<td>At least 7</td>
</tr>
<tr>
<td>Geographic area</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large urban city</td>
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<td>At least 9</td>
<td>8</td>
<td>At least 9</td>
</tr>
<tr>
<td>Rural county/town</td>
<td>20</td>
<td>At least 9</td>
<td>11</td>
<td>At least 9</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>25</td>
<td>19</td>
<td>25</td>
</tr>
</tbody>
</table>
1.2.2 Data collection and analysis

A total of 49 qualitative in-depth interviews, each lasting between 60 and 90 minutes, were conducted with participants between October and November 2007. Interviews were digitally recorded and transcribed verbatim in preparation for analysis using ‘Framework’, a method developed by NatCen. ‘Framework’ involves the systematic analysis of verbatim interview data within a thematic matrix. The key topics and issues emerging from the interviews were identified through familiarisation with interview transcripts as well as reference to the original objectives and the topic guide used to conduct the interviews (a copy of the topic guide is provided in Appendix E). A series of thematic charts were then drawn up and data from each transcript were summarised under each topic. This then allowed for the detailed exploration of the charted data, exploring the range of views and experiences in different themes and allowing comparison across cases and groups of cases.

The purpose of qualitative research is to map the range of phenomena and processes (for example, attitudes, circumstances, decision-making processes and so on) found amongst the sample of participants and to provide an understanding of how different factors influence attitudes, choices and behaviours. Given rigorous purposive sampling, the mapping of phenomena and processes and the identification of factors underpinning choices and behaviours can be generalised to the wider population of teleworkers. The study cannot provide findings concerning numerical prevalence. Qualitative research instead provides rich descriptive data about behaviours, views or outcomes, shows the circumstances under which they arise, and highlights the factors that influence them.

1.3 Overview of the report

Chapter 2 looks at the nature and practices of teleworking among the study participants. It explores the diversity of teleworking patterns and practices, and the range of motivations for teleworking. Chapter 3 provides a detailed examination of the impact of teleworking on people’s travel choices and behaviour. Chapter 4 then discusses key facilitators and barriers experienced by teleworkers. Finally, Chapter 5 summarises the key findings of the research and describes the implications for transport policy and other cross-cutting policy areas.

2. Nature and practices of teleworking

Teleworkers have often been referred to as a broadly homogenous group and previous research and policy documents have tended not to explore variation in the nature and practices of teleworking amongst teleworkers (e.g. DTI, 2003; Sloman et. al., 2004). Interviews for this study, however, have highlighted considerable diversity within this group. In this chapter the diversity of teleworking practice and motivations for teleworking is described in detail as this provides important context for subsequent chapters exploring the impact of teleworking on travel behaviour and facilitators and barriers to teleworking.

This chapter explores the distinctions and differences in the nature and practice of teleworking. It begins by introducing the characteristics of the different types of teleworker.
included in the sample (section 2.1) before examining patterns of teleworking (section 2.2).
The chapter then discusses participants’ key work-related and personal or domestic-related
motivations for teleworking (section 2.3), before considering other motivations and impacts
of this working practice (section 2.4).

2.1 Types of teleworker

As outlined in the previous chapter (section 1.2.1), the sample was purposively selected to
comprise two groups of teleworkers: those who worked from home (instead of travelling to
a place of work) on a frequent basis (at least once per week) and those who worked from
home on an occasional basis (less than once per week). Between these two groups, clear
differences in terms of type of role and level of seniority emerged. These are illustrated in
Table 2.1 below.

Table 2.1: Types of teleworker

<table>
<thead>
<tr>
<th>Frequent (employed or self-employed)</th>
<th>Occasional (employed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part-time administrative roles (e.g. administrative assistants / secretaries)</td>
<td>Full-time, less strategic roles (e.g. local government officers, project managers, assistant managers)</td>
</tr>
<tr>
<td>Full or part-time strategic roles (employed or self-employed) involving managerial, financial or personnel-related responsibilities (e.g. HR / IT consultants, company owners/directors, senior accountants/financial advisors)</td>
<td></td>
</tr>
</tbody>
</table>

The table above shows that employed and self-employed participants who were teleworking
on a frequent basis tended to be performing either part-time administrative roles or more
strategic roles.

Frequent teleworkers who had part-time administrative roles were generally female, were
also primary carers for children, and had specific tasks or types of task that they undertook
whilst teleworking. Examples of jobs amongst this group included accountancy or book
keeping and nursery and primary school administration. Men amongst this group tended to
perform this type of role alongside other work, or in the context of partial retirement.

Frequent teleworkers who had more strategic roles were both male and female, and
described their responsibilities as including managerial, financial and personnel related tasks.
Participants in this group included HR and IT consultants, company directors and senior accountants / financial advisors.

In contrast, participants who worked from home less frequently tended to be employed in less strategic roles, often in the public sector. They tended to be working as part of a team and did not tend to discuss regularly performing tasks which were considered well-suited to teleworking (see section 2.3.1 below). In addition to this, underpinning the low frequency of working from home amongst some people was that teleworking did not appear to be as embedded in the culture of their employing organisations. The impact of organisational culture on the experience of teleworking is discussed in further detail in section 2.4 below.

### 2.2 Patterns of teleworking

Amongst frequent teleworkers, teleworking tended to be performed in whole or half days rather than in smaller parts of the day, although there was variation in the stability of when in a week or month frequent teleworking took place. People with stable teleworking patterns described working from home on the same number of days in a week and for some, these also happened on the same day(s) each week. In addition, teleworking was sometimes part of these participants’ contracted working arrangements or, for self-employed participants, happened on the basis of an aim or agreement to telework for a particular portion of the working week. Where this was agreed on a more informal basis, rather than written into a contract, the days of the week in which teleworking took place were led by work-related demands.

In contrast, for employed people who teleworked on a more occasional basis, teleworking for smaller segments of the day tended to be the pattern. However, whole and half days spent teleworking also occurred amongst this group.

A clear theme that emerged was how participants tended not to replicate their work-place hours when teleworking. They were, therefore, unlikely to work the same hours at the same times as would happen when not teleworking. Across all groups of teleworkers (employed and self-employed, frequent and occasional), people managed their time when working from home for whole or part days in a variety of different ways, as described below:

Working the same number of hours in the day (or part day) as any other working day...

...but starting later or earlier. So, for example, a teleworking day could be 10am until 6pm or 8am until 4pm, rather than 9am to 5pm.

...but over a longer elapsed time period. This pattern meant that participants took longer breaks during the day, but worked later to make up these hours.
Working the same number of hours over a working week but at varying times week by week. This involved teleworking for a specific number of hours over the course of a week, but at varying points during the week and could include working at the weekend.

Working longer hours than contracted / worked at the usual work place by...

...incorporating commuting time into the working day. These participants described working their usual hours and supplementing these with the time usually spent travelling to a place of work.

...extending the working day by working from earlier in the morning and/or later into the evening or at weekends. These participants extended their working day by working additional hours to their usual hours at a place of work.

Working fewer hours than contracted / worked at the usual work place. This involved starting later and/or finishing earlier than the participant would normally do at a place of work.

Across both frequent and occasional teleworking groups there was clear seasonal variation which was driven by both work and family-related factors:

Work-related variation. Some roles were characterised by variation in tasks at different points in time, or by peaks and troughs in the level of work. This was the result of customer/client demand peaking and ebbing at different times of the year, or happened due to the changing nature of tasks across a project life-cycle or was, very literally, based on the season. This type of seasonal variation was evident across the sample and affected, for example, accountants, civil engineers, and those working in education.

Family-related variation (increased or reduced telework during school holidays). Some parents, particularly women, increased their teleworking hours during school holidays to better meet the family’s childcare needs. However, for some parents, and notably for fathers in the sample, teleworking during the school holidays decreased. Whilst children were home during the day, working from home offered a less uninterrupted work environment and was subsequently used less and some participants deliberately chose not to work from home when they knew their children would be there. Other participants felt it was not fair on children for parents to be at home and yet not accessible because they were working. This pattern of seasonal variation was particularly described by participants who did not have a quiet and dedicated working space at home.

This section has described the heterogeneity of teleworking patterns amongst people in this sample. A key finding was that individual patterns of teleworking also varied over time according to the changing needs of the individual, their family and workplace. Therefore
patterns of teleworking were certainly not stable and could vary for work-related or family-related reasons, both in terms of teleworking hours, and frequency of teleworking during the year.

2.3 Motivations for teleworking

The patterns of teleworking described above were influenced by participants’ motivations for teleworking. This research identified two primary motivating factors to telework: work and personal/domestic reasons. Secondary motivating factors or incentives were also identified: financial and environmental. It is important to note that the research found a circular relationship between participants’ motivations and the outcomes and impacts of teleworking. In other words, the reasons given for wanting to telework were broadly the same as the outcomes or impacts of teleworking that they described. Thus, the motivating factors discussed below are also impacts or outcomes of teleworking.

2.3.1 Work-related motivations

Motivations to telework that were associated with work roles tended to fall within two broad groups: task-related and travel-related.

**Task-related**

Teleworking tended to be associated with particular types of tasks. Here some participants explained that the quieter and more solitary nature of the home teleworking environment was better suited to tasks requiring focused concentration. The tasks carried out whilst teleworking fell into four groups: administration; reading and (desk) research; creative tasks; and, report writing. Examples of each of these are provided in Table 2.3.

<table>
<thead>
<tr>
<th>Task type</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>General administration; financial administration and book keeping; correspondence; diary management</td>
</tr>
<tr>
<td>Reading and (desk) research</td>
<td>Internet research; reading reports, theses and articles; reviewing memos/internal documents</td>
</tr>
<tr>
<td>Creative tasks</td>
<td>Project planning and design; design drawings; document design; song-writing; planning</td>
</tr>
</tbody>
</table>
People tended to express a preference for working on particular types of tasks from home such as preparing lectures, writing proposals or reports or reading complex documents because they felt able to work on these types of tasks more successfully and efficiently from home. Thus, some tasks were carried out whilst teleworking specifically because working from home offered a different type of environment from that of the usual workplace, in particular an environment free from the interruptions of a shared work-space.

“It’s very difficult to mark work sat at a desk with people you know up and down the corridor or knocking on the door. You need quiet, you need a comfy sofa and your slippers and a cup of tea when you feel like it, because it’s not the sort of thing that you just do and it’s finished. You have to come back to things.” (Female, employed, lecturer)

Working in a task-led fashion was described across the sample, by both employed and self-employed, frequent and occasional, teleworkers. However, a theme that emerged from the interviews was that those who were self-employed tended to adopt this pattern to a greater extent than employed teleworkers. This appeared to be associated with the autonomy they had over when work was to be done. Within the employed group, task-led management of teleworking time was particularly prevalent amongst more senior professionals and again appears to reflect a greater degree of autonomy.

Task-led management of the working day tended to be associated with a longer than usual working day which could extend late into evening or the weekend. The need or desire to work additional (often unpaid) hours was sometimes seasonal, such as end-of-year accounting. For some participants, their teleworking had originally started when they had been required to do extra work above their contracted or usual hours during the evenings or at weekends in order to meet a deadline, and they were authorised to do this work from home. Amongst those working longer hours, a recurrent theme was how they described themselves as particularly dedicated to and enthusiastic about their work, suggesting that their working life occupies a large and key part of the landscape of their lives. In addition, they also tended not to have young children which arguably provides support for this supposition.

Although a great deal of variation was evident in when and how people managed their teleworking time it was striking that teleworking often seemed to involve doing more work and longer hours than when these individuals were not teleworking. This clearly suggests
that teleworking is of particular benefit to employers who seem to get more work from some staff because they are teleworking.

In contrast, the productivity, for some, associated with teleworking could mean that fewer hours were spent working than would be the case in the usual work place. In this pattern teleworkers described working to achieve a specific list of tasks which could be done more efficiently from home. This was due to the home-working environment being characterised by fewer distractions and interruptions compared to their place of work. The time gained by working productively this way could then be spent in other ways, such as with the family or engaging in leisure activities.

“The way I work isn’t a set number of hours a day: [ ] I do enough work to get the jobs done for that day. So it’s between seven and nine or ten hours a day. So yes, I would do about the same from home as I would from, from the office. However, it can be a little bit less from home because the work I’m doing is more efficient, because there’s no [ ] distractions.” (Male, employed, company IT director)

**Travel-related**

Participants talked about making a variety of journeys for work in a typical week. These journeys included commutes of between 35 and 90 minutes to their usual places of work as well as numerous other work-related journeys. Some employed people talked about having to travel into their main place of work and then make visits to multiple work sites or clients’ offices as a core part of their role. Similarly, self-employed teleworkers discussed travelling to meet business partners and customers at different locations on the same day.

The nature of individuals’ commute and other business travel commitments was also a motivating factor for teleworking. Teleworking enabled people to structure their working day so that journeys for work purposes were as pleasant and made the best use of their time as possible. Interviews with both employed and self-employed teleworkers revealed two clear patterns for how they managed their work-travel behaviour: commute displacement and commute reduction.

**Commute displacement.** This pattern involved working from home for part of the day either before or after commuting to and from the workplace. For example, one participant talked about how he would often work from home in the morning and then travel into the office at lunchtime. This was perceived to offer two key benefits. First he felt he was at his most productive between 9am and 12 noon and the working environment at home was conducive to this, and second, a midday trip to work helped him avoid what he described as the busy and sometimes stressful rush-hour commute. Travelling at peak times tended to be experienced as stressful due to the need to leave home or work at a fixed time, traffic congestion making journeys unpredictable and time-consuming, exposure to risk on the roads, and overcrowding on buses and trains.

**Commute reduction.** This pattern had three influencing factors:

i) Some participants were keen to eliminate, for part of the week or month, the daily commute to work. Working from home for part of the week offered a welcome change in routine, and relief from the ‘drudgery’ or ‘stress’ of commuting to the workplace.
ii) There was a wish amongst some to reduce the overall amount of work travel (and time spent travelling) on days when business travel was required. Business travel was especially extensive amongst frequent teleworkers in the sample and involved site visits and external meetings in multiple locations as a core part of participants’ roles. By working from home on days when such business travel was undertaken, participants’ felt they made much more efficient use of their time.

iii) The location of home in relation to the main place of work was a motivating factor for other people. Teleworking, or the option to telework, meant a wider geographic area could be considered when choosing where to live. For some participants, their pattern of teleworking had been preceded by moving home further away from their workplace (and often to rural locations), thereby extending their commute. For these participants, reducing the number of times they needed to commute to work was a clear motivation for teleworking.

### 2.3.2 Personal/domestic motivations

Unsurprisingly, personal or domestic motivations to telework were predominantly related to family or household needs (family-related), but were also associated with more general work-life balance issues.

**Family-related**

Having increased time to spend with their partner or family was a key positive benefit of teleworking that was discussed. Consequently, time management when teleworking tended to be family-led for parents interviewed. Here, the flexible hours associated with teleworking formed a central part of parents’ strategies for maximising time spent with children. Teleworking thus allowed parents, and especially fathers in the sample to have a visible presence in children’s lives. This enabled them to play a more active role during the working week in the care and upbringing of their children. People were explicit in how much they valued, for example, being able to spend mealtimes with their partner or family, being at home when their children got back from school, and helping with children’s baths and bedtimes, either by being able to start and finish work earlier or later, or making up their work hours at other (often later) times during the day.

“[When] the [children] get home from school, I can sit down with them and do their work with them and help them out...When the kids are in bed you can carry on doing what you were doing before” (Male, employed, IT consultant)

Parents also described how teleworking facilitated taking and picking up children from nursery, school or after-school activities. In addition, for some teleworkers, the social and domestic travel needs of their partners were also accommodated.

For part-time teleworkers who were also parents, working time tended to be managed to fit around childcare or other caring responsibilities. These participants tended to be female and they sometimes described how flexible work hours associated with teleworking meant they were fully available, when necessary, to deal with the care of their family. As such, this flexibility meant that these people could work as and when ‘windows’ of time emerged such as when babies were sleeping. It was striking that self-employed participants who regulated
the number of hours they worked also tended to be primary carers, either for children or a disabled partner, or had experienced personal health difficulties. Although some talked about sending their children to nursery, or ensured other childcare was available on teleworking days, teleworking meant these people could minimise time spent apart from young children.

“For me with a little...three year old [child]... it was very important...that...my hours would be flexible and then I could make up time. It wasn’t like, ‘now you have to be in every day at 9.00’...the fact that I could be flexible [ ] in the working arrangement and [ ] work from [ ] home...if the [children] were unwell, or if the nursery was closed for whatever [ ] reason...that was important for me.” (Female, employed, part-time community project co-ordinator)

**Work-life balance**

In addition to maximising the time participants could spend with their families, the flexible hours associated with teleworking for part of the week were also perceived as contributing towards a better work-life balance. On the whole, people considered their home to be a more relaxed, comfortable environment in which to work compared with their usual workplace. For example, some felt that at work they were ‘stuck’ behind their desk and restricted by cultural expectations to be formal, work continuously and sit quietly. In contrast, when working from home some teleworkers enjoyed being able to have the television or radio on in the background, not having to ‘dress’ for work, easy access to hot drinks and food, and the ability to take breaks and get fresh air by going into the garden or taking a walk to the park.

The ability to choose to do various domestic and other tasks, activities or appointments such as meeting a friend for coffee or attending healthcare appointments as required, also emerged from the interviews. In such circumstances, some people talked about how working time would be made up either earlier or later in the day if necessary to ensure their work was completed. This meant that work and domestic responsibilities could be more easily juggled, and tasks or appointments did not need to be squeezed into the weekend.

“Sometimes when you’re in the office you tend not to take breaks that you’re entitled to, I don’t anyway, take the breaks that you’re entitled to, so sometimes you don’t run those errands in your lunch hour that you could really do with getting done, and... if you’re working at home you think, ‘Oh, I’ll take my coffee break now,’ you can perhaps do something else at the same time like put a load of laundry on or something that you wouldn’t obviously have the opportunity to do at work.” (Female, employed, commercial development project manager)

Taking part in social, community and leisure activities were also facilitated by the more flexible hours associated with teleworking. Here people some described being more easily able to do fitness training, play sports, or engage in local community activities on evenings when they worked from home because of time saved through not commuting to and from work.

**2.3.3 Financial/environmental incentives**

Economic and environmental considerations also emerged from the interviews as additional or secondary motivating factors for, and consequences or benefits of, teleworking. However,
in terms of cost, it was striking that participants tended not to have analysed how much money they were spending or saving through teleworking. Where people indicated that teleworking was saving them money through reduced fuel costs and wear and tear on their cars, they tended not to have considered whether these savings were cancelled out through additional household costs.

Conversely, where working from home incurred extra household costs, for example relating to heating, electricity and telephone / internet bills, some people had not calculated whether these costs were offset by savings made through not commuting to work. Finally, although teleworkers mentioned that commute reduction did have an environmental impact in terms of reduced CO2 emissions, this was described in terms of a beneficial consequence of teleworking, rather than acting as a principal motivator.

2.4 Summary

This chapter has demonstrated that there is considerable variation in the nature and practices of teleworking. This study has found that different frequencies and patterns of teleworking tended to be associated with particular types of role and levels of seniority. Whatever the frequency of their teleworking, participants were unlikely to replicate their usual work-place hours when working from home. There was also work-related and family-related seasonal variation in participants’ teleworking patterns.

Two key motivating factors emerged from the research. People were motivated to telework for work-related and personal or domestic-related reasons. Motivations were related to tasks performed as part of participants’ roles, or the travel (both commuting and other business travel) requirements of their jobs. Participants were also motivated by a desire for increased family contact or a better work-life balance. These motivational factors were also key outcomes of teleworking for participants. As such, teleworking was perceived to have multiple benefits including greater productivity, commute displacement or reduction, more contact with children, the ability to combine work and parenting and improved work-life balance.

In the next chapter the relationship between teleworking and travel is explored, in particular the impact of teleworking on the reduction or increase in overall travel.

3. Impacts of teleworking on travel behaviour

The previous chapter examined who teleworkers are, the diverse nature and practices of teleworking, and the range of motivations for (and outcomes of) teleworking. This chapter describes the influence of teleworking on the extent of individual and household travel. While it seems intuitive that people who work from home should travel less than those who make a daily commute to work, the reality is much more unclear. As outlined in Chapter 1 (section 1.1), evidence from the National Travel Survey (NTS) has suggested that teleworkers actually travel more than workers who commute on a daily basis. Therefore, understanding the features that underpin these travel patterns is vital to inform the wider debate about the role of teleworking within ‘smarter travel’ policies.
3.1 How teleworkers travel

Chapter 2 has illustrated that teleworkers tended to lead very busy lives both in and outside of the workplace. This meant that effective management of the extensive patterns of travel in participants' work and personal lives had a clear bearing on which transport mode(s) they decided to use for particular trips. Underpinning this was the fact that both employed and self-employed teleworkers had an explicit interest in maximising the use of their time during the working day. Consequently, considerations around effective time management had an overarching influence on decisions about what mode(s) of transport to use. Unsurprisingly, the car was the dominant mode of transport for most types of journeys across the sample, as trips by car were considered as the most efficient and dependable way of getting around.

The preference for car travel was particularly acute amongst participants who described geographically dispersed work commitments. For example, it was not uncharacteristic for some participants to spend one day travelling to two or three sites that were a significant distance apart. In such cases, making these journeys by car was the quickest way of getting around. As well as travelling to locations that were a considerable distance apart, some teleworkers also described having to attend a range of local meetings at different venues in the same working day. Amongst some employed and self employed participants, it was recognised that travelling by car meant that these encounters with colleagues or clients could be easily fitted into the day. That is, the car facilitated fast travel between locations when the individual wanted, compared to slower public transport (particularly the bus) which was described as too time-consuming.

For those who structured their day alongside meeting the needs of their children it was considered important that transport modes were dependable. Again teleworkers articulated that the optimum mode here was the car, as it could be relied on, more than public transport, to get the person to a specific place on time. This need was particularly acute when participants talked about interrupting their working day to collect children from day care, school, or other activities.

Although the car was the dominant mode of transport across the sample, there were circumstances when teleworkers choose to use public transport. Once again, making optimum use of time underpinned this decision. For example, some people talked about using the train or coach for longer city to city journeys where wireless connectivity was available on board. Here, working on a laptop on the train or coach was perceived to be more productive than sitting behind the wheel of a car on the motorway. Furthermore, for some self-employed staff who had overall control of their time and thus more flexibility regarding how time was utilised, some trips during the week were made by public transport.

3.2 Impact of the interaction of work and personal need on travel

It is clear from discussion throughout the report that teleworkers lead busy and active lives, and that the motivations for and outcomes of teleworking are centred on meeting work and personal or domestic needs. Therefore, to provide a comprehensive understanding of the impact of teleworking on individual and household travel that informs the cross-cutting policy debate, describing the interaction between work and personal travel needs is...
essential. In Figure 3.1 below, this interaction is represented where the horizontal axis shows the extent of work need, and the vertical axis the extent of personal need.

**Figure 3.2: Impact of the interaction between work and personal need on travel**

<table>
<thead>
<tr>
<th>Personal</th>
<th>Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>GROUP 1</td>
<td>GROUP 2</td>
</tr>
<tr>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>GROUP 3</td>
<td>GROUP 4</td>
</tr>
<tr>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>

**3.2.1 Group 1: High personal and work travel needs**

This group of teleworkers was very mobile. Those aged in their mid-twenties to mid-thirties were generally travelling extensively for two key and interrelated reasons. In addition to having careers that necessitated extensive travel, they also tended to have a young family which meant high household travel demands.

People in this group tended to describe using their cars on days they worked from home, as they drove on those days in order to flexibly meet the needs of their employer or business, as well as personal and household needs. For example, some participants’ teleworking day was structured around providing lifts for their partner and/or children, doing the grocery shopping and running various errands, or travelling to conduct site visits or attend external meetings. Some people in this group described how they attempted to minimise their travel.
Here there was a tendency amongst teleworkers in this group to talk about using their cars to trip chain. This enabled them to combine multiple work and personal trips into one journey. For example:

- A male teleworker with two young children described popping out to do some shopping and running various errands around lunchtime when working from home. This meant he could make several trips that helped keep the household running, at a quieter time and in one go.
- A female teleworker had adopted a partial teleworking pattern, which involved working from home in the mornings which enabled her to take her son to nursery. She then travelled to her place of work around lunchtime and combined her return commute with bringing her son home from nursery.
- A male teleworker worked from home on days site visits were required. This meant a reduction in time spent travelling as the commute to his work place was eliminated on such days.

Whilst teleworking had an impact on the timing or overall frequency of their commute (see Chapter 2 for a discussion of commute displacement and commute reduction), it is important to recognise that the nature of these participants’ work and domestic or personal commitments meant that they would probably still be travelling extensively if they never worked from home at all. High levels of business travel would remain unchanged and personal and domestic trips made by participants when teleworking would also probably be made in any case (e.g. by another household member or during the evening or weekend).

On the whole, working from home did not tend to reduce the amount of travel for these teleworkers because of the extent of work and personal and household travel needs. For this group then, the clear impact of teleworking on individual and household travel was related to when trips where made. That is, working from home appeared to facilitate a movement or displacement in the timing of work and personal journeys, often from peak periods where congestion was at its worst to other parts of the day when the trips was more pleasant and much faster. This pattern of travel has clear implications for environment policy in that teleworking for this group does not reduce the carbon footprint of the individual and household; it simply moves it around.

### 3.2.2 Group 2: High personal and low work travel needs

This second group of teleworkers described less work-related or business travel than the first group as they tended to be based in one core location, or have local clients which reduced the need for extensive work journeys. In fact, keeping clients local was a conscious choice for some self-employed teleworkers due to the need to be quickly on hand to manage a range of household travel demands. Overall, however, the extent of personal travel demands meant that this group of teleworkers tended to be just as mobile as the first group as they took their children to day-care activities, went to a local gym at lunchtime, made trips to the shops alone or with a partner, or sometimes took partners to and from their place of work. As for Group 1, it was typical for these trips to be made by car due to the need to get things done and get back to work as quickly as possible. Again, working from home appeared to facilitate a displacement in the timing of some personal journeys from peak travel periods so journeys were faster.
3.2.3 Group 3: High work and low personal travel needs

The third group of teleworkers tended to be living with a partner and have older children who were self-sufficient in terms of their travel. That is, children had either moved away from home or lived at home but travelled independently. The impact of teleworking on the extent of travel for this group very much depended on the nature of their role.

- On the one hand, when some participants were based at home for the whole day there was a tendency for travel to reduce.
- On the other hand, for participants who were still travelling to other locations when working from home, travel distance typically remained the same, as regular trips to meet with clients and visit sites were simply made from home instead of from the office.

As with Groups 1 and 2 above, there was some evidence that the timing of some trips changed as participants described scheduling meetings so they were able to set off from home after the morning rush-hour.

3.2.4 Group 4: Low personal and work travel needs

This final group of teleworkers had both low work and personal needs. As a result, teleworking did appear to have an impact on reducing the extent of travel made by both the individual and the household. Although these participants tended to be slightly older, did not have children living with them and lived in urban areas, their low level of travel cannot be explained by demographic features alone. For some it was an explicit personal choice and this emerged in a number of ways:

- Concerns about the impact of their car, and to some extent other forms of transport, on the environment made some participants in this group consciously choose to use their car less. Teleworking, allowed these participants to reduce their carbon footprint by not travelling into the office and making no other trips when working from home.
- For other participants, a dislike of driving due to road conditions and congestion was a clear motivator to work from home as frequently as possible. To this end, one participant described his motivation for becoming self-employed was to increase the extent of his teleworking and thereby reduce the amount of stressful car travel.
- The personal work ethic of some participants was a further explanation for why travel reduced. Maintaining self-discipline and a working mentality when working from home underpinned a reduction in car use and other forms of travel here and these teleworkers did not allow domestic and personal tasks to intrude into the working day.
- Finally, a reduction in travel for some teleworkers in this group was a result of improvements in the affordability, functionality and accessibility of information and communications technology (ICT). The importance of ICT in facilitating teleworking is discussed in detail in the next chapter.

3.3 Summary

Throughout chapters 2 and 3, the interaction between work and personal or domestic motivations or needs has been central in explaining the behavior of teleworkers. This was
also the case when exploring the impact of teleworking on the nature and extent of individual and household travel. Teleworkers tended to maximise the use of time by making work and personal trips as quickly as possible, meaning that journeys by car were commonplace amongst participants in this sample. Where there was a combination of high work and personal needs, there was extensive car travel and teleworking had little impact beyond displacing or reducing their commute. For the two groups who had either high work or high personal travel needs, but not both, the overall extent of individual and household car travel was broadly similar, with the impact of teleworking evident in terms of moving the timing of journeys. Teleworking, therefore, was more likely to be part of a strategy to help participants more effectively and efficiently manage their high travel needs, rather than reduce them.

Conversely, participants with low work and personal needs tended to describe a decrease in car travel as a result of teleworking. This reduction in car use was sometimes a conscious decision for personal reasons such as environmental or financial concerns, or maintaining a personal work ethic.

Positive outcomes of teleworking described in chapters 2 and 3 have included:

- Individual task-related productivity
- Commute displacement or reduction
- More time spent with the family
- Improved work-life balance
- Efficient management of high travel needs
- Reduction in car travel for some participants

Given that these outcomes are beneficial for individuals, families, employers, transport infrastructure and the environment, it is important to explore, in the next chapter, the facilitators and barriers experienced by teleworkers in order to establish the ways in which teleworking could be promoted, encouraged or supported.

4. Facilitators and barriers to teleworking

In the current climate of promoting teleworking as a method of smarter travel that contributes to work-life balance, little has been written about the facilitators and barriers experienced by individuals when adopting this working practice. This research found several key facilitators and barriers to teleworking experienced by participants. However, policy that encourages telework also needs to consider the factors which enable or prevent people from teleworking. It also needs to take account of the negative ways in which it can be experienced. This is key for individuals and employers to make an informed choice about
whether they want or are able to work, or encourage employees to work, this way in the future.

This chapter examines the role of information and communications technology (ICT) in teleworking (section 4.1). It goes on to discuss other facilitators and barriers to teleworking: employer attitudes (section 4.2), personal work ethic (section 4.3), work/personal life boundary (section 4.4) and isolation (section 4.5).

4.1 The role of ICT in teleworking

As ICT continues to play a greater role in the lives of people at work and at home, it is perhaps unsurprising that all participants talked about being dependent, albeit to varying degrees, on ICT when working from home. ICT was described by people as ‘essential’ or ‘critical’ in enabling them to work flexibly, efficiently and effectively from home. Although both the employed and self-employed were engaged either part-time or full-time in a diverse range of occupations, they generally emphasised that they would not be able to work from home without ICT. Indeed, a key barrier to working from home was inadequate ICT. However, there were key differences among participants in terms of the level of ICT provision they were able to utilise when working from home.

4.1.1 Adequacy of ICT provision for teleworking

This research has identified three levels of ICT provision for teleworking. Each level is defined by the adequacy of provision across four dimensions: hardware; software; connectivity; and, user support (financial and technical) as mapped in Table 4.1. The lowest level of ICT provision was considered by participants as the minimum required for working from home, while the highest level of ICT provision was viewed as the ideal for efficient and effective teleworking. The adequacy of participants’ ICT provision for teleworking underpinned their experience of working from home, as well as the nature and extent of their teleworking.

Although the spectrum of ICT provision for teleworking shown in Table 4.1 was found amongst employed and self-employed people, and across employment sectors, there did appear to be some association between level of ICT provision and these characteristics. Those working in or for the private sector tended to have more sophisticated and comprehensive provision across the four dimensions of hardware, software, connectivity and support, whereas public sector workers expressed some frustration with ICT provision that was considered inadequate for efficient and effective teleworking. However, across both public and private sectors, those in more senior positions were more likely to benefit from better levels of ICT provision compared to those in more junior roles. Age and familiarity with various forms of ICT, whether for work or personal use, also had a bearing on the level of provision used. Here younger people and those with greater familiarity with new technologies tended to use more sophisticated ICT for teleworking.

Table 4.1: Adequacy of ICT provision for teleworking

<table>
<thead>
<tr>
<th>Level</th>
<th>Hardware</th>
<th>Software</th>
<th>Connectivity</th>
<th>User Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Basic</td>
<td>Basic</td>
<td>Basic</td>
<td>Basic</td>
</tr>
<tr>
<td>Medium</td>
<td>Advanced</td>
<td>Advanced</td>
<td>Advanced</td>
<td>Advanced</td>
</tr>
<tr>
<td>High</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Excellent</td>
</tr>
</tbody>
</table>

25
<table>
<thead>
<tr>
<th></th>
<th>Level 1 (minimum)</th>
<th>Level 2 (adequate)</th>
<th>Level 3 (ideal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware</td>
<td>PC or laptop provided by household and data storage device</td>
<td>Laptop and other hardware (e.g. printer) provided by employer</td>
<td>Laptop and other hardware (e.g. printer) provided by employer</td>
</tr>
<tr>
<td>Software</td>
<td>Provided by household</td>
<td>Provided by employer</td>
<td>Remote access to employer’s / company network(s) and services</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Dial-up Internet, telephone</td>
<td>Broadband Internet, Webmail, telephone</td>
<td>Broadband Internet, remote access, conferencing and instant messaging capability</td>
</tr>
<tr>
<td>Support</td>
<td>None</td>
<td>Financial or technical</td>
<td>Financial and technical</td>
</tr>
</tbody>
</table>

### 4.1.2 Hardware

A range of hardware when teleworking was described, including:

- Computers (desktop PCs, laptops and handheld computers)
- Data storage devices (e.g. USB flash memory drive)
- Printers and scanners
- Telephones (including mobiles) and webcams

Teleworkers with the lowest level of ICT provision tended to provide their own hardware when working from home, and were reliant on flash/USB memory data storage devices to transfer electronic files between home and work. For those without work-dedicated ICT
equipment, it was sometimes necessary to negotiate access to shared equipment with other household members.

Teleworkers with a more effective or adequate level of provision, had access to hardware provided by their employer or contractor, although some employers would only provide equipment if the employee was working from home for at least two days per week. However, for some participants, equipment supplied was not always fit for purpose. In particular, handheld computers were not deemed suitable for working on complex documents or spreadsheets because of their size and detail. Therefore, unless a PC or laptop was available, some could not work from home if access to such documents was required. Also, where people lacked the additional hardware, such as a printer, needed to perform the full range of tasks for their job, their ability to telework was limited.

Although we have seen how portable hardware could have its drawbacks regarding the accessibility of some documents, this technology also provided many benefits that enhanced the teleworking experience. People with portable hardware such as handheld computers (e.g. PDAs or BlackBerrys) were positive about how this equipment allowed them to work in the garden, pop to the shops or accompany their children to nursery and still be instantly reachable by telephone or email. Others enjoyed working on a laptop with wireless connectivity as it meant they could work anywhere in the house, garden or locally, and felt they were able to still be part of family life while working. Although some teleworkers mentioned that wireless Internet connections were useful, giving them flexibility in terms of where they worked in the home, others had stopped using them after experiencing reliability problems. In addition, some participants were also concerned about negative security and health implications associated with wireless technology.

4.1.3 Software

Alongside the use of hardware devices, people talked about also using a range of software when working from home, including generic software packages such as Microsoft Office and sector specific packages such as Sage accounting programmes. The accessibility, affordability and compatibility of work-related software acted as a barrier to effective teleworking for some participants. For example, some teleworkers were expected by their employer to supply and install their own software, but had found key software packages used at work were too expensive to buy. Consequently, these participants felt they could work from home more often if this software were provided and supported by their employer. Other teleworkers were simply muddling along with outdated software or relied on arrangements with other household members to use their equipment which had the relevant software installed. However, some of these teleworkers admitted they could get help from their employer if they requested it.

“The one problem is actually software in terms of Word and Excel. Obviously,...a lot of what we do is using Word and Excel. Now, I haven't actually got on my computer here the same Word and Excel software that they've got in the office...So [ ] if I am working from home on this computer [ ] sometimes I have format problems because of that...if it's a big complex document with lots of formatting, I can't get round it. So I can only work on simpler documents on my own computer...I could get round it...by asking the IT people in the office to supply me with copies of the up to date software, and they would do that. But...it's more hassle to do that.” (Male, employed, civil engineer)
In contrast to the experiences above, teleworkers with adequate ICT provision were provided with software by their employer or contractor, whether this was for installation on personal hardware, or pre-installed on company-owned equipment. Ideal ICT provision was described as including remote access (via the Internet) to an employer or company's network(s) and services. This meant they could access a Windows desktop offering features available at the workplace including software applications and other resources. Remote access offered these teleworkers a complete solution in terms of software compatibility as they could be assured of having access to the current versions being used in the workplace.

4.1.4 Connectivity

A vital dimension of adequate ICT provision for teleworkers was their connectivity in terms of the Internet. At the minimum level, participants had a dial-up Internet connection and were able to access the Web to carry out tasks for work. An adequate set-up included a broadband Internet connection and access to their work email account via the Web (Webmail). A recurrent theme amongst teleworkers was that they would not be able to work from home without broadband Internet access and Webmail. Fast access via broadband to Webmail meant participants were able to send and receive large files and respond to emails from home as efficiently as they would be able to in the workplace.

Teleworkers also explained how the increasing acceptability of submitting important documents as electronic attachments via email had reduced the need to print, fax, post or courier documents. This meant that submission of documents to another organisation by a particular time and date could be easily completed by participants from home. Teleworkers were engaged in a variety of these types of tasks while working from home, including preparing and filing psychological reports for court or submitting proposals to win contracts.

An ideal level of Internet connectivity comprised broadband coupled with remote access. Remote access represents the most sophisticated and secure level of ICT provision used by participants for working from home. Teleworkers' remote access rights or permissions ranged from access to an organisation's Intranet and remote file stores, to more extensive access to services including, for example, real time instant messaging software, which helped to maintain collaborative working and communication within a work team when members were working from home. Remote access was viewed as significantly advantageous for teleworking by participants both with and without remote access capability. Being granted remote access to a company's network, or for self-employed teleworkers, setting up remote access to their own networks, was a key point of origin for teleworking for some participants. As such remote access was mentioned by participants as being the main ICT factor in improving their ability to work from home and their frequency of doing so.

"[Remote access] enables you to get into [the company's] secure systems, it enables you to get their email...and effectively you've got exactly the same access at home as you have if you go in and plug your laptop in at the office. The other thing...is I've got broadband...so because I've got the speed for the connection that means that I can work pretty much as quickly at home if I'm getting large files sent to me on email as I can do in the office...Without [remote access and broadband] it would be tricky, it would be possible but it's not feasible long term and if I'm honest if I had someone working for me and they said they wanted to work from home and they..."
hadn’t got remote access then I’d just think ‘well I’m not sure how effective you’re going to be’...A lot of my work is spreadsheet related. I could do that sort of offline work but you find more and more that you need access to the company’s systems... you’re not stand-alone anymore in terms of doing your work.” (Female, employed, financial analyst)

Unsurprisingly, remote access was a key facilitator for those working in the ICT sector. They described being able to save travel time and time away from home through remotely accessing clients’ ICT systems, conducting fault-finding investigations and fixing systems both during the day, and at night (when systems and servers were not in use).

However, some teleworkers stated that remote access was only granted to senior staff and that lack of remote access meant they were limited in the tasks they could do from home. As a result, some could not work from home at all if remote access was necessary for the task. Teleworkers without remote access felt that once they had been granted remote access, or their employing organisation’s ICT had been upgraded and remote access servers installed, they would be more productive from home and would not have to put aside tasks to do from home, or tasks to do when back in the office.

“[Remote access] will make me more productive when I actually am at home. You know, it will mean that I don’t sort of have to put aside certain things to do once I get back to the office...It will mean there’s certain things that I can do that I can’t do right now...There’s certain information that I can’t access [from home], [ ] certain databases I can’t get into. But if I could do that from home would make it a little bit more efficient here.” (Female, employed, clinical studies officer)

4.1.5 Support

The final dimension of ICT adequacy was the level of support they received or were able to access. Here the nature and extent of ICT support had a clear bearing on how teleworking was experienced and the outcomes that could be achieved when participants were working from home. For those with minimum levels of provision, support tended to be non-existent. However, as the adequacy of provision improved, so too did levels of support. Teleworkers described varying degrees and combinations of support; the first of these was financial.

Financial support ranged from assistance with set-up costs such as the purchase of hardware and software, or the provision of these, to help with on-going costs, usually telephone bills or cost of Internet services. Some teleworkers mentioned that financial support was available but they had not utilised this, either because claiming it was perceived as ‘too much hassle’ or because they found it difficult to separate costs into those that were work-related and those that were personal.

There was also a range of technical support available to teleworkers. Some were able to access telephone support when working from home and could also take hardware to their place of work for software installation, repair and lost or corrupt file recovery. In addition, some self-employed people also described how they accessed technical support via organisations or clients they were working for, or from other sources including private support providers. Participants who used private providers for technical support did so
because this was considered less hassle, or because when they had requested support from a client or employer in the past it had not been readily available. Finally, some teleworkers had experienced problems with remote access and a lack of technical support was a barrier to working from home. These participants were often unclear whether remote access issues were related to their Internet connection or the reliability of remote access servers.

4.2 Employer attitudes

Alongside efficient ICT, employer attitudes towards teleworking also had a clear bearing on the frequency and experience of working from home. These attitudes were broadly described by participants as positive, neutral, or negative.

- **Positive.** A positive attitude towards teleworking was described as involving a culture of trust between managers and their staff. Here, employees are considered to have a professional attitude towards their work and are encouraged to work flexibly, independently and autonomously since this ensures productivity and job satisfaction. Employer attitudes towards teleworking were described, unsurprisingly, as positive amongst participants who worked from home on a frequent basis, although amongst more senior staff this positive attitude could be more restricted to the senior ranks rather than applied wholesale across a department or institution. People who felt that teleworking was encouraged by their employer recognised that this flexibility made them happier, made them feel trusted and valued, and often meant they felt more motivated in their jobs and consequently worked harder.

- **Neutral.** Employers with a more neutral attitude towards teleworking were perceived to have concerns regarding staff isolation resulting in a weakening of collective energy across a department or work team, or loss of focus and interest in the job among individual employees. Some participants working from home less often described their employer or manager as not being a ‘fan’ of teleworking. Within organisations where teleworking as a regular practice was limited, attitudes among staff could vary, depending on the seniority or proven productivity of the teleworker when working from home.

Some public sector teleworkers also explained that a requirement for increased accountability had been associated with a need for visibility and being physically present in the workplace. However, for others, their employer or company had instituted guidelines or a written policy for employees to ensure they remained accountable while working from home. For some people a neutral attitude to teleworking from their managers had gradually changed over time, as trust was established, and often as they became more senior in the organisation.

“I am expected to be in the office and it’s unusual that I would work from home although I do it more frequently now than I used to...because I am getting more senior and if I phone my boss up and say... I am going to work from home today he is quite chilled out about it. Because the more senior you get the more faith they have.” (Female, employed, solicitor)
- **Negative.** Employers who were described as having a negative attitude towards teleworking were perceived as being mistrustful of employees, viewing them as ‘mavericks’ or simply lacking the necessary commitment to produce results when working from home. This attitude could also permeate through an organisation resulting in colleagues commenting that working from home is synonymous with ‘not coming in [i.e. not working]’, ‘knocking off early’, or ‘taking advantage’. Some participants here described how flexible working was open to abuse within their organisation and that their colleagues openly admitted not doing anything when working from home.

### 4.3 Personal work ethic

As well as the impact of ICT and degree of organisational support, the self-efficacy of teleworkers also seemed to underpin how working from home was experienced. Here self-discipline was considered to be a key personal attribute or characteristic associated with successful teleworking. Self-discipline was described by some teleworkers or as comprising a number of vital characteristics:

- an ability to stay focused until work is completed (including ‘blocking out’ domestic tasks until work is finished);
- an ability to structure and plan work tasks for the day;
- agreeing with friends that if they visit during working hours (whatever these hours might be) they will rearrange the visit for another time/day; and,
- an ability to get back to work after scheduled breaks (e.g. lunch with partner).

Being self-disciplined could, however, have a negative impact on other aspects of the teleworking experience. For example, amongst participants who tended to describe themselves as having good self-discipline, some described getting so ‘wrapped up in’ and focused on their work that they frequently worked significantly longer hours when working from home.

The partner or family of the teleworker also had an important bearing on how the working environment at home was experienced. In fact, the more supportive and understanding family members were, the more positive the home-working environment and teleworking per se was perceived to be. Underpinning this view was the importance of a shared understanding between teleworkers and their partners or families about the demands of working from home. For example, some participants partners prepared meals and hot drinks for them so that their working day was as uninterrupted as possible. Having a partner at home who was able to look after children was also described as useful by some parents. Here partners could ‘manage’ interruptions from children and callers to the house so that the working day was not disturbed.

Conversely, some people who worked from home less frequently explained that they lacked the self discipline they perceived necessary and this was a barrier to them working from home more regularly. Here dressing for work and travelling to work helped them to ‘gear up’ or get in the ‘right frame of mind’ for work. In addition, difficulties in concentrating at home and being easily distracted were also discussed.
“Generally, I personally probably prefer to work from an office because there you’re in an office environment, it’s easier for working, whereas if you’re at home, whilst I have worked from home and it can be very convenient on occasions, you’ve got to be far more self-disciplined. And the atmosphere is different at home. There isn’t the same work atmosphere that there is – you know you go to work, you are there to work, and ok you have social chit-chat and whatever, whereas when you’re at home it’s a bit more relaxed, you know I don’t put shirt and tie on you know. And so you know the approach is slightly different, you’ve got to be more self-disciplined.” (Male, employed, trading standards officer)

4.4 Work/personal life boundary

We have seen in earlier chapters how teleworking could lead to an increase in the amount of hours some people worked. As such, the ability to maintain clear boundaries between their working life and personal life was a clear concern amongst some participants. Teleworking, for some, made it harder to ‘switch off’ from work, as work materials and ICT equipment were constantly available and visible. Good ICT provision for teleworking also had a perverse effect for some participants who felt there was a danger of being perceived to be available ‘24/7’ either by colleagues or clients because of increased connectivity. For others, not having the commute home from work on teleworking days meant there was no time or space in which to ‘wind down’. Consequently, some participants talked about how they would ruminate about work issues when they felt that they should actually be relaxing and not working.

“I try to keep the two separate. I think if I was working here [from home] more than just once a week...it would be difficult to switch off...you wouldn’t be able to escape your work. There would always be something you could do...you’d have to have your special room that you just close the door on it.” (Male, employed, civil engineer)

This blurring of the boundary between work life and home life was compounded when work was undertaken in shared living space within the home, outside usual working hours, and while other members of the household were present. As such, the negative impact of working longer hours was also perceived to affect other household members as people felt they were not fully engaged during time spent with their family.

4.5 Isolation

A common theme that emerged from interviews with those who worked from home frequently (once per week or more) was that they were satisfied with their current level of teleworking, and were clear that they would not want to work from home more often. People considered working from home for between 20 to 30 per cent of their working hours as the optimum level of teleworking. This maximised their flexibility whilst ensuring they maintained close working relationships with colleagues. Those who were employed particularly emphasised the importance of face-to-face contact with colleagues.

The social aspect of attending a regular place of work was also valued by participants, even if this was simply interaction with a receptionist or security staff in a rented office, studio or workshop space. Consequently a negative impact of teleworking experienced by some was isolation, relating both to loneliness and lack of sociability at home, but also a lack of contact with employers and colleagues. The potential for feeling like their contribution was
minimised because of a lack of face-to-face contact with colleagues was unsurprisingly felt more acutely by participants who worked part time. This in turn could also impact on the productivity of the individual and their department. For example, some participants mentioned that informal interaction with colleagues was the best way of keeping in touch with developments at work, picking up ideas and getting advice.

“You just network better if you’re in the same office as other people. So...the person I support [line manage], if his boss happens to be around and he might be in the office maybe twice a week or something, if I can get to talk to him [ ], you know, you just pick up gems...you find out what deals they’re working on, how they are with the deals, what’s the latest, he knows because everyone tells him so if I can get to him and just have a chat, now okay I could phone, but quite honestly...there’s no substitute for face to face, you get five seconds, five minutes, whatever, you’ll go to the coffee machine or you’ll get a drink and you’ll just chat things over and you pick up a good piece of information, you can’t measure that.” (Female, employed, financial analyst)

4.6 Summary

ICT emerged as a key facilitator/barrier for teleworking among all participants. This is not unexpected given the proliferation of ICT and improvements in technology. ICT provision, including hardware, software, connectivity and financial and technical support, was important in underpinning the nature and extent of participants’ teleworking. People with more sophisticated and comprehensive provision found working from home as efficient and effective as working in the workplace, and remote access to workplace networks and services was experienced as particularly helpful for teleworking. Other important facilitators or barriers to working from home were employer attitudes, personal work ethic, work/personal life boundary and isolation.

These facilitators and barriers have implications for whether and how teleworking can be encouraged through transport or other policy. The implications of findings from this research for policy are discussed in Chapter 5.

5. Conclusions and policy implications

This final chapter summarises the key findings of the research and describes the implications for transport policy in order for it to meet the needs and behaviours of teleworkers. The attitudes, needs and travel behaviours of teleworkers also have implications for cross-cutting policy initiatives such as promoting a healthy work-life balance and urban planning. The conclusions are presented under three main headings: research findings (section 5.1); transport policy implications (section 5.2); and, cross-cutting policy implications (section 5.3).

5.1 Research findings

The nature and practices of teleworking

Interviews with a purposive sample of teleworkers conducted for this research found that teleworking is carried out by a heterogeneous group of workers and experienced in a diverse range of ways. Frequency, patterns, motivations and outcomes all varied according to each
participant’s work role and personal or domestic needs and, for employees, employer attitude to teleworking. Motivations and outcomes of teleworking included: individual task-related productivity; commute displacement or reduction; more time spent with the family; and, improved work-life balance.

**Impacts of teleworking on travel behaviour**

In common with findings from other research commissioned by the Department exploring the travel needs and behaviours of population sub-groups\(^3\), the car dominated as the primary mode of transport with its efficiency and reliability cited as essential for both the work and personal needs of teleworkers.

A typology of transport use was identified with two key dimensions: the extent of work-based and personal travel needs. This taxonomy translated into four groups, each defined by extent of travel across these two dimensions. The first group had high work and personal travel needs and the second and third groups had either high work or personal travel needs but not both. For participants in these groups, teleworking did not increase or decrease the extent of individual and household travel. Instead the influence of teleworking was to displace when the travel occurred in the day or week. It would appear then, that for three of four groups identified in this research, teleworking was more likely to be part of a strategy to help participants more effectively and efficiently manage their high travel needs.

The fourth group, however, had low travel needs across both dimensions. For these participants, teleworking did have a bearing on decreasing their travel and the consequent reduction in car use was sometimes a conscious decision for personal reasons such as environmental or financial concerns or maintaining a personal work ethic.

**Facilitators and barriers to teleworking**

Several key facilitators and barriers relating to teleworking emerged from the research. The experience of teleworking was underpinned by the adequacy of ICT provision including hardware, software, connectivity and support and employer attitudes to working from home. In addition, self-discipline was seen as an important facilitator for this working practice. Negative impacts of teleworking acted as disincentives for teleworking for some participants. These were concerns about blurring of the work-life boundary and potential isolation from work colleagues.

5.2 Transport policy implications

A key policy goal for the Department is to encourage sustainable travel in communities that can help reduce congestion but also positively impact on individuals’ lives and local environments (DfT, 2007). Given that the definition of teleworking is centred around people who work from home for some of the time instead of travelling to a place of work, it is not unreasonable to suggest that teleworking could be one potential solution to help realise a sustainable travel policy objective. Research evidence does however offer unequivocal support for this suggestion. Analyses of National Travel Survey data indicate that teleworkers travel more than those who do not telework. Evidence from this research also indicates that teleworking does not appear to reduce overall levels of car use, at least for some people. This can be explained by three key features of teleworkers’ travel behaviour:

- Participants often worked from home for only part of the day (partial teleworking). They then travelled, usually by car, either to a place of work or for work purposes (i.e. business travel).

- People working from home for part or whole days tended to describe extensive travel patterns on those days, using their cars, for personal or domestic reasons (e.g. childcare or shopping).

- Although some teleworkers did trip chain (combining various journeys into one longer journey) they were nevertheless still engaging in high levels of travel and car use when working from home.

The research has shown that although the need for travel remained broadly the same; individuals’ travel behaviour was impacted by teleworking. People valued being able to telework because of the high degree of flexibility it gave them in terms of deciding when to travel and how to organise their journeys. Thus it would appear that teleworking was more likely to be part of a strategy to help participants more effectively and efficiently manage their high travel needs, rather than reduce them.

Whilst teleworking did not appear to reduce overall levels of travel among those with either or both high work and personal travel needs, it did seem to displace some of their travel to non-peak travel times. This could have positive implications for reducing congestion on the roads and overcrowding on public transport during peak travel hours, but no clear impact on reducing overall levels of carbon emissions.

There was, however, one group of teleworkers with low work and personal travel needs, whose teleworking did reduce their travel. This would suggest there is scope for encouraging or incentivising working from home amongst people who wanted to use teleworking as a means of reducing their car use and emissions.
Nevertheless, teleworkers in this sample tended to be high car users and was rationalised as the most time-effective way of making journeys, especially when trip chaining. In contrast public transport was considered unreliable, time-consuming and impractical. Although participants were also mindful of the impact of their car use on the environment, the perceived lack of practical alternatives compared to the reliability and efficiency of using a car took precedence over these concerns. If car use among teleworkers were to be reduced it would require the promotion of public transport and other schemes such as park and ride, car sharing and car pools as reliable and efficient alternatives to the car. For example, promoting the availability of wireless Internet connectivity and schemes ensuring public transport is conducive to productivity (such as ‘quiet’ coaches on trains) may be two key ways to incentivise public transport use amongst teleworkers.

5.3 Cross-cutting policy implications

As well as the clear impact on transport policy, this research has identified a range of positive and negative outcomes of teleworking that also have implications for other cross-government policy agendas.

5.3.1 Flexible working

The right to request flexible working was introduced in 2003 for parents of young and disabled children, and was extended to carers of certain adults with effect in 2007\(^4\). Teleworking or working from home, whether for all or part of the week, is one of a range of flexible working options which also include a change in the hours people work or a change to the times when they are required to work. Along with other forms of flexible working such as flexitime, teleworking allows people to organise their time in ways help achieve a better work-life balance and spend more time with their families.

5.3.2 Data Protection and Health and Safety

Encouraging teleworking amongst employees has implications for how employers comply with the Data Protection Act (DPA) and Health and Safety (H&S) legislation. However, these cross-government policy agendas may send out a mixed message to employers and staff regarding the extent to which teleworking is to be encouraged. That is, although transport policy seeks to incentivise teleworking in order to reduce peak hours travel and increase work-life balance, the steps employers need to take to implement the DPA and H&S policy for staff working from home may in fact act as a barrier to organisations motivation and / or ability to promote the benefits of teleworking.

For employers to fulfil their data protection obligations, teleworkers need to be provided with secure methods of both storing and transferring electronic data. This research has demonstrated that some teleworkers’ ICT provision did not meet these security requirements. For example, some participants described working on their own PCs to which other people had access and transferring files using insecure email routes or external storage drives. Clearly, providing adequate ICT that meets DPA requirements\(^5\) has cost

\(^4\) Department for Business Enterprise and Regulatory Reform


\(^5\) Department for Constitutional Affairs: [http://www.dca.gov.uk/foi/datprot.htm](http://www.dca.gov.uk/foi/datprot.htm)
implications for employers. Consequently, for smaller organisations, having to provide this level of ICT support may be a barrier to some employers promoting teleworking.

The Health and Safety Commission’s strategy for promoting workplace health and safety to 2010\(^6\) also has a bearing on the extent to which employers may promote teleworking as a way of increasing the work-life balance of their staff. For H&S obligations to be met, the physical ‘safety’ of teleworkers requires attention, for example, a work station assessment. In addition, employers will also be required to take steps to ensure mental health needs are monitored and managed, such as, ensuring support process are in place to address any negative cognitive impacts of teleworking, such as the sense of isolation some teleworkers may experience.

### 5.3.3 Housing and urban planning

This research has shown that one benefit of teleworking was how it enabled some people to widen their range of housing choices. As such, some teleworkers chose to live a significant distance from the work place because they did not have to commute to the office every day (see section 2.3.1). These findings have clear implications for policies that aim to increase the extent of affordable housing\(^7\), in that new homes do not necessarily have to be built in urban areas or city centres.

Finally, findings from this research also have implications for local urban planning strategies. Notably the range of motivations people gave for teleworking would tend not support the inclusion of telecentres (also referred to as telecottages) as part of urban planning and design initiatives.

Despite the attraction of these venues from a policy perspective as a means of reducing work-related travel, people in the sample had very limited awareness of these locations in their local area, if in fact they existed at all. It is noteworthy that telecentres were not mentioned spontaneously by participants during discussions about teleworking locations, nor had they been used by any sample member. Working from home was perceived as beneficial by all participants in terms of task-related productivity, commute displacement or reduction, family contact and work-life balance. Consequently, these benefits would have to be replicated in telecentres (i.e. they would need to be close to people’s homes and provide a quiet working environment) for them to be perceived as an attractive option for teleworkers.

However it is important to note that three factors emerged from this research that would appear to suggest that telecentres would not provide a solution in terms of reducing travel among employed or self-employed people:


\(^7\) Communities and Local Government: [http://www.communities.gov.uk/housing/about/](http://www.communities.gov.uk/housing/about/)
Firstly, people considered working from home for between twenty to thirty per cent of their working hours to be the optimum level of teleworking, affording them maximum flexibility whilst ensuring they maintained close working relationships with colleagues. Employed participants emphasised the importance of face-to-face contact with colleagues. This would suggest that working continuously in a remote location, albeit with other workers in a telecentre environment, would not be a preferred option.

Secondly, many people travelled to a wide range of locations for work (e.g. for external meetings or site visits) and this travel would obviously continue whether participants teleworked from home, or from telecentres, for the rest of the time.

Thirdly, some participants teleworked because they were living, or had moved to, rural locations. Indeed, the ability to telework meant they could consider a wider range of locations in which to live and work. Telecentres would not be effective in reducing travel among a geographically dispersed workforce.
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The Telework Association, http://www.tca.org.uk/

Appendix A: The Travel Behaviour of Homeworkers: Findings from the National Travel Survey

Summary

- Only a very small proportion of the GB working population (3%) work exclusively from home. A further one in seven people say it is possible for them to do so and various levels of homeworking is reported amongst this group.

- The level of exclusive homeworking within GB has not increased over the period 1994 to 2007. Indeed, the frequency of homeworking amongst those who are able to do so has remained relatively stable.

- People who do not work from home at all, on average, travel a lower annual distance when compared with both those who work exclusively from home and those who are able to work from home.

- When commuting journeys are excluded the annual distance travelled remains lower for those who never work from home in comparison with those who work from home either exclusively or on a less frequent basis.

- Specifically, homeworkers and those who have the potential to work from home travel greater distances annually for business and a range of personal business and leisure purposes than non-homeworkers.

- In terms of overall annual distance travelled, the proportion of car use relative to other modes is high and broadly similar across non-homeworking and home working groups. On this basis, it can be inferred that the increased travel observed amongst homeworkers is likely to relate directly to increased car use.

Introduction

This paper presents headline findings in relation to the socio-demographic profile and travel behaviour of homeworkers when compared with those who cannot or do not work from home. These findings are based on data available from the Department's National Travel Survey (NTS). The findings presented in this annex are based on analysis of responses to questions asked in the 2002 to 2005 NTS surveys.

It is important to note that due to the question wording on the NTS, results presented in this paper refer only to those who work from home.

What proportion of the GB working population works from home?

Homeworking is practiced by a small proportion of the GB working population. In 2005 3% of this group worked exclusively from home. A further 14% claimed that whilst it was
possible for them to work from home, they did not always do so\(^8\). Four in five people (82\%) said that it was not at all possible for them to work from home.

These figures were largely unchanged during the four year period 2002 to 2005 and are similar to the percentage of the population that worked exclusively from home during the period 1992 to 1994 (5\%, the difference is not statistically significant).

Despite the level of exclusive homeworking remaining broadly constant, there is evidence of an increase in the frequency of working from home amongst potential homeworkers. For example, whilst 26\% of this group worked from home once a week or more in 2002, this had increased to 32\% in 2005\(^9\).

**Who works from home?\(^{10}\)**

Homeworkers tended to be older compared with non-homeworkers and potential homeworkers.

Homeworkers (both ‘exclusive’ and ‘potential’) were clustered into specific socio-economic sectors (e.g. homeworkers - skilled manual (32\%), intermediate non-manual (30\%) and professional managerial (24\%), potential homeworkers - professional managerial positions (44\%) and intermediate non-manual roles (33\%)), whereas non-homeworkers were evenly spread across sectors.

Homeworkers and potential homeworkers were most commonly in banking and finance sectors (32\% and 34\% respectively). This compares with only 13\% of non-homeworkers. Non-homeworkers were most commonly employed in public administration, education and health (29\%), possibly reflecting the limited ability of teaching and healthcare staff etc to work from home.

Although two thirds (68\%) of homeworkers are self employed (compared with 17\% of potential homeworkers and 9\% of non-homeworkers), most self employed people do not work from home - 62\% unable to work from home compared with 85\% of employees.

**Does homeworkers’ travel behaviour differ from non-homeworkers’?**

The overall average number of trips made is similar regardless of homeworking status. However, considerable differences in the average distance travelled were identified.

Homeworkers (exclusive and potential) had a higher overall annual mileage than non-homeworkers (10,672, 14,383 and 8,950 respectively). See Fig 1. Unsurprisingly, homeworkers commuted much shorter distances compared with non-homeworkers (466 and 2,776 miles per year respectively).

\(^8\) For the rest of the paper this group will be referred to as ‘potential homeworkers’.

\(^9\) Please note that 2007 NTS data (not included in the analysis presented within this appendix) has shown a slight fall to 30\% resulting in a relatively stable pattern over the longer period 2002 to 2007.

\(^{10}\) Based on all data 2002 to 2005
When commuting journeys are removed homeworkers and potential homeworkers still have a much higher annual mileage compared with non-homeworkers (10,206, 10,428 and 6,175 miles respectively).

Specifically, both potential and ‘exclusive’ homeworkers travelled much greater distances for business purposes than non-homeworkers (3,404, 2,516 and 1,064 miles per year respectively).

Homeworkers (exclusive and potential) also travelled greater annual distances for other (non-commuting and/or business) journey purposes than non-homeworkers (7,690, 7,025 and 5,111 miles per year respectively). ‘Other purposes’ include personal business, shopping, social, leisure and escort journeys.

**Fig 1: Annual distance travelled per homeworking group by journey purpose**

![Bar chart showing annual distance travelled by homeworkers, potential homeworkers, and non-homeworkers for different journeys.]
Appendix B: Approach Letter

Our ref: I7611
E-mail: xxxx
Freephone: XXX XXXX XXXX

Dear

UNDERSTANDING PEOPLE’S WORKING PRACTICES AND TRAVEL CHOICES

Last year you kindly took part in the National Travel Survey (NTS). The NTS is carried out by the National Centre for Social Research (NatCen) on behalf of the Department for Transport (DfT) and aims to collect information about the transport behaviours and needs of people in the UK. The contribution you have made to our understanding in this area is greatly appreciated. The DfT now wishes to learn more about people’s working practices and how this may influence their travel and transport choices. Specifically, the DfT wishes to explore the attitudes, needs and behaviours of people who occasionally or frequently work at home, or away from their usual place of work.

NatCen has been asked to carry out qualitative in-depth interviews with people identified through the NTS as having worked at home or away from their usual place of work either occasionally or frequently in the last year. We are re-contacting a selection of people who took part in the NTS and said they would be willing to be contacted about future research. If you agree to take part and are interviewed for this follow-up study, you would be asked about your own experiences of working at home or away from your usual place of work, how you feel about it, and the impact you think it has on your travel choices and other aspects of your life.

The information sheet enclosed with this letter describes the study in more detail and provides further information about what participation would involve. The information sheet is also available in large print, Braille or audio formats (these can be requested using the contact details above).

Over the next few weeks, someone from NatCen may contact you to ask if you would like to take part and, if so, ask you a few questions about yourself. You may then be contacted again in order to arrange a date and time to interview you (we cannot guarantee that everyone who volunteers to take part will be interviewed). If you would prefer not to be contacted about this research, please use the freephone number above to let us know and we will not contact you again.
We appreciate the time you have already given up to take part in the NTS and very much hope you are interested in participating in this important follow-up study. If you have any questions or would like to know more about the research, please feel free to contact me on the number above.

Yours sincerely,

XXXX
Appendix C: Information Sheet

Further information (Q&A) about research into:

Understanding people's working practices and travel choices

What is the aim of this research?
The purpose of this study is to understand the experiences, needs, attitudes and behaviours of people who work at home or away from their workplace for some of the time. The study will focus particularly on the impact of working practices on travel choices.

Who is conducting the research and who is it for?
The National Centre for Social Research (NatCen) is carrying out this research on behalf of the Department for Transport. NatCen is the largest independent social research institute in Britain. We design, carry out, and analyse research in the fields of social and public policy. Further information about us can be found on our website: www.natcen.ac.uk

Why am I being invited to participate in this research?
From your responses to the National Travel Survey you have been identified as having worked at home or away from your place of work either occasionally or frequently in the last year. For this reason we would like to invite you to participate in our research.

If I take part in this research, what will be involved?
We will be conducting one-to-one, face-to-face interviews during October and early November 2007. The interview would last approximately an hour and a half and would be conducted at your home (or another location if you prefer), at a date and time that is convenient to you. To ensure your safety, all our researchers carry photographic identification. Everyone who is interviewed will be given £25 as a token of thanks for giving up their time.

What will the interview be like?
The type of interview we will be conducting is known as a qualitative in-depth interview, and is different to a survey interview. It is more like a conversation, so that we can find out about your views and experiences in your own words. There are no right or wrong answers and you can say as little or as much as you want to. The interview will be digitally recorded so that we have an accurate record of everything that you tell us. It also enables the interviewer to listen carefully to what you are saying and ask follow-up questions to help us fully understand your experiences.

What will we be talking about?
We will be asking you about:

[45]
Your current employment and experiences of working at home or away from your workplace.

Your current use of different types of transport, including car use.

How working at home or away from your workplace affects your travel choices.

Is it confidential?

Your participation will be treated in strict confidence in accordance with the Data Protection Act. No personal information will be passed to anyone outside the research team. We will write a report of the findings from this study, but no individual will be identifiable in published results of the research.

What happens now?

Over the next few weeks, someone from NatCen may contact you by telephone to ask if you would like to take part and, if so, ask you a few questions about yourself. We need to make sure that a cross-section of people with different experiences are included in the study and for this reason we cannot guarantee that everyone who volunteers to take part will be interviewed, although we would hope to include most. If you would prefer not to be contacted about this research, please use the freephone number below to let us know and we will not contact you again. Participation is entirely voluntary.

What if I have other questions?

If you have any other questions about the study we would be very happy to answer them. Please contact XXXX at NatCen on XXXX XXX XXXXX (freephone) or by email to XXXX
Appendix D: Screening and Recruitment Script

P6197

NTS FOLLOW UP: Understanding Teleworkers and Homeworkers

Screening AND Recruitment questionnaire

Respondent serial number:
NTS serial number:
Month of NTS interview:
Respondent telephone number:
Ethnicity:

Outcome of screener – please tick box at end of interview-

- [ ] Recruited
- [ ] Refused participation

Reason for refusal

Notes:
CALLS RECORD (Note all calls even if no reply)

<table>
<thead>
<tr>
<th>Call no</th>
<th>Date dd/mm</th>
<th>Day of week</th>
<th>Time (24hr clock)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>/</td>
<td></td>
<td></td>
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<td>5</td>
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<td>10</td>
<td>/</td>
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</tr>
</tbody>
</table>

P6197 Recruitment Script for Remote Working Study

ASK TO SPEAK TO PERSON NAMED ON THE NTS DATABASE

PRIORITISE THOSE WHO ANSWERED THE SURVEY IN 2007 (SERIAL NO. BEGINS WITH 7)

WHERE TWO PEOPLE FROM THE SAME HOUSEHOLD ARE LISTED, WE CAN ONLY INCLUDE ONE PERSON SO PRIORITISE AS NECESSARY TO FULFIL THE SAMPLE QUOTAS
WHERE INFORMATION GIVEN BY THE RESPONDENT DIFFERS FROM THAT IN THE SAMPLE FILE PLEASE USE THE INFORMATION GIVEN DURING SCREENING TO FULFIL THE SAMPLING QUOTAS

Introduce self and where calling from (NatCen)

Good morning/afternoon/evening, my name is ............ and I’m calling from the National Centre for Social Research.

Remind respondent of recent participation in the National Travel Survey

You recently took part in the National Travel survey [cite month from “aintdate” variable] about your travel and transport use with one of my colleagues here at the National Centre and kindly agreed in the survey that we could contact you again to see if you would be interested in taking part in a face-to-face interview.

Remind respondent of purpose of study (should have received leaflet and letter in the post about research), who is on behalf of (DfT), who we are (NatCen) and why we’re doing it.

We sent you a letter recently about a study we are currently conducting- did you receive it?
YES- Good I’m glad it reached you safely, have you had a chance to look at it?

Just to remind you, we’re undertaking some research to understand how working at home or away from a usual place of work impacts upon people’s use of transport and upon their quality of life.

NatCen- which is short for the National Centre for Social Research is undertaking this research on behalf of the Department for Transport. NatCen is an independent social research organisation which carries out research on behalf of a variety of central government departments.

NO- Well if I could just fill you in on the research. We’re undertaking some research to understand how working at home or away from a usual place of work impacts upon people’s use of transport and upon their quality of life. NatCen- which is short for the National Centre for Social Research is undertaking this research on behalf of the Department for Transport. NatCen is an independent social research organisation which carries out research on behalf of a variety of central government departments.

If they ask what working at home or away from a usual place of work means.....

Information from the National Travel Survey has shown that you worked at home, or away from your usual place of work either occasionally or frequently in the last year.

Explain that ringing to see if would like to take part in interview and arrange convenient date and time

We’re currently in the process of arranging some interviews and wondered if you would consider taking part.

If do not want to take part please ask why and make a note on the cover sheet. (Try to address any questions/ concerns the participant may have).
We need to make sure that a cross-section of people with different experiences are included in the study and for this reason I would just like to check whether the information we have about you from the National Travel Survey is correct. Would it be OK to ask you a few questions about yourself?

IF S/HE ASKS HOW LONG IT WILL TAKE, SAY ABOUT FIVE MINUTES.

Interviewer: enter any additions or amendments to what is shown on the label in the boxes below.

Q1 First, can I just check the following details:

...Your full name?

Title

Forename

Surname

Mobile no (or number at which it is easiest to contact you)

(b)... Your age?

Please tick which category the person falls into here:

<table>
<thead>
<tr>
<th>Less than 30</th>
<th>30-49</th>
<th>50+</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(c)... Your gender? Not necessary to ask but please fill in

Male | Female
Q2 Can you tell me who lives in your house with you?

Prompts

Do you live alone? If not who lives with you?

Are there children in your household?

<table>
<thead>
<tr>
<th>Lives alone</th>
<th>Lives with partner OR other adults</th>
<th>Lives alone and with children OR with partner and children</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q3 Can you tell me if you are employed or self-employed.

<table>
<thead>
<tr>
<th>Employed</th>
<th>Self-employed</th>
<th>Unemployed or retired</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>* (SCREEN OUT)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(SCREEN OUT)</td>
</tr>
</tbody>
</table>

* If the respondent is currently unemployed or retired please thank them for their time and participation in the National Travel Survey, and explain how this piece of research is focusing on the impact of working practices on travel choices and so we are only looking to interview respondents who are employed at the moment.

ASK ALL

Q4 In your current employment is it possible for you to work either at home or away from your usual place of work?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No *</th>
<th>Place of work is their home</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(SCREEN OUT)</td>
<td>(SCREEN OUT)</td>
</tr>
</tbody>
</table>

* If the respondent is unable to work away from their usual place of work please thank them for their time and participation in the National Travel Survey, and explain how this piece of research is focusing on the impact on travel choices of those who are able to work away from their usual place of work.
# If the respondent’s place of work is their home please thank them for their time and participation in the National Travel Survey, explain how this piece of research is focusing on the travel choices of people who do travel to a place of work some of the time.

ASK ALL
Q5 Would you describe your job as managerial / professional, or skilled?

<table>
<thead>
<tr>
<th>Managerial/ professional</th>
<th>Skilled Occupations</th>
</tr>
</thead>
</table>

ASK ALL
Q6 How often do you work at home instead of travelling to work?

<table>
<thead>
<tr>
<th>Usually (between at least once or twice a week and once or twice a month)</th>
<th>Occasionally (between less than once or twice a month and once or twice a year)</th>
</tr>
</thead>
</table>

ASK ALL
Q7 When you work at home, do you usually use a telephone or a computer?

<table>
<thead>
<tr>
<th>Does usually use ICT (Teleworker)</th>
<th>Does not usually use ICT (Homeworker)</th>
</tr>
</thead>
</table>

ASK ALL
Q8 What best describes where you live?

<table>
<thead>
<tr>
<th>Large urban city</th>
<th>Rural county/ town</th>
</tr>
</thead>
</table>


Secondary Criteria- Not in relation to sampling quota but please record on sample monitoring sheet.

Q9 What is the main mode of transport you use to travel for work?

<table>
<thead>
<tr>
<th>Car</th>
<th>Public transport</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Q10 Do you have a disability? IF YES: Is this a mobility impairment? Is this a visual impairment?

<table>
<thead>
<tr>
<th>No Disability</th>
<th>Mobility Impairment</th>
<th>Visual Impairment</th>
<th>Visual and Mobility Impairment</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Q11 ASK IF EMPLOYED: Do you know how many people work for your employer? (Give categories if respondent is unsure)

<table>
<thead>
<tr>
<th>Small (1-24 staff)</th>
<th>Medium (25-499 staff)</th>
<th>Large (500+ staff)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Q12 How far do you live from your usual place of work? [or work place that they most frequently go to]

<table>
<thead>
<tr>
<th>0-4 miles</th>
<th>5-10 miles</th>
<th>11-16 miles</th>
<th>17+ miles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>
Thank you for answering those questions.

IF PARTICIPANT DOESN'T FIT QUOTA→ I'm afraid that we aren't able to include you in this particular research as we are trying to interview a wide range of different people with different circumstances and unfortunately we have already filled the quota into which your responses place you. Thank you very much for your time.

IF UNSURE WHETHER PARTICIPANT FITS QUOTA→ We need to see whether we can include you in this research. Would it be alright for someone to call you back and let you know if we can interview you as part of this research? Thank you very much for your time.

IF PARTICIPANT FITS QUOTA→ We'd like very much to interview you as part of this research. Is that something that you would be interested in?

Explain what the interview will involve to people that fit the quota.
Taking part will involve an interview with one of my colleagues, either in your own home or somewhere else if you prefer. Interviews last between one and one-and-a-half hours and you will receive £25 as a thank you for giving up your time. There is no need for other members of the household to be present. During the interview, we would like to hear about:

Your current employment and experiences of working at home or away from your workplace.
Your current use of different types of transport, including car use.
How working at home or away from your workplace affects your travel choices.
All interviews are confidential and responses will be reported anonymously.

Arrange date and time for interview and confirm interviewers where possible (Use interviewer availability chart to help you with this).

Is it ok for the interview to take place in your own home? If you would like the interview to be held in another location, it needs to be somewhere private and quiet enough for the interview to be recorded. If interview to take place anywhere other than home please make a note of this. The interview will be digitally recorded so that we have an accurate record of everything that you tell us. It also enables the interviewer to listen carefully to what you are saying and ask follow-up questions to help us fully understand your experiences. The recording will be transcribed and will not have your name on it and no-one outside the research team will hear this recording. Is that ok? If not ok, try to reassure as we can't interview if we can't record.

IF INTERVIEW ARRANGED, PLEASE CONFIRM THE FOLLOWING DETAILS:
Name of participant:

Time and date of interview:

Interviewer name(s):

Address for interview:

Any other comments:
(directions, parking, contact no., interviewee needs etc).

Explain will receive letter to confirm interview time, date and interviewer(s)
I’ll pop a letter in the post confirming the date and time of the interview and the name of the researcher(s) who will be coming to see you. If you have any further questions you can get in contact with the researchers using the number in the leaflet. It’s the freephone number: XXXX XXX XXXX

Thank and close - Thanks very much for agreeing to take part. We hope you enjoy the interview. We look forward to meeting you on the ........ [date of interview].
Appendix E: Interview Topic Guide

P6197 UNDERSTANDING THE ATTITUDES, NEEDS AND BEHAVIOURS OF TELEWORKERS

INTERVIEW TOPIC GUIDE

Research Objectives

The interviews have six key objectives to:

1. Examine participants’ patterns and experiences of remote working.
2. Explore participants’ current use of transport, and that of their household.
3. Examine motivations for remote working and the ways in which employment conditions and domestic arrangements facilitate or act as a barrier to remote working.
4. Explore the influence remote working has on participants’ use of transport.
5. Describe the range of wider impacts of remote working for participants and their households.
6. Explore participants’ future plans for remote working.

As this is an exploratory study, we wish to encourage participants to discuss their views and experiences in an open way without excluding issues which may be of importance to individual participants and the study as a whole. Therefore, unlike a survey questionnaire or semi-structured interview, the questioning (and the language and terminology used) will be responsive to respondents’ own experiences, attitudes and circumstances.

The following guide does not contain pre-set questions but rather lists the key themes and sub-themes to be explored with each participant. It does not include follow-up questions like ‘why’, ‘when’, ‘how’, etc. as participants’ contributions will be fully explored throughout using prompts and probes in order to understand how and why views, behaviours and experiences have arisen. The order in which issues are addressed, and the amount of time spent exploring different themes, will vary between participants according to individual demographics and circumstances.

Introduction

Aim: to introduce NatCen, explain the purpose of the interview and the research, confidentiality, interview practicalities, and help the participant adjust to the interview situation

Introduce self, NatCen (as independent research contractor)
Explain DfT has commissioned research to understand people’s working practices and travel choices and specifically to explore attitudes, needs and behaviours of people who work from home / away from usual place of work

Discuss purpose of research: briefly outline objectives above

Explain: confidentiality, digital recording, length (about an hour and a half) and nature of discussion (specific topics to address, but conversational in style), reporting and data storage issues

Any questions

Background and personal circumstances

Aim: to explore the composition of the household and provide important context information to be followed up later in the interview

Ages of household members and relationships within household

Main daytime activities within household

Wider family (where living, level of contact)

Transport available to members of the household (e.g. car/s, motorcycles, bicycles, public transport, any other forms of transport)

Main leisure activities of members of household

Current employment and pattern of remote working

Aim: to describe the participant’s current employment circumstances and pattern of remote working

Occupation, key responsibilities, nature of work undertaken and what it involves

Size of employer, or for self-employed whether work with others

Distance living from work place(s), time and miles

Usual mode of travel to place(s) of work

Other modes of travel to work and reasons for this

Location(s) for remote working

at home, where in their house / garden (e.g. shed / garage) do they carry out the work

use of external venues (e.g. telecentres, library with hotspots), reason for use and how participant travels to venue

explore awareness of these sorts of facilities and likelihood of participant using them in the future
variation in location for remote working and reasons for this (e.g. use of rented office space versus home)

Frequency and pattern of remote working
how often per week / month / less regularly
factors that dictate regular / irregular patterns of remote working
explore ‘partial’ remote working (i.e. part of day rather than whole day)
explore variation in frequency and pattern of remote working throughout the year (seasonality issues relating both to work and home life e.g. peaks and troughs at work, school holidays)

Working hours when remote working (explore differences from ‘office hours’ or normal working hours and reasons for any variation)

Importance of ICT for remote working
collect information on all ICT equipment (including laptops, mobiles, blackberry etc.) participant has access to and whether they own it / someone else owns it / or it belongs to employer
ability to fulfil the core functions of their role without the use of ICT
always use ICT when remote working
whether availability / reliability of ICT influences when and how often participant works from home / other location

3. History of remote working and motivations
Aim: to explore the ways in which employment and socio-economic circumstances have influenced decision to work remotely

History of remote working
length of time participant has worked remotely and whether they have always worked remotely in their current job
explore whether remote working is related to key life changes (e.g. children, moving home)
remote working a condition of their employment either by them or their employer
previous history of remote working in other employment
Motivations for remote working (explore also for ‘partial’ remote working)
location of home in relation to place of work (also explore whether job influenced where living, or vice versa)
impact of transport conditions (rail overcrowding, road congestion)
ecological concerns (carbon footprint)
family commitments or caring responsibilities (both of individuals located in participant’s home and those located elsewhere and requiring travel to / from or for such as elderly relative in residential care or their own home etc.)

nature / type of work undertaken

leisure activities

other motivating factors

4. Facilitators and barriers to remote working

Aim: to examine the thresholds of various barriers / facilitators / motivators to engaging in remote working and which of these take priority for participants, and to explore in detail how any identified barriers can be overcome

How well do the current remote working arrangements suit them

what works well and why

what works less well and why

How suitable is remote working for all the different tasks they have to do

what kind of tasks it is suitable for (& why)

what kind of tasks it is less suitable for (& why)

How does remote working compare with other types of working location (e.g. office)

advantages and disadvantages of each type of working location

whether any specific problems with remote working

Degree of flexibility of remote working arrangements

whether notification required in advance or not

Levels of support available when remote working

from employer (e.g. company car, ICT)

from household (e.g. help with childcare)

Effect of remote working on relationships with colleagues

attitudes of colleagues towards remote working

impact on decisions about remote working and motivation to do it

Effect of remote working on relationships with family and other household members

attitudes of family and other household members towards remote working

impact on decisions about remote working and motivation to do it
Explore how or whether any barriers identified can be overcome

5. Current car use

Aim: to explore the current car use by participant and household if have access to car and to what extent car use is related to remote working practices

Explore car use of participant and household during a typical week

purpose of use for drivers and passengers (work / social / leisure / visiting family / errands etc. for others or dependants / other purpose)

reason for using car

patterns of car use (explore distances, frequencies and timings of trips during the day, e.g. is rush hour avoided or unavoidable, and whether trip chaining is possible / conducted e.g. whether participant breaks up their day with multiple ‘mini trips’ or whether they make a single multi-purpose trip during a nominal ‘break’ period)

impact of remote working on participant’s car use (e.g. explore use of online shopping to reduce requirements on their time, or whether remote working is seen as benefit in terms of ability to go to shops etc. at less busy times during the day)

impact of remote working on the car use of other household members

other considerations which influence car use (e.g. cost, personal safety, health condition of household member, term time, school holidays)

6. Current use of other transport

Aim: to map use of other types of transport (including walking and cycling) by participant and household

Explore use of other transport (including walking and cycling) during a typical week

purpose of use for participant and other members of household

range of transport used and why, including distances, frequencies

multi-modal trips

Choices / decisions about transport use and the influence of remote working

impact of seasonality on transport use

influence of participant’s remote working upon other household members’ access to transport

accessibility and cost
7. Wider impacts of remote working

Aim: to reflect on issues raised in earlier sections and to explore how remote working impacts on other areas of participant’s life

Explore both positive and negative impacts of remote working on participant and household, including how participants view any trade off between positives and negatives, probe for impacts relating to:

- working conditions
- role and tasks
- working hours and flexible working
- productivity
- autonomy
- expectations of employer / colleagues and accountability when remote working
- job satisfaction
- career progression
- attitudes of colleagues

hot desking (whether remote working results from or results in hot desking and attitudes/impacts of this practice)

finances and economic impact of remote working

spend on commuting (including fuel and parking charges, train fares etc.)

childcare costs

spend on formal clothing for work

additional costs incurred by remote working at home (e.g. electricity / heating / food)

additional costs incurred by remote working at other types of venues (e.g. telecentres)

costs relating to ICT facilities and equipment (telephone, mobile phone, internet connection including broadband or WiFi Hotspot, home PC, laptop)

secure storage

suitable work space

insurance

impact on home environment and home / work life balance (both positive and negative impacts)

impact on physical space in home

health and safety (has remote working had any health and safety implications in relation to home/remote workspace and what support is there for health and safety)
time with partner / children

time for friends / evening leisure activities

impact on childcare arrangements

impact of remote working on relationships within the household

impact on physical activity/exercise and access to health services (does remote working increase or decrease ability/intention to engage in physical activity/access to health services)

ability to deal with domestic (e.g. deliveries / trades people) and personal (e.g. health care appointments / banking) matters

8. Future plans

Aim: to explore whether participant feels their pattern of remote working may change in the future

Aspirations or plans for remote working in the future

explore factors that could increase / decrease current levels of remote working and reasons for any planned increase or decrease in frequency

Plans for remote working in different venues / environments

Influence of remote working on career plans and / or move to different job

Influence of remote working on choice of area in which to live

Influence of remote working on work life balance

9. General / closing issues

Aim: to explore how future policies may affect remote working prevalence and practices

Suggestions / feedback for policy

on remote working generally including whether, why and how remote working should / could be encouraged (e.g. to promote better work life balance, to allow flexible working, to reduce CO2 emissions)

on transport generally including influence of transport on remote working

Perceived impact of remote working on car use and wider travel in the future

Perceived impact of road pricing / congestion charging / parking costs on remote working