

**Title:** A troublesome transport challenge? Working round the school run.

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**Abstract**

Transport policy and practice could be challenged by the future of women's mobility if it means an increasing reliance on the car. The paper examines the contextual relationship between the journey to school/childcare and the journey to work undertaken by eleven women who work part-time. It considers what the problems these women face in managing their time-space commitments and argues that time is the central problem. Transport can be a solution and a further problem in negotiating the competing time needs of work and family schedules. The research indicates the role ICTs, notably the mobile phone, play in mitigating individual transport problems, thus solutions to the problem of women's time may not be sustainable.

**Keywords:** everyday travel, ICTs, women, school run, commute.

## 1. Introduction

This paper is concerned with the everyday *context* of transport and information and communication technology (ICT) use for women who combine parenting and part-time work. The paper reports on research that investigated how transport problems are articulated by individuals and the potential for innovation with ICTs to emerge from such transport problems (see also Line et al., 2010). Conceptually, women's mobility appears to throw up various challenges and questions around issues of economic and environmental sustainability and social equity, which Hanson (2010) argues have yet to be fully debated. She presents a statistical picture of women's mobility as *generally* being more environmentally and economically sustainable than men's because fewer women travel by car, and the distances they travel are less than men undertake. Hanson argues that framing these practices as a potential sustainable trajectory is in tension with the concept that "mobility is empowering ...[thus] ...more mobility especially for women, is a good thing" (Hanson 2010:9). Her conclusions suggest understanding the *context* in which everyday mobility is conducted will move forward the debates of gender and sustainable mobility. Building on this argument, the *context* of mobility is central to this paper, specifically to understand how individuals identify and articulate transport problems that they face, and identify any innovative or creative responses that may constitute a move towards more sustainable practices.

The research stems from a broader investigation into ICT-based *user innovation* (i.e. 'bottom up' innovation by users of the transport system, as opposed to top-down innovation from Government or the commercial sector) as solutions to transport problems<sup>i</sup> (see also Line, et al., 2010; Lyons, et al., forthcoming 2011). The aim of this research was, firstly, to understand how individuals identify transport problems; secondly, their relationship with ICTs as solution tools; and thirdly, the opportunity for innovation (see Line, et al. 2010). Based on the evidence in the literature, as outlined below, women who work and have children often have complex time–space needs and constraints, which gave rise to the assumption that women juggling work and home-life might be affected by

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<sup>i</sup> See [www.ideasintransit.org](http://www.ideasintransit.org) for further information.

transport problems such as road congestion, public transport reliability, safety, etc., that might prompt an innovative response. The authors recognise that women who have children are not always the main carers of children; women and men (as parents, grandparents, other relatives and other carers), who combine childcare responsibilities with either full or part-time employment, may also experience similar circumstances described in this paper. Nevertheless, in considering the potential for innovative action and social change, women are the largest single group that work part-time in combination with childcare from whom useful understandings of transport 'problems' can be drawn that may have wider societal benefit

The paper focuses on the journey to and from work via school or childcare provider, using the findings from eleven qualitative diary-interviews with women, who identified themselves as mothers who work part-time with a strong interest in using ICTs. It is concerned with how the mothers identified problems, and how these were managed with everyday mobility tools (i.e. mode of transport and ICTs). The implications of the findings discussed in this context raise some questions both for academic and policy research about the future sustainability of women's mobility.

## **2. Contextualising 'problem spaces': Understanding Women's Mobility in the UK.**

In this section the paper contextualises current issues associated with women's mobility that underpin the assumptions about women's mobility problems, indicated above, and how these intersect with the objectives of the research.

Transport, and increasingly ICTS, impact on the way individuals and households select, organise and manage a range of different activities – work, leisure, social events, shopping, education, health care, etc, across time and space (see for example, Dobbs, 2007; Jarvis, 2005; Skinner, 2005; Schwanen, 2007; Schwanen and Kwan, 2008; Turner and Grieco, 2009; Rosenbloom, 1992). Women's mobility is often identified as more problematic than men's mobility, as often they need to manage more complex space-time commitments with limited mobility options (Hamilton et al., 2005). In general terms, statistical evidence captures the gender differences in the UK travel patterns and trends. These include: (i) women make more trips than men but are more likely to use

public transport and walk than men; (ii) more men than women travel longer distances (including by rail) and men are more likely to travel by car or bicycle than women; but (iii) more women now hold a driving licence and have greater access to a car as the main driver than in the past (Hamilton et al., 2005; DfT, 2010). While women have a greater opportunity to drive, in one car households it is usually the man who has priority use of the car, whereas in two car households similar percentages of men and women are classified as the main driver (Hamilton et al., 2005). Two or more car households have grown considerably in number in the UK to 35 per cent of all households (ONS, 2010). However, while the statistical evidence demonstrates gender differences, there remains a need to understand the social context (Hanson, 2010).

Women's time-space commitments are often more complex because generally women are more involved in managing domestic responsibilities than men (ONS, 2006). Domestic responsibilities directly impact on employment opportunity in terms of the time budget available for work and commute, and the need to be accessible to home should an emergency arise (e.g. a child becoming ill at school), thus women tend to work closer to home than men and are less likely to take work that requires international travel (Blumen, 2000; Dobbs, 2007, 2005). In the UK, women contribute more to domestic activities and childcare than men (ONS, 2006). Nearly 70 per cent of the whole female workforce has dependent children (ONS, 2008). Women are much more likely to work part time than men (about 25 per cent of women and about 4 per cent of men with dependent children) (ONS, 2010). Generally, mothers who work are responsible for dropping off/collecting children at school or other childcare; and school hours, for example, limit the times at which the onward/return commute can take place and potentially reduce the travel time budget for the commute. Also women are more likely to incorporate other activities such as shopping with these trips (trip chaining) (Hamilton et al., 2005).

Transport availability will affect the spatial context of the home-school-work relationship and women's employment opportunities, notwithstanding the likely impact of their partner's/husband's employment choices on where they live, etc (Greed, 2008; Dobbs, 2007). As

Hamilton et al. (2005) note, public transport services (timings, routes, and cost) may further diminish the opportunities for women to combine childcare with work. Thus, the car is often considered as providing women with greater freedom and empowering choice not only for employment but in their social lives too (Dobbs, 2007; Greed 2008). As such, the car can be understood as an enabler for social equity, but at the same time it is a challenge for sustainability (Hanson, 2010).

Choosing a more sustainable mode may be outweighed by the practicalities of everyday life, although there is some evidence that women may choose more sustainable modes for the sake of future generations (Hjortol, 2001) which connects with other research that suggests women are more likely to have an environmental conscience than men (for example Mohai, 1992; O'Connor et al., 1999). Gelissien (2007) suggests that gendered attitudes towards the environment arise from gendered socialisation that include a mothering or caring dimension, and such 'caring' about future generations that could include grandchildren is evident in Hjortol's research. While 'caring' is often perceived as gendered, caring and travel behaviour is part of a more complex set of context driven social relations than just about the environment (Murray 2008).

The complexity of caring and travel choice also shapes the travel to school decision (Murray, 2008; Dowling, 2000). 'The school run' is indicative of a potential 'problem space' identified by transport policy because of the increasing numbers of children being driven to school; and mothers who drive children to school are often criticised by the media (Greed, 2008). In the UK during 2008, 43 per cent of primary school and 21 per cent of secondary school children travel to school by car; and 48 percent of primary school and 40 percent of secondary school children walk<sup>ii</sup> (ONS, 2010). Underlying the modal choice for journey to school are concepts of safety/risk and health/fitness, social expectations, time for social interaction, and time availability (Barker, 2009; Laurier et al.; Murray, 2008; Skinner 2005; Dowling, 2000). Thus, the school run exemplifies the tension between social context and making sustainable choices.

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<sup>ii</sup> Average distances to primary school being 1.6 miles, and secondary school 3.4 miles (ONS, 2010).

In summary, the literature that quantifies gender differences – whether in household duties or transport patterns provides a base line for understanding gender differences, but looking in depth at *the context* in which transport decisions are taken and gender identities are performed demonstrate the complex relationship between gender and transport (Hanson, 2010). In taking forward these debates this paper accepts that household structures are heterogeneous, and that constructs of gender are complex. Therefore, it is concerned with the strategies deployed by women who combine part-time work with childcare in order to manage the challenges of complex time-space relationships while also performing a caring role for their children.

### **3. Methodology**

The research was an exploratory investigation of the social context of everyday travel and ICT use that utilized a qualitative methodology involving one-day ‘creative’ diaries and follow-up interviews (see also Line, et al., 2010). Three groups of people were targeted who potentially could face particular challenges in relation to organising and managing their daily activities and travel, including ‘mothers who work part time’<sup>iii</sup> – the group focused upon in this paper.

The recruitment was purposive in that it emphasised that participants should have an interest in using ICTs (across the groups), but as this was exploratory research with a small group of women it did not intend to actively represent different household compositions, nor exclude any. An advert for participants was placed in the online forum ‘NetMums’<sup>iv</sup>, and a second advert was placed in a primary school in South Gloucestershire. A press release was issued by the authors’ university to further promote the research. This resulted in the recruitment of 11 women to participate in the research, all of whom lived in the Bristol-Bath area. Table 1, summarises the personal circumstances of each participant. They were mostly in their 30s or early 40s with a variety of family sizes and ages, and all lived with a husband/(male) partner – the majority of whom worked

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<sup>iii</sup> The other groups were ‘mobile professionals’ and ‘students living away from home’. These other groups did not purposefully exclude parents.

<sup>iv</sup> [www.netmums.co.uk](http://www.netmums.co.uk)

full time. Childcare arrangements included: school only, breakfast/afterschool clubs, partner/relatives/friends, nurseries and childminders. Of the five secondary school children, only one was regularly driven to school, the rest mainly walked or cycled. The journey to school for the primary school children, and those in other care (nursery, childminder, out of school club) was a more complex picture and depended on the daily circumstance (time, weather, etc).

**[insert table one about here]**

For the diary, participants were asked to complete an account of travel, phone and email communications, websites visited and activities undertaken for one day. They were encouraged to express themselves in ways most comfortable and appropriate to them - to not only write, but to draw pictures, stick on bus or train tickets, or verbally record a diary and/or create a track list of their favourite music to travel by (see examples in Figures 1 and 2). The diary acted as a prompt for the interview in a similar way that Latham (2004) uses photo-diaries to map use of urban space with follow up interviews, rather than capturing quantitative 'time use' diary data, as used by Kenyon (2006), for statistical comparison.

Using the diary as a basis for discussion, the follow up interview explored the use and individual meanings of ICTs in the organisation of the day, types of information sourced, and communications across social networks. It also explored the types of everyday journeys the participants undertook and their travel experiences. The interview was shaped by the diary content provided by the women, but explored transport and ICT use beyond the specific documented day.

#### **4. Findings**

The exploratory research with the group of mothers who worked part time provided a unique set of time-space narratives around the organisation of the day in relation to their children's activities as well as their own, indicating their own travel choices and how the transport problems articulated are deeply embedded in the context of their dual role. The findings reported below endorse and extend the existing literature discussed earlier. What this research specifically sought

to explore was how the women themselves articulated problems associated with their daily travel needs and how these were solved or mitigated. The findings reported here consider, firstly, the experience and meanings attached to the journey to school; and secondly, the time-space challenge of the journey to and from work.

#### *4.1. Connecting to School and Childcare*

Both schools and other childcare providers operate within specific timetables, with schools demanding punctuality at both ends of the school day, and childcare providers often having 'fining' systems for late collection. Most schools operate roughly around 9-3:30, with some schools expecting younger children to be physically handed over at either end of the day to a parent or carer. Some schools have before and after school clubs on the school site, while others are connected to off-site providers. Parents are obliged (often legally) to meet these time-space scheduling demands, with wrap-around care or others (childminders/family/friends) extending childcare beyond these hours. Lara articulated the challenge:

*"But it was one of the big headaches about returning to work, really. The childcare is sort of the biggest issue about returning to work and trying to work out all of that. It was quite difficult, and it still does cause us problems from time to time. It's not a very flexible arrangement. If either of us needs to do something or gets stuck in traffic, it does make it quite difficult, you know."* (Lara)

The temporal obligation combined with parental responsibility for getting your child to and from school on time suggests potential for a transport 'problem space'. In discussing the morning journey concerns about getting to work on time (which again was often another fixed timeframe) appeared to over-ride discussions about getting to school or childcare on time, whereas in the afternoon being on time for collecting the child(ren) from school or childcare was an essential commitment (see also the next section). Thus, the transport strategies for the morning were often



different to those in the afternoon. For example, in the morning Maggie moved her car across the main road slightly nearer to the primary school and then made her children walk the rest of the way, and varied the return mode depending on how much time she had coming back from work; whereas Lucy dropped off her primary school aged daughter in the morning by car, then walked in the afternoon when she was less time pressured. (Her son, who attends secondary school, walks on his own unless it is raining.)

*"She doesn't start until quarter to nine, so by the time we walk up and I walk back to get the car it means I'm late for work. So I usually drop her off in the car park about twenty five to nine, she goes in, meets her friends and then I go and sit in the traffic then, to get to work. It is a nightmare ..."* (Lucyl)

Yet for Jo, who also identified the time pressures of getting to work, found it was easier to walk the short distance to the primary school and then go back for the car because of the lack of parking in or near the school.

Assuming that the journey to school is a problem can obscure the social importance of the journey, across modes. Most of the women expressed a desire to accompany their primary school children to school because of the combined social interaction with their children and other parents. The journey between home and school, and time in the playground, play a role in the time-space coordination of other out-of-school activities. Lisa in particular noted that she had decided to put her children into a breakfast club rather than after school because she felt there was a specific social element attached to collecting the children in the afternoon, whereas others identified the morning as more important.

*"afternoons are about 'prime time' - visiting friends, going to the playground, inviting people round."* (Lisa)

*"It's a really good time, you know, to chat. Often we see other people on the way, we end up walking with other [people], you know, because lots of people are walking in the same direction."* (Lynne)

Other research examining parent-child relationships in the car indicate that children utilize this 'time-space' between home and school or childcare to talk with their parents, a play space, a place for collectively listening to music and singing along, as well as offering a warm and 'safe' environment (Barker, 2009; Laurier et al., 2008). However, walking and cycling can also facilitate communication between adult and child as Maggie explained.

*"I think we talk a lot more"*

***"When you're walking?"***

*"When we're walking, which I really like. My oldest is hitting puberty and she gets in the door and that's it, she doesn't want to know. She sort of grunts and hhs and stuff, whereas when we're actually on the way to school or somewhere, she forgets that she's supposed to be a moody moo and starts chatting and becomes a little girl again. I know that sounds silly but when we're in the car, there's no interest."*

*(Maggie; interviewer in bold)*

Arguably, the journey itself becomes a solution in terms of 'time out' for social interaction between parents and children in an otherwise busy schedule whatever the mode (see also Barker, 2009; Jain and Lyons, 2008; Davies, 2001; Laurier et al., 2008). Walking is more likely to facilitate interaction between parents where they share the same route.

Having a parent rota to take a small groups of children to school was one as a way of reducing time-space constraints, and therefore, is a solution to the problem of 'being in time'; and potentially reducing the numbers of cars going to the school, while still enabling some interaction time between parent and child. For example, Lucy informally shared driving her children to school with another mother, so neither would be regularly pressured in meeting the time constraints imposed by the follow on journey to work (as described by her earlier).

*"Yes my friend, she'll ring up on a morning or I ring her and the girls decide whether they're going to do breakfast club or not. ... if [friend] needs to get into work early, [friend's child] comes to me and they watch TV and then I drop them to school. Or [Lucy's child] goes round to [friend]'s and I can drop her earlier .... and I can get to work then even earlier."* (Lucy)

Likewise Jo also talked about walking a neighbour's child to/from school some days to help out. However, as Phyllis demonstrated, this ability to share the journey to school is context dependent, and only works where there are others living proximate and who are in a trusted social network.

*"...there's two kids that go to our school that live on this road, down at the other end. ... I normally walk, and I don't know how everyone gets there, because I don't know them because they live right down the other end of the road."* (Phyllis)

Despite the potential for reducing road congestion, lift sharing children could have an unintended consequence of keeping children in the car, and therefore reducing children's opportunity of independent and active mobility. This challenge was faced by Debbie who described how giving lifts to her teenage son's friends also gave him 'street-cred' for having a 'cool mum', as he was socially empowered by inviting his friends into the personal space of the family car. Yet Debbie's reasons for driving her son to secondary school indicated the challenge she faced in enabling him greater independence as a teenager, concurring with Murray's assertion that 'mothering' is also about negotiating assumed risks (Murray, 2008).

*"[My Child] goes to [school] and that's over the other side at Yate, so I take him in the car."*

***"And that's secondary school?"***

*"Secondary school"*

***"So he doesn't do on his own?"***

*“No, because he hasn’t done his cycling proficiency so I don’t really want him to go on his bike yet, and it’s too far for him to walk. There is a bus that goes at the bottom of the road but as he’s just started I thought I like to take him and pick him up.”*

*(Debbie; interviewer in bold)*

Whether travelling by foot, bike or car, most of the mothers wanted to conduct at least one of the journeys each way with their primary school children based on the social interaction the journey time facilitates, (and this may be relevant to any increase in children being driven to secondary school). It could be argued from the evidence above that the journey to school enables ‘time out’ from competing demands and creates a space of nurturing and caring, and the opportunity for children to develop social skills. However, while others such as Laurier et al., (2008), have indicated that the car is a good facilitator, our respondents have also highlighted that walking in particular can mediate the relationship differently to the car, in particular the opportunity to interact with other parents and school children along the route. The research demonstrates how modal choice can relate to parking and convenience, and this is connected to the feasibility of the onward journey to be in time for work, which the following section now discusses.

#### *4.2. Travelling to work*

Immediately, from the school gate, most of the participants of this research were rushing off to work, and then in the afternoon rushing home to collect the child(ren). As Dobbs (2005, 2007) outlines, women justify their car travel for commuting because they perceive it as the most efficient and time flexible option in relation to the ‘time-space’ coordination needs of fitting in work often between school hours. Many of the women in this research who drove to work described the car as ‘essential’, and considered that any loss of car access would challenge their ability to continue working and manage the childcare, as well as all the out of school activities (see also Line et al., 2010).

*"It failed the MOT and we had a week without a car and [my husband] had to walk [our child] to school, which is like a 40 minute walk and then walk back and everything else just stopped. The kids didn't, [they] didn't go to trampolining, [they] didn't go to dancing that week because we couldn't, they were too far for the kids to be able to walk there and then walk back." (Sarah)*

*"You have got the car there, you just tend to get the car and go. But not having a car .... it would just change everything to be perfectly honest." (Jo)*

However, those that chose not to drive illustrated that alternatives to the car are possible, and sometimes preferable, *in their personal context*. Nonetheless, these women often used the car in the evening or weekends, and still thought the car essential for their household.

Generally, buses were considered an unfeasible alternative to the car by these women because of the spatio-temporal limitations of the services; with the women highlighting that a seamless journey from one side of the city to the other, or from a semi-rural village to an urban periphery business park, for example, could not be achieved in the time given; a challenge also demonstrated in Dowling's (2000) research on suburban motherhood. Lara was the only participant who commuted by train. When Lisa's job changed location from 6 to 30 miles away from her home she found that the reliability of the train (plus bus) service could not guarantee her timely return to collect her children from school. Therefore, getting a second car for her commute was her only solution to continue in her job.

*"What I really want is the trains to run on time and the office to be closer to the train station. And I was going to buy myself a little folding bike. I'd sussed those out but, you know, I have to pick up the kids from school, the train's not reliable enough.....I looked*

*into everything and thought not possible, I wouldn't manage. So, we bought a second car." (Lisa, participant's emphasis)*

Cars often diminish the barriers of gender inequalities through facilitating seamless access to a wider choice of employment in constrained time, whereas public transport networks can limit opportunities when juggling with childcare constraints (Dobbs, 2007; Rosenbloom, 1992). For those reliant on the car, the car enabled their employment choices to continue with their other childcare commitments.

Timeliness was also affected by road congestion for car drivers both going to and coming home from work. The women who drove particularly expressed the challenges of getting to work in time and back again. This issue led to Jo reducing her working hours in order to feasibly continue in her job, and Phyllis changed career to fit in with school hours. More generally, rather than congestion affecting the modal choice, the women indicated the important role of the mobile phone in mitigating the effect of being late, either to phone colleagues or to put in alternative arrangements for children to be collected (see also Line et al., 2010). Travel time in congestion likewise could be spent making phone calls or sending texts to friends and relatives to pass the time (see also Jain and Lyons, 2008).

*"If I'm really stuck in traffic and sat there I'll get my phone out and text, or I'll ring [my husband] and say, stuck in traffic again, just silly things like that ..." (Debbie)*

All of the mothers utilize a mobile phone in such circumstances, but often informing others of delays is related either to communicate with the workplace, or to set up other arrangements for their children to be collected from school or held by the care provider. The technology, arguable, releases the mother from the immediate pressure of being on time but without relinquishing caring,

as described in the previous section, thus solving the problem of being on time without directly resolving or attending the problem of congestion (see also Line, et al., 2010).

The potential for lift sharing to and/or from work, which could have mitigating effects on local congestion if widely used, and promoted by the local authorities where some of these participants lived and worked, was not a solution which the car driving women considered feasible. Maggie articulated the general sentiment about lift-shares: a good idea but it does not work with the mothers tightly coordinated timetables, part-time hours, and spatial relations with co-workers.

*"I have had lifts to work. There's a chap who works on [location] ..... and he works such long hours. Because of my hours, if I was doing 9 to 5 or 8 'til 4 or whatever then yes, I probably could, quite easily, but not... I couldn't say to somebody right, you need to pick me up here from school and take me to work and then I need to... but you've got to get through the traffic in time to pick up [the children]" (Maggie).*

Maggie then expressed her annoyance with the local authorities' policy for '2+ lanes', which slowed her journey even further because she was unable to take advantage of the policy. However, in other instances such as the school run, nights out, and children's out of school activity the mothers were more active in seeking informal 'lift-share' solutions where they operated for their convenience, indicating the concept of lift sharing is not a barrier, but the context of part-time working resulting in non-standard hours does not fit the usual lift share model.

On one hand the problems for these women are related to transport infrastructures and mobility flows – inadequate public transport and road congestion. However, their problems are as much about time, and responsibility for others in particular timeframes, as the transport. For some the interaction between the two prompts an alternative. For Jo a change in working hours, and for Anna (see Line et al, 2010, for further discussion of Anna) it is the change in mode from car to bicycle, for others the status quo prevails with any timeliness challenges mitigated by the mobile phone to put in alternative childcare arrangements or to inform work, and thoughts of change related to job rather than specifically another mode. For Debbie, who told of consistent delays on

her commute caused by congestion, demonstrated the challenge of individuals envisioning an alternative scenario, let alone developing innovative or creative solutions to time constraints.

*"I'd like to get a job over here so I didn't have to use my car so much and I wasn't so dependent on it. I'd like to work for the council so that it's walking distance. So I didn't use so much fuel, you'd get rid of one of the cars and [my child can] go on the bus. I'd like to be able to do that but I don't feel safe to do that at the moment. I like my comfort and I'm comfortable in my job. I don't mind driving to work at the moment but I don't know how I'll feel in years to come. I might want to work locally and just plod along to work and not have to worry about sitting in traffic. I don't know." (Debbie)*

The women who walked, cycled or travelled by train to work, expressed fewer 'problems' than those who drove, although these women were still tied into the need to be in time and have enough time for travelling to work. Anna, who had started cycling, and Lisa, who had stopped, expressed how cycling gave greater journey time reliability than travelling by car. Lara who commuted by train was able to work a shorter day in the office and then work at home in the evening, which gave her greater flexibility over her childcare arrangements, but it is recognised that such working arrangements as a solution are limited to specific types of employment.

In conclusion, the main problem identified by this group of women was time – quantity and punctuality. Transport can be a solution and a problem, especially the car, for time management. Lisa's experience of switching from cycling to travelling by car when her employment relocated illustrated that while a more sustainable choice might be preferred the context often compromises an assumed choice. Clearly this research demonstrates the complex negotiations of modal choice as discussed in the conclusions below.

## **5. Conclusions**



This exploratory research investigated the context in which these women made transport choices and used ICTs, and the findings focused on the journey to school/childcare and the journey to/from work, looking at problems and indications of solutions. What the research found is time was the problem - including time for travelling and co-ordinating activities in time and space, and being punctual. Thus, time management was a central feature of these women's everyday lives. Solutions, although not necessarily innovative, were inherent in the selection of transport mode, and specific ICT related rescheduling in real-time. Notably the 'school run' by whatever mode and despite the time constraints appeared to have an important role in the lives of this group of women, notable for the time it gives for social interaction. Thus, it suggests the issue is how to maintain this journey with their children sustainably while co-ordinating it with journey with work, should be the policy focus.

In this group of women it appears that for many the car is the transport solution to all their time-space co-ordination problems despite its inherent problems. Our research supports the evidence in the literature that women perceive the car is an enabler, notably for access to jobs outside the area, but also for managing the home-work relationships, children's activities etc. However, digging beneath this discourse we have also demonstrated that car use is not always a simple or easy solution. Notably the constraints of mass car use at peak hours reduce the time-space flexibility of the mode. Women who need to travel efficiently between home and work, and back again, in specific and limited timeframes are often caught in congestion. Rather than move away from the car, women in this research selected either to reduce their working hours in anticipation of delays incurred by congestion, or had a contingency plan reliant on the mobile phone to inform others of the delay and if necessary set up alternative 'emergency' childcare. The latter demonstrates how what seem wide spread use of ICTs can further embed the car into social life despite the challenges of congestion. The relationship between women and the car is a challenging issue for transport policy, especially social practices such as use of mobile phones to negotiate last

minute changes and entertain enable individuals to cope with road congestion rather than changing their travel behaviour.

The complex time-space arrangements of juggling home and work also affected the women's responses to alternative but established ways of using the car such as lift sharing, whether formally or informally organised for the journey to work. As indicated lift share solutions rely on fitting into standard time-space practices, and these mothers' lives are indicative of more responsive and complex routings and timings that limit such options. Yet in other situations such as the journey to school, the density of social networks in the immediate locale ensured that sharing the journey to school between parents was more feasible, even if not desired on a regular basis. This suggests that the culture is not against collaborative practices such as lift-share schemes, but the practicalities of working with non-standard hours needs further examination, and policies that actively promote this practice may also cause gender discrimination within the allocation of road space.

As such, the 'distant' issues of congestion management and 2+lanes are not issues that women directly consider how to affect through innovation with ICTs. However, this research demonstrates how women find ways of mitigating these factors either by changing their individual circumstances or by using mobile ICTs (usually the mobile phone) to make last minute change to arrangements, where flexible arrangements can be made. Such responses to transport problems indicate that bottom up innovation may be about changes in non-transport practices, rather than individuals trying to address the bigger transport problems such as congestion. These practices are not necessarily gender specific, but where linked with other gendered practice such as childcare they have a gendered nuance.

In summary, this research did not generate transferable 'solutions' to transport practice, but importantly it demonstrates the challenge of 'one-fit-suits-all' solutions being relevant to women who are juggling part-time work with childcare. By examining the context of the journey to school/childcare in relation to the onward/return commute the research presents the complex nature of individual circumstance, and the time complexities of these women. It is likely that user

innovation in response to local need would fit into these circumstances, and this could be the way forward to more sustainable transport futures, but understanding the context in which these could occur is essential.

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**Table 1: Summary of participants' age, children and travel. (All names are pseudonyms.)**

	Age	Children			No cars in household	Mode of transport to work	Partner employed? Yes/No	Partner's mode of transport to work
		aged 0-7	aged 7-10	aged 11+				
Sarah	28	3	0	0	1	Walk or car	No	n/a
Elizabeth	31	1	0	0	1	Car	Yes	No information
Debbie	33	0	1	1	2	Car	Yes	Car
Jo	34	0	1	0	2	Car	Yes	No information
Lara	36	2	0	0	1	Train	Yes	Train
Lucy	37	0	1	1	2	Car	Yes	No information
Lisa*	39	1	1	0	2	Car or works from home	Yes	Car
Maggie	40	2	1	0	2	Car	Yes	Car + walk
Phyllis	40	0	1	0	2	Car	Yes	Car + train
Anna	40	1	1	1	1	Car or Cycle	Yes	Mostly cycles
Lynne	43	1	0	2	1	Walk or car	Yes	Walk + train

\*Participant's circumstances changed between completing diary and interview. At point of diary this participant cycled to work, and had one car for the household.

Figure 1: Debbie Taylor's diary

8:00 Take my daughter to breakfast club. +11! drop my son off at school. Car playing up. this morning! Its obviously getting colder!! Not looking forward to the usual traffic on the way to work.

8:30 My son rings me on my mobile. He has forgotten his P.E. kit. Back home I go and collect it for him. Meet him outside the school gates. Car has now warmed up nicely.

9:10 At work (at last!). Can't believe there was no traffic. Open up my Outlook on my computer. 9 messages in my in-box. Nothing of real importance apart from an email from my friend; inviting me out for our Monthly "Girls Night" out.

10:00 Reply to email, advised my friend cannot make Girls night - no babysitter.

10:10 Text from hubby - Can't pick up our son from footy. Now means I have to hang around for 2 hours watching football!!

11:30 Lunch break at work. Chatting to colleagues about weekend television.

16:00 Log on to Computer at home. Check emails and log on to Facebook. No friend requests today! However had a message from one of my friends to say that there is a High School bus. What have I think about it!

20:30 Pick up boys from footy in my car. Manage admits that he will email me if my son is picked for Sunday's touch.

11:45 Back to work. Looked on internet for latest films but in cinema so relaxed that watching anniversary in 2 weeks time. Be nice to go out without the kids.

16:30 Cooking kids tea. Hubby rings to say he is going to be late. He was stuck in a job. Thank goodness for mobile phones!

20:30 Home. Hubby has cooked test Yipesee.

23:00 Off to bed. Mobile goes, a message received. Its a picture of my business dog "Pepper" the black lab.

14:00 Leave work to get my daughter from school. Just outside work and my car "beeps" need petrol. Arrive at petrol station (nearby) cannot believe the price of petrol. Pick up daughter from school. Drive to get my son.

18:00 Son has football. I drive and take a friend of my sons coach. Pick him up. Mobile rings, hubby is now home! Not worth going back now as nearly at football. Drop boys off.

15:15 Arrive at son's school. Son sees them. Ring him on his mobile. Hello Mum. He was 2 minutes away. Can't wait to get home tonight - very tired.

18:30 Ring my mum. Ask if I can sit with her for an hour or so. Sit with mum and dad and watch a bit of T.V. Mobile rings again about 20 minutes later. Its Vodafone - "do I want to upgrade my phone" it was a short call. Am quite happy with the phone I have!!!

Figure 2: Lisa Reade's diary

