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Making plans or “just thinking about the trip”?

Understanding people’s travel planning in practice

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Abstract

ICT solutions have been proposed as a means for changing environmentally unfavourable traffic behaviour by providing better, real-time and more accessible travel information. However, prevailing models of travel choice and travel behaviour tend to overemphasise the impact and importance of information and the individualistic perspective. The issue of choice and travel planning in everyday life situations, and how information is used and acted on in these processes, was examined in a qualitative study in Stockholm, Sweden. Practice Theory was used as the theoretical framework for the study. Interviews were supplemented with an explorative diary and photo assignment to bring unreflected choices and actions of planning travel to the conscious level.

The results showed that travel planning involves the immediate situation where planning and decisions are made, but also aspirations, cognitive/time/material limitations, social norms and social relations that extend widely in time and space. Definitions of travel planning and travel information based on the situated practices of planning are suggested. In the muddle of everyday life, travel planning takes place in the brief moments where circumstances at different levels – time, place, the social realm - interact and are considered or directly acted upon. In the development of new ICT-based travel information services, the role of technology in changing normal practices should be considered.

1 Introduction

In contemporary society, technology is often seen as the salvation for environmental problems. ICT solutions have been proposed as a means to change environmentally burdening traffic behaviour, for example by providing better, real-time and more accessible travel information (Farag and Lyons, 2008, 2011; Sussman, 2005). The expectations of ICT-based travel information stem from the assumption that those well-informed about travel options will make better decisions about where, when and, not least, how to travel, which could have a large impact on congestion problems and on the environment. Glen Lyons (2006 p. 201) writes:

A key presumption is that travellers are rational and objectively weigh up the costs and benefits of the different travel options before them [...] and choose the most cost effective option where 'cost' is seen to encompass factors including comfort, convenience, financial cost, journey duration and reliability.

Transport research has in recent years begun to revise this 'utopian view' (Lyons et al., 2007) on traveller decision making. It has embraced Herbert Simon's work on *bounded rationality* (1956), which recognises that people tend to make reasonable decisions because their time, information and computational abilities are often limited (Todd, 2007). It is now also recognised that *satisficing behaviour*, searching for 'good enough' rather than 'optimal' options, may be what governs many travel decisions (Chorus et al., 2006a; Lyons, 2006). Insights from *prospect theory* on the framing of choices as gains and losses relating to a reference point have been utilized in understanding travel choices (Avineri, 2004; Avineri and Prashker, 2004). Increased awareness has also been given to the use of *heuristics*, 'shortcut choice strategies', (Gigerenzer et al., 1999; Todd, 2007) and *habits*, learned automatic responses to specific situations, (Chorus et al., 2006a; Lyons, 2006; Verplanken et al., 1997) in travel contexts. Also, *regret theory* (Loomes and Sugden, 1982) has been drawn upon to describe traveller's behaviour under uncertainty as well as information use. *Anticipated regret* (of making the 'wrong' choice) can determine whether or not (more) information is sought before making a travel choice (Chorus et al., 2006b).

Previous research on travel information use has concluded that people tend to seek travel information mostly for trips that are long distance (Peirce and Lappin, 2004), unfamiliar, arrival time-sensitive, or unpredictable in any way (Farag and Lyons, 2008; Lyons et al., 2008), and when using public transport (Farag and Lyons, 2010). It has been pointed out that for most trips, travel information is *not* used (Lyons et al., 2007) and that the application of habits and heuristics limits the need for information (Gärling et al., 2002; Verplanken et al., 1997).

In transport studies literature, the term *travel information* often focuses on *formal information* regarding route and mode choice and departure times from *e.g.* timetables and information services (Ben-Elia and Shiftan, 2010; Lyons, 2006; Peirce and Lappin, 2004). There is recognition within the field that the information used in planning travel is varied and comes from a multitude of sources such as the traveller's own experience or the knowledge offered by friends, family or other travellers (Bartle et al., 2013; Lyons et al., 2008; Sunitiyoso et al., 2009) and that ambiguity therefore sometimes surrounds the use of the term (Lyons et al., 2007).

It is also recognised that travellers use information to cope with uncertainty and variability in the performance of the transport system. Authors such as Bonsall (2004) have therefore argued that we need to understand “people’s perception of and attitudes to uncertainty” (p. 45) if traveller behaviour and responses to variability in the transport system are to be understood. Bonsall also points out that almost all attributes of a journey, not just journey durations, are somewhat variable and ‘uncertain’:

The smoothness of the traffic flow, the stressfulness of the journey, the chance of being involved in an accident, of getting a parking space, of getting a seat on the bus, of successfully hailing a cab, of finding the lights on red, of stepping into something unmentionable on the way from the car park, and of finding one’s car clamped, vandalized, or stolen, are all subject to variation (p. 46).

Some variabilities are in the control of the traveller, others are not. Bonsall stresses the context dependency of variability consequences. A late arrival to a business appointment or to day-care picking up your children due to delays in traffic is of course experienced, and acted on, differently than if a delay occurs during leisure travel. He also states that travel information (including personal experience, the experience of others, and from media) is interpreted according to the traveller’s personal understanding of the workings of the system.

1.1 A Practice Theory approach to travel behaviour and planning

Although travel planning, travel information use and mode choice have been common topics in transport research, a large part of existing literature has been based on experimental methodology that does not deal with real-world travel and planning environments, but instead makes assumptions about the true contexts of everyday life in which information is, or is not, engaged with (Lyons et al., 2008; Lyons et al., 2007).

This paper takes a different approach and reports on a qualitative study, investigating the practice of planning travel in people’s daily life, presenting several in-depth examples of everyday planning practice. It adopts a *Practice Theory* perspective that focuses on the shared, contextual and socio-technical character of people’s behaviour. Everyday behaviour is seen as stemming from shared social norms of what constitutes normal behaviour, normal and attractive ways of life *etc.*, rather than something that is freely chosen by autonomous individuals as a result of their attitudes, values and beliefs. Practice Theory also states that social relations, material infrastructure and context are *not* external “contextual barriers”, but are embedded within, and act as part of, social practices (Christensen and Røpke, 2011; Nye and Hargreaves, 2010; Shove, 2003). This study uses the Shove and Pantzar (2005) understanding of practices as consisting of assemblages of *skills* (competence and know-how), *meanings* (images, social norms) and *stuff* (materiality, objects). Individuals are carriers of practices, and should be seen as “skilled agents who actively negotiate and perform a wide range of practices in the normal course of everyday life” (Hargreaves, 2011 p. 83). To paraphrase Shove and Pantzar (2005 p. 61), the Practice Theory approach is that if travel planning is to exist, people must do it. What travel planning ‘is’, and what it becomes, depends on who does it, when, where and how, and moreover what “stuff” (materials, technologies and

information) is involved in doing it. Changes to these elements of practice – material things, meanings and competencies – can bring about changes in (or defection from or recruitment into) a practice (Watson, 2012). Practices also exist and change in relation to other practices. Travel patterns are naturally intimately bound to practices emerging from the overall coordination of daily life, and changes to these practices will affect and possibly change travel and travel planning practices (ibid.).

This study explored the practice of *travel planning* in everyday life. The aims of the present study were to investigate:

- how travel planning and travel choices are actually made in everyday practice, *i.e.* in the specific socio-technical context
- the tools (ICT-based and analogue) and strategies used to find directions, arrive on time and choose mode of travel
- the nature of travel information and its use in the practice of planning and choosing travel.

It hopes to contribute to the understanding of what planning travel is and looks like in people's everyday lives, and how information is used in this practice. Exploring these issues is needed when assessing and pursuing the possibilities of ICT-based travel information services in reducing travel-related environmental impacts. Travel information is not viewed here as having a large impact on its own in changing non-sustainable travel patterns, but as a *component* of the practice of planning and travel decision making. New types of travel information may function as one of many small *intervention points* that can "initiate or give momentum to positive feedback effects" (Watson, 2012 p. 493) in the systemic change of travel practices (ibid. p. 493-496).

Using information obtained in a pre-study comprising five interviews, travel planning was tentatively defined here as the practice of:

- finding directions and the way to a destination
- managing time – knowing when to leave in order to arrive on time
- making choices on travel mode(s).

"Travel", "trips" and "journeys" are used here synonymously, denoting a wide range of trips, *e.g.* walking to the corner shop, the daily commute and longer holiday trips.

2 Methodology

Empirical material was collected in a qualitative field study in *Farsta*¹, a city district of Stockholm situated 8 km south of the city centre. Farsta was chosen because of its mixed housing, mixed social demographics and different modes of transport (an underground system, a rail system and a motorway nearby).

A total of 19 participants, either working or living in the district, were recruited to the study through personal and professional networks, or through advertisements and on-site recruitment in Farsta. In order to incorporate as many different narratives of travel planning as possible, participants of different

¹ Including the districts of Hökarängen, Gubbängen and Sköndal.

ages, sex and backgrounds, and with different travel patterns and travel options in their daily life, were sought. The 19 participants selected ranged from young students working part-time to senior citizens leading active lives. Participants in the process of changing their travel arrangements in some way, *e.g.* through moving house, starting a new job, having children, getting a smartphone, changing economic status *etc.*, were also sought. This was a means to overcome the unconscious quality of the frequently routine practices associated with everyday mobility, since everyday practices tend to be more visible in a process of change (Wilk, 2009).

An explorative method, inspired by the *cultural probe* methodology (Gaver et al., 1999; Hemmings et al., 2002) and similar to the *diary-photo diary-interview method* described by Latham (2004), was used. This was a way of solving the shortcomings of conventional qualitative methods (in-depth interviews and participant observation) in capturing how information and strategies are used in travel planning and how they are connected to the situated travel decisions of everyday life arising from the spatially and temporally scattered, routine and trivial nature of planning travel (*ibid.* p. 122-123). Probe kits (Figs. 1-3) containing two assignments were developed to help participants explore and document the planning and choices connected to their everyday mobility. This exploration exercise was designed to make the practice of planning fully “visible” to participants.

First, in a *pre-travel/post-travel diary*, participants were asked to:

- **choose a day** in the coming week when they had something planned
- **describe how they would be travelling on that day.** Where and why were they making the trip? How did they plan to get there?
- **describe how they planned the travel.** Did they search for directions in advance? How did they know when to leave in order to arrive on time? How did they choose their mode of travel?

Second, in a photo assignment, participants were asked to document:

- things that affected their **choice of travel**
- things that affected their **travel experience.**

The kit was designed to feel exciting to explore and to be self-explanatory. The participants used around a week to complete the tasks.² During the interview, the records of the pre-travel/post-travel diary and the photographs served as points of departure for the conversation. The in-depth interviews were semi-structured in character and were recorded. The recorded interviews were transcribed and analysed together with the diaries and photographs. Themes related to the research questions were identified in the material and developed during analysis. All participant names mentioned in this paper are fictitious. Participant statements cited below have been translated to English by the author.

² 17 diaries were ultimately completed, but 19 interviews took place.

Fig. 1. Probe kits. Photo: Elin Franzén.

Fig. 2. Pre-travel/post-travel diary with a set of instructions. Photo: Elin Franzén.

In the paper, one of the participants' accounts is presented more thoroughly than the others, and can be said to act as a 'key case'. This is done in order to better present, discuss and utilize the explorative possibility of a rich and detailed qualitative material for the purpose of this article (Flyvbjerg, 2006). The key case was purposefully selected (Johansson, 2005) as being especially information-rich in relation to the aim of the article, and able to reveal the situated courses of events and processes involved in planning travel.

Fig. 3. Returned fold-out travel diary. Photo: Åsa Nyblom.

3 Exploring travel planning in practice

How do people actually get directions and find their way to their destination? How do they know when to leave in order to arrive on time? How do they make choices on which means to use to get there? Not "in general" or "in the best of worlds", but in the muddle of everyday life. An example is the planning of 16 September as recorded by Nina, a 32-year-old journalist and single parent living with three daughters aged 2, 8 and 13 in a terraced house in Hökarängen. She quite recently began working again after maternity leave with her youngest daughter, for whom she has almost sole responsibility. Among the range of recorded diary days in the study, Nina's included quite a large number of trips, a significant amount of coordination and also different strategies and tools of travel planning which makes her diary account a rich and interesting place to start exploring travel planning in practice.

Travel diary (in advance) for 16 September

[16 September] I will do different things. First I will drop off two-year-old Alice at her day nursery and eight-year-old Ellinor at school. After that I'll go to work. At some point during the day I will leave the office to do a story in Aspudden. I also need to collect my car from the garage in Årsta before 14.00 when they close, and I have to be in Gubbängen by 15.30 at the latest so that I'm not late picking up the children. I don't know yet how to plan the day. Story first, collect the car after? According to the lady in Aspudden, her home is very close to the metro, so it seems easiest to go by public transport and not have to find a parking space or end up in a traffic jam. Then I could take the local train between Liljeholmen and Årsta and walk the last bit to the garage.

However, if there are any delays I won't get to the garage in time and then the car will be stuck there the entire weekend. I probably have to collect the car first. In that case I need a map on how to drive between the garage and Aspudden. Then I'll pick up my car from the garage and drive to Aspudden. After that I'll collect Ellinor from school and Alice from day nursery and go home. Hopefully I'll find the time to do some food shopping as well.

Had it been a normal day I would have biked to school with Ellinor and Alice, but since I have to get the car home today I can't leave it [the bike] standing by the school. And it takes too long to walk all the way with Ellinor – it takes 22 minutes to get to school and 15 minutes back to the day nursery, and I don't want to leave Alice first, because then she has to be away from home for too long. Besides, Ellinor has to be there [at school] at 08.15 so I would have to leave Alice already before 8 o'clock = too early.

So her 13-year old sister, Frida, will walk to school with Ellinor today, and I will go to the day nursery with Alice. Then I'll go to the metro. The rest of the day will sort itself out as it goes along, I hope. (Pre-travel diary, Nina)

Nina's day thus includes quite a large number of tasks, in a variety of places. In planning the day and the required movements, Nina first has to *find the ultimate order of tasks*, juggling a variety of pros and cons regarding simplicity, smoothness of the trip, and the risks and consequences of running behind schedule. The order she decides on will have a direct bearing on the mode choice for the trip to Aspudden (car or public transport) and also on the type of information needed to find her way there. Planning the trips of 16 September also requires her *to rethink the "normal" school run* by bike, so that the bike is not left at school over the weekend. In arranging the school run, shortening the day at nursery for two-year-old Alice serves as a reason for not choosing the closest and fastest route, but instead beginning at school and going back to the nursery. Nina's advance account for 16 September shows how travel planning in a real-life context includes a multitude of factors and issues to be dealt with; many seemingly having an impact on mode choice, need for information and time management. However, this is still a theoretical account made the day before. What really happened was documented in Nina's post-travel account of 16 September.

The morning ran as planned: the two older daughters went to school together on foot, the youngest was dropped off at nursery school by Nina on her way to the metro that she took to work. But regarding the work-related trip to Aspudden, she writes:

I had planned to arrive at Aspudden between 12.00 and 13.00. But I didn't get away from work until 12.40 and realised that I had to pick up the car first. I visited www.hitta.se and printed off directions to Aspudden from the garage. Unfortunately the map itself didn't print, only the written directions above the map so that you hardly could read it. [I] didn't have time to fiddle with it, so that sheet of directions had to do. (Post-travel diary, Nina)

Nina went by public transport to the garage where the bill was incorrect and needed to be printed again, which took "for ever", so she did not leave the garage until 13.45. Thereafter she:

[d]rove as fast as possible to Aspudden. Found my way quite easily thanks to the printed directions that worked after all. Did the story as quickly as possible and left Aspudden at 14.55. Drove the wrong way due to bad road signage [.....]. Parked on yellow lines in Gubbängen, went in to Konsum [supermarket] and grabbed some supper things [...] and arrived at school 15.25. Picked up Ellinor and drove to the day nursery in Hökarängen, arrived approximately 15.40. Then we drove the last little bit home. (Post-travel diary, Nina)

The post-travel diary revealed Nina's decisions and travel during the day. Due to time constraints she decided to pick up the car first, then drive to Aspudden to do the story, and then go on home and pick the two youngest daughters up on the way (after a hurried stop to buy food en route). The option she judged as the "easiest", going by public transport to Aspudden and then to the garage in Årsta, was thus not the one that she ultimately chose. During the interview Nina explained that she got held up at work and since she wasn't going back there after the story, she had to finish off everything she was doing (Nina p. 11). The importance of being on time to collect the car was a key factor in this decision. The interview revealed that the car was needed during the weekend when the eight-year old was going for her first riding lesson:

and [the riding-school] is in Ågesta and it is probably *possible* to go there by public transport, but how? I don't know... I don't have the energy. So I thought I wanted the car. [...] Otherwise it would have been standing there over the weekend. But then I would have had trouble and [inaudible] on Monday, "How will I get the car home?" And I wanted to take the opportunity to work late then, because then the little one would be with her dad, and the two older with their dad [...]. And then I didn't want to have to interrupt work to go to the garage. So... I have to think ahead about such things all the time. [Laughs] Well... [Sighs].

It is evident that Nina's travel planning for 16 September involved a mixture of factors that Nina tried to review and include in her decision. In the case of the trip to Aspudden, some of these were related to the actual work day (finish off urgent tasks before leaving office), some to her afternoon and evening chores (school run and food preparations), and some extended in time and related to the weekend activity of horse-riding for the eight-year-old, and to planning the next week's work, considering the possibilities of child-free time.

3.1 Travel information use

The need for, and use of, *information* in planning and executing these journeys on 16 September is apparent in Nina's story. Nina's estimate of how much time it takes to go to Aspudden came from the person she was going to meet:

... then she called [...] and said “but it will only take 7 minutes by metro” and I probably thought it would take 40. [...] I’m not familiar [with] the red [underground] line. (Nina p. 15)

However, since she decided to pick the car up first, she needed directions to get to the address in Aspudden by car, and quickly tried to print these off from *hitta.se*, a free online map service. These proved to be adequate despite the lack of graphics. She didn’t bother to check directions for the way home and got lost due to unclear road signage and because she thought she knew the way. Nina thus used a mixture of types and sources of information: verbal information on trip time by metro to Aspudden from her interviewee over the telephone, printed directions and map via an online service, road signage, and assumed knowledge based on previous experience. This proved to be extremely typical in the material from the field study. It also highlights the need for a very broad definition of the term ‘travel information’. In the example above, Nina used information from different sources in order to *find directions* relating to different mode options, and to *find out trip time* of different options in deciding on mode and managing her tight timeframes.

Other types of information were used by informants in relation to planning or making travel choices. *Weather* was mentioned by some participants as an important factor affecting travel planning and journey decisions. *Emma*, 36 years old, mother of two and currently on maternity leave, usually checks the weather forecast on the computer, using two, sometimes three, internet weather services in parallel. This is primarily to know how to dress herself and the children, but if it is too rainy they may decide on public transport instead of walking. Checking the weather has become more important for Emma since having children:

The weather forecast wasn’t nearly as interesting before I got kids [...]. Because now I have to think about having changes of clothes for all of us and clothes suitable for the weather if we’re going out (Emma p. 3).

The weather also plays a part in Emma’s decisions on where to go and what to do. On a rainy Saturday they might go into town or to a shopping centre and take the opportunity to run errands, whereas they’ll go to a park or forest if the weather is nice (Emma 1 p. 3).

Drawing on the examples above, it is clear that the term *travel information* can be understood as referring to different types of information used to find directions to the destination, review and manage timeframes related to the travel, make choices of travel mode and destination, and make suitable preparations for the trip. This definition is slightly broader than the “three main purposes for obtaining travel information” proposed by Lyons *et al.* as being, in short, to *identify new* (1) and *assess known* travel options (2) and *help in completing the journey* (3) (2008 p. 1). The definition proposed here, however, also includes the use of information for making preparations for the trip and for managing timeframes of travel and preparations.

3.1.1 Analogue, ICT-based and informal information sources

The information sources used by the participants in planning travel varied from *physical objects* to *digital information services*. The empirical material also revealed frequent use of different *informal information sources* (Fig. 4).

Physical objects	Digital services	Informal sources
<ul style="list-style-type: none"> • Road signs/signage for public transport • Printed timetables • Kitchen clock • Telephone directory's map section • Scribbled paper notes 	<ul style="list-style-type: none"> • Stockholm public transport travel planner (sl.se) • Online map services (hitta.se, eniro.se) • Travel planner apps • GPS maps on smartphones • GPS navigators for car or bike 	<ul style="list-style-type: none"> • Participant's own knowledge of routes, public transport system and trip times • Advice and experiences from colleagues, friends and family • Knowledge shared by passers-by

Fig. 4. Examples of travel information sources used by participants

These three categories are sometimes interdependent, *e.g.* informal information can be mediated through mobile phones, and the directions on handwritten notes often stem from ICT-based services or web pages. What information source is used depends on the kind of information available and the information deemed useful and practically applicable in the actual situation at hand, as further explored below.

3.1.2 Digital services on computer and smartphone

The majority of the participants regularly use digital services such as the Stockholm public transport travel planner and different online map services as information sources in planning their travel. This is usually done when the destination is somewhat unfamiliar or the participant has a fixed arrival time, a finding consistent with previous studies of travel information use (Farag and Lyons, 2008; Peirce and Lappin, 2004).

Around 50% of the participants in this study had smartphones. Among these, there was a great difference in frequency of use for travel planning purposes and whether, or to what extent, they thought their way of planning had changed after acquiring one. The feature most frequently mentioned was that with a smartphone, a map is always available. However, while the respondents really appreciated this function and all had found it very useful in real-life situations, they also had concerns, *e.g.* that GPS maps in smartphones may lead to people not knowing their way around the city anymore, and that a paper map never runs out of power (Filip p. 10, Daniel p. 6-7).

The participants in the study often used digital information sources via computer, which naturally places the information use before the trip. Where the number of online services used was limited, the ways of carrying the information *on* the trip varied more. For example, Nina simply printed the map and directions – unfortunately on top of each other. In contrast, *Trine*, aged 32 and a violinist, did not believe that reality would “look like you thought it did on the map” (p. 7), so she checks the map online beforehand and trusts to luck on the trip. Instead of a map, she often writes down street names:

which streets to take and... which to look for. “Okay, now comes that street, then I know that I’m to turn into the next”. (Trine p. 7)

Printing a map did not seem to be an option for Trine, even if she could, since she felt it did not help, but rather confused. Emma also reported preferring written directions to maps, admitting that she easily gets confused concerning points of

the compass, *e.g.* on exiting the metro, so a map does not help her without reference points. She usually writes down the directions given on *sl.se* regarding the route between the metro station and her final destination, together with a phone number to ask for directions if needed (Emma 1 p. 7).

3.1.3 Personal blend

These three examples of information use further illustrate what has been suggested above – that in the practice of travel planning, different mixes of information sources (ICT-based, analogue and informal) are used alongside one another. The specific mix used by the participants depended on the kind of information available in the specific situation – the “stuff” category in the Shove and Pantzar practice model – but also the information deemed useful and practically applicable in the actual situation, which differed between individuals. Nina’s handling of the situation was related to her pressed timeframes. *Time* in this context is an entity that does not fit naturally into one single category of the stuff/meanings/skills model of practice. It can be argued to fall within all three: As a “physical entity” fitting in with other measurable things in the stuff category; or drawing heavily on the interpretations [meanings] of the specific situation (importance of being on time to garage, interview, and picking up children from school and nursery); and as dependent on the skills of the hurried person deciding on finding the way in spite of double-layers or taking time to fix it.

Skills in using information technology can of course influence the “ingredients” of the personal “info-use mix”. *Maj-Britt*, aged 53 and working as a youth leader, reported not being very happy with computers and technology in general. She normally uses the map section of the telephone directory to check for directions. For her, this was quicker than an online service. She stressed the fact that it is portable too, and she always carries one in the car. However, if she has an appointment and is travelling by public transport, she plans the trip on *sl.se*. This particular service is obviously so user-friendly that it is chosen over other alternatives, such as paper timetables in Maj-Britt’s case.

Information services can also be used to enhance and facilitate other skills, such as the practice of driving a car. *Sandra*, a nurse aged 32 currently on maternity leave, described her GPS-navigator as her “best friend in traffic” and reported using it a lot while driving a car:

I haven’t had a driver’s licence that long... I’ve had it for three years and, especially in Stockholm, I think it’s a bit scary driving in the city. [...] If I have to go somewhere I don’t know.. [...] then I often check on the computer or on the mobile phone how I should get there so that it doesn’t come as a surprise when I turn on the navigator and it says “now turn right, left, right, left. So that I have a rough picture of how to drive there beforehand. (Sandra p. 2)

Thus Sandra has worked out a tactic of using double information sources when driving in order to eliminate surprises. This tactic seems to be closely linked to her feelings of insecurity when driving in city traffic.

It is clear from the above that skills of different kinds determine the information used in planning travel. But perhaps it’s also the other way round? *Filip*, aged 45, journalist and father of four, normally checks an online map before a trip and makes a point of not always printing it – claiming that it is often sufficient to have a “general idea”. Filip pointed out that:

...in recent years you have been spoiled by having a map on your phone too... that is, a satellite-connected, interactive map with your own position placed in a GPS and all that... so [...] people will be worse and worse at finding the way. (Filip p. 10)

Thus a change in one of the components of travel planning, in this case in the information and technology (stuff) used, could result in a change in the skills of the individuals performing the practice. This is in close agreement with Practice Theory, since it stresses the interconnectedness of the different components constituting and “holding the practice together”.

3.2 Planning as thinking ahead. Strategies and change.

Trine wrote her travel diary about 13 September. It included leaving and collecting her eldest daughter at nursery school, a trip to an “open day-nursery” in a neighbouring suburb with some other mums, and a trip to buy paint at a large warehouse with her parents-in-law in the evening. In writing the travel diary, she discovered that travel planning is something you do without really noticing:

Even though I hadn’t checked anything, I knew... I had been thinking about where I would walk to get [...] to the underground – no, to commuter trains. And roughly how much time it would take me. (Trine p. 4) Just thinking about the trip is a way of planning it, even though you don’t look up that much. (Trine p. 11)

Planning travel, in its simplest form, could perhaps be defined thus – as just thinking about the trip, the route, timeframes and preparations required in advance. This leads to acknowledgement of gaps in knowledge and uncertainties that require the use of “external” information.

3.2.1 Social norms of timekeeping

Trine’s normal approach to travel planning was minimalistic, involving as little time checking and time-setting as possible. She likes to “just let things take their own course” (Trine p. 2) However, if it is important to arrive on time, Trine has quite a different approach to planning her travel. She does not want to be late for her work as violinist:

I’m quite fearful of being late for work for example, that’s... that’s not fun. As a freelance violinist you work [...] here and there. So then I check maps quite thoroughly and also what time the train leaves, and then I do make sure to leave in good time. (Trine p. 7)

Trine usually adds a safety margin of at least 30-45 minutes, and sometimes arrives an entire hour early. This quite major change of strategy compared with her normal approach of just hoping for the best is due to a very strong social norm in the world of professional musicians regarding *not turning up late* (or even just on time):

... when at the Academy of Music, I got some... [critical reactions]. One time I arrived exactly on time. It’s just not done... You have to be there to check on music stands [...] check so you have got your sheet music, check that your violin is okay... (Trine p. 8)

For Trine, planning for work-related trips therefore has a different meaning and calls for a different strategy than planning journeys for leisure. The concept *anticipated regret* has been used within transport studies for explaining information use for travel purposes (Lyons et al., 2008). In practice theory terms, Trine takes part in the professional social practice of performing music. The meanings and skills of this practice comprise being in plenty of time for rehearsals. The anticipated regret is therefore related to shared meanings and skills of a local practice of music-making. A more general hypothesis is that the meanings and skills of being in time is important for many (professional) practices in this part of the world and/or related social groups. Being in time should therefore also be seen as a social norm of importance for travel planning.

3.2.2 Social norms of good parenting, bodily ideals and personal relations

Social norms also play a part in Nina's planning of the morning school run and daily trips. She does not want to leave her two-year-old at nursery school "too early" and therefore normally chooses the more complicated route of dropping the eight-year-old off at school first and then going back to leave the little one. The solution chosen for the diary day, where the eight-year-old walked to school with the 13-year-old, would be the most practical but, according to Nina, is not chosen since social norms of "good parenting" come into play:

I think they *should* walk really; it would be the most practical by far. Except when I sometime have a kind of bad conscience that I should show myself at school, collect papers and say hello to the teacher and show that I am a caring parent... [...] Things like that also matter. (Nina p. 6)

Similarly, personal relations, in that the sisters argue a lot at the moment and the 13-year-old finds it embarrassing to meet her friend when accompanied by her sister, affect the decision not to make this solution the normal routine. The question of how demanding one can be of a 13-year old who is very helpful in other ways also comes into the decision. Nina's everyday planning is also occasionally connected with internal pressure stemming from ideals about physical appearance. Talking about a day in the previous week, Nina reported that she chose to go by bike, although this was difficult practically, since she wanted the physical exercise in order to get slimmer (Nina p. 5).

3.2.3 Visibility, variation and change

The visible reminder of a possible route or mode might change travel plans on the spot. *Alvar*, aged 68, retired but engaged in several issues and organisations, had planned to take the underground home from a seminar, but changed his plans when he came out in the street and saw the number 4 bus:

What the... there's the number 4! That goes to Gullmarsplan! [---] And then I went to Gullmarsplan directly instead of going the whole other detour... This has led to me starting to read up on inner city buses. (Alvar p. 14)

A change of plan can also be made just for the sake of variety when the possibility arises (Hanna p. 5). These changes of plans were made possible by the participant's previous knowledge (skills) of the public transport system, albeit triggered by the visibility of the alternative.

Visible information sources also played an important role in planning practice. This is illustrated by the kitchen clock from Nina's photographic

assignment (Fig. 5). It is located on Nina's kitchen wall in a way that she can see it from where she sits at the table. She describes it as "an important factor" in how she decides on the travel mode for the morning school-run:

Time pressure. School starts at quarter past eight. [---] Car or bike? Decide now. And here I started to realise that it will be the car today. [---] We must probably get out of the house at a quarter to or something if we are to make it on time with the bike. (Nina p. 6-7)

Fig. 5. Photo: Nina

Travel information signage, for example at the entrance of public transport stations, was also put forward as being important for daily travel planning. If signs showed that the commuter trains were running as planned, this mode was chosen, otherwise the traveller turned back to the nearby metro station. (Bengt p. 2-3).

3.3 Need for information in planning

Previous research on the role of travel information has concluded that people tend to seek travel information mostly for trips that are unfamiliar, arrival time-sensitive, long distance, for leisure purposes or unpredictable in any way (Farag and Lyons, 2008; Lyons et al., 2008; Peirce and Lappin, 2004). Travel information in this case shall probably be interpreted as 'formal information', for example from travel information services or timetables. Using the more inclusive definition of travel information presented above, the present study observed a high degree of travel information use for a wide variety of trips.

In the present study, local but unfamiliar trips were not unusual and familiar trips could *become unfamiliar* in certain circumstances. Sandra, currently on maternity leave from her work as a nurse, tries to save money by travelling as much as possible by bus, which is free in Stockholm for anyone travelling with a pram or stroller. This involves finding new routes since her ordinary routes involve the underground. Travelling by bus routes is not the easiest or the most comfortable way of travelling, but "it's more fun [...] using the money for shopping rather than travel, isn't it?" (Sandra p. 12). She stresses that the free timeframe of maternity leave is one of the reasons this is possible, and that this bus-routing only takes place when travelling alone with the youngest child, not when travelling with the entire family (ibid.). Sandra also commented on the change that has occurred since receiving her new smartphone:

I think that travelling with public transport is now much, *much* easier since I got it. [...] When we met [approximately two weeks previously] I showed you... I

had two or three printed bus timetables that you could check. But that's *really* complicated. (Sandra p. 14)

The smartphone and the Stockholm public transport planner app have made public transport information much easier for Sandra, especially for finding bus routes she does not normally use.

3.3.1 Non-use of formal information

Although the examples above contradict the notion that local and familiar trips by definition lack a high degree of planning and have limited information needs, there are also examples that confirm the notion. *Martin*, aged 42, has recently moved house with his family and now has a longer commute. He mentioned traffic and queues as a factor affecting his way of travelling, but usually does not check the traffic before he leaves, *i.e.* he has not "listened to the traffic radio or checked on the internet or anything" (p. 5). But before moving to the area, he spoke to people there who commuted the same route and "then acted accordingly" (*ibid*). Martin claimed that he has a limited need for travel information in his daily life since the traffic does not differ much from day to day (Martin p. 11).

The nature of the situation and activity is also of importance for the practice of planning and the use or non-use of (formal) travel information. Neither Filip nor Martin checks departure times for their (public transport) commute home from work, although there is a possibility of saving waiting and travel time. They both claim that it is difficult to leave at an exact time. Filip says:

Actually, it's so difficult because it's about me standing up at an exact minute here, and it almost never works. It's like... [...] It's about work being as it is, that you can't... it's not possible to control the exact minute [you get away]. [...] In the end it's just: "Well, I'll leave when I can, and then we'll see how it works out in the end". (Filip p. 9)

The practice of working, for Filip and Martin, implies a need for flexibility in the timing of finishing up and leaving the workplace, that makes time optimisation by planning according to (formal) information of departure times seem unrealistic to them.

As shown in the examples above, the *life situation* including finances, amount of free time, whether one has children or not, is single or part of a couple, personal relations, place of residence, type of work/activity *etc.* are all factors that have a bearing on the need for travel information. Although the need for information may be greater when a route is completely unknown, not all local trips are "familiar".

4 Planning travel in everyday life – discussion and conclusions

4.1 The practice of planning travel

From a Practice Theory point of view, the question of what travel planning comprises and how it is done are interdependent – what a practice *is* depends on how it is *done*, by whom it is performed, where, when and with what. According to the empirical material obtained in this study, the basic form of travel planning is *thinking ahead*, *i.e.* the process of laying out options concerning the order of

tasks, travel routes, travel mode, trip times, timeframes and needed preparations to scrutiny. Doing this is also a prerequisite for identifying knowledge gaps and uncertainties that might need to be dealt with using (external) information.

Travel information should therefore be defined as the different types of information used to find directions to the destination; making choices of travel mode and destination; making appropriate preparations and managing timeframes related to the travel and preparations.

This study has concluded that the sources of travel information used by people are considerable and varied, consisting of both *analogue, ICT-based* and *informal information sources*. These different sources are used in parallel and are often interdependent. Different participants use different mixes or blends of information, depending on what is available (stuff), what is deemed practical and useful (skills) and also depending of perceptions (meanings) of the situation, for example regarding time and urgency in connection with the information and the interpretative skills at hand. The chosen qualitative method and Practice Theory approach thus highlight the importance of considering not just *both* context and actor(s), but their *relationship*. The practice of planning travel is constituted by these relationships between materiality, meaning and competence. Visibility of route or mode options paired with the participant's previous knowledge (skills) played for example an active role in changing travel plans in the study. Also, the kind of travel information deemed practical in one situation might not be the same in the next, if the perception of time and urgency, for example, changes.

The definitions of travel planning and travel information presented in this study for the context of everyday travel, differ in some respects from how the terms are used generally in literature. I argue in this paper for the use of a travel information concept that embraces the diversity of types and sources of travel information used in practice, and therefore allows for a richer understanding and discussion of travel information use and travel planning.

4.1.1 Time, coordination of daily life and the information security blanket

This study also found *time* to be an important part of planning. Practice theorists such as Shove (2003) and Southerton (2003, 2006) stress the importance of considering time in relation to practices – their timing, duration and sequential order. In the empirical material of this study, travel planning is a process often undertaken little by little, and final decisions are not always taken until the last minute. Decisions might also be taken when the deadline for some of the options has already passed (as for the biking alternative of Nina's morning school-run). The practice of planning is squeezed in and depends on the timing of other practices. As shown by Southerton (2003) scheduling of practices is done within limited time frames, creating "hot" and "cold" spots of the day. This allocation is generated by coordination needs within social networks, and e.g. a felt need to "free-up" time frames for interaction with friends and family. Clear evidence of this was found also in the present study. Evident in this empirical study of travel planning practice is also that when journeys are planned, factors from very different time horizons can come into play, *e.g.* those relating to the immediate situation, to activities later that day, or yet others connected to activities and planned events still days and weeks away. As pointed out by Schwanen (2008) the many acts needed to create and maintain the socio-technical network that is part of the management of uncertain travel times and activity durations is

distributed across space and time and “connects together many different times and places that may, at first sight, appear unrelated” (ibid. p. 1010).

Managing uncertainty is, as shown above, a natural part of travel planning. As pointed out by Bonsall (2004) not just journey durations are variable and uncertain, but almost all attributes of a travel. The results of this study show that people do consider these other attributes when planning travel, although information use for congestion, availability of parking spaces/seats on the bus, security of parking one’s bike etc. tends to be limited to the own experience and informal information. Travellers’ understanding of the transport system is to Bonsall reflective of “the amount of experience they have of that system and the amount of information at their disposal, but it will also depend on their intellectual curiosity/ability” (p. 48). Following Schwanen (2008) who criticized this rather socially atomistic view of people coping with uncertainty present in previous transport studies literature, I think the results of this study confirm the importance of social cooperation. As shown, informal information from friends and family play an important role in travel planning practices, and the amount of information present is often dependant of social networks, mediated by for example mobile phones, pieces of scribbled paper and computers. Paraphrasing Schwanen: “Travel planning is not restricted to the contemplation of individuals, but instead involves a complex web of practicalities in different spaces and times” (p. 1010). The understanding of the transport system when used in planning is situational, context-dependant, and from the practice theory point of view utilized here, is tied to the skills, meanings and stuff of that traveller in that situation.

The use of an explorative qualitative field methodology provides detail and explanatory possibilities that quantitative or experimental laboratory methods do not. Instead of simply concluding that “travel behaviour and social surroundings interact with each other” (Frag and Lyons, 2011 p. 10), this approach, together with the lens of practice theory, highlights the social part of information use, how personal relations, social norms and the meanings and visible possibilities of different contexts can – and do – come into play in planning and choosing travel. It shows how travel planning (as in the case of Nina) can sometimes be perceived as a *house of cards* – if anything changes the whole house has to be rebuilt again with a different layout. There are few standard solutions that work for her everyday life, and many different factors have to be accessed and decided on to make her travel plans. Or travel planning can be more like *prefab building* – joining the same prefabricated pieces together in more or less the same patterns every time, although different trips may have different strategies due to different meanings of the importance of timekeeping (as for Trine).

Travel information, on the other hand, is in some instances used as a *security blanket* to hold on to, giving courage and helping the traveller get through traffic and unknown territory to the destination. What this blanket – or information – looks like and how it is used is both very personal (depending on the skills and preferred information mixes of the traveller) and of course is connected to the available information, transport modes and perception (stuff and meanings) of the trip.

4.2 Travel information and the change to sustainable travelling

The literature discussed and the empirical findings presented in this paper show how difficult it is to reform travel solely by the introduction of “smart” ICT-based travel information services. Travel information should be regarded as a small part, an element, of what constitutes the practice of travel. As shown above, it can *both* facilitate the practice of driving a car *and* facilitate the use of public transport. It is, however, important to point out that there *is* a potential connection between technology (*e.g.* ICT-based travel planning) and the practices adopted in society. Tools that are present for one element of practice have an impact on the kinds of practices and conventions developed. This in turn affects the demand for certain services and levels of consumption, sometimes leading to unintended cumulative effects when changes in “normal practice” occur as a result (Shove 2003).

Regarding ICT, a similar cumulative effect – an “insecurity loop” – has been found. The possibility of coordination also allows re-coordination, *i.e.* changing plans at very short notice. On the one hand ICT is helping people accommodate uncertainty, but on the other it is also eroding the fixity of schedules, perhaps fostering further reliance on ICTs (Christensen and Røpke, 2011; Jain et al., 2011; Line et al., 2011) In the development of new ICT-based travel information services, the role of technology in changing normal practices should be considered. As stated above, such services can both facilitate the practice of driving and the use of public transport. Similarly, the role that different practices play in the choice and use of ICT services should be kept in mind. The practice of planning travel and the use of travel information are interconnected with social norms of timekeeping and “good” parenting for example. If being on time as a social norm were to grow stronger and be applied in a greater number of social settings, there would possibly be a greater degree of (formal) information use. And if it were possible to show interest in and support of one’s children’s “school life” (*i.e.* being a “good parent”) without necessarily being there in person, the planning of school runs and commutes could perhaps change in a sustainable direction.

Regarding the connection between information and mode choice, the definition of planning proposed in this paper implies that options of mode choice are considered together with order of tasks, travel routes, trip times and timeframes, and necessary preparations. In doing so, knowledge gaps and uncertainties for which information is needed are identified. If a certain travel mode is not thought of at all or not deemed worthy of consideration, information about it will not be actively sought. It can be argued that ICT-based multi-modal travel planners might be able to make overlooked alternatives “visible” in searches for travel information, but whether this actually leads to different travel patterns needs to be studied further. In technology development, it is very easy to focus on technological possibilities, *i.e.* what the technology can do, but it will have very little actual impact unless attention is given to what people actually do with technology and what technology does with them. This demands detailed knowledge and careful consideration of planning travel in its everyday context.

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References

- Avineri, E., 2004. A Cumulative Prospect Theory Approach to Passengers Behavior Modeling: Waiting Time Paradox Revisited. *Journal of Intelligent Transportation Systems: Technology, Planning, and Operations* 8, 195-204.
- Avineri, E., Prashker, J.N., 2004. Violations of expected utility theory in route-choice stated preferences - Certainty effect and inflation of small probabilities. *Transport Res Rec*, 222-229.
- Bartle, C., Avineri, E., Chatterjee, K., 2013. Online information-sharing: A qualitative analysis of community, trust and social influence amongst commuter cyclists in the UK. *Transport Res F-Traf* 16, 60-72.
- Ben-Elia, E., Shiftan, Y., 2010. Which road do I take? A learning-based model of route-choice behavior with real-time information. *Transportation Research Part A: Policy and Practice* 44, 249-264.
- Bonsall, P., 2004. Traveller behavior: Decision-making in an unpredictable world. *Its J* 8, 45-60.
- Chorus, C.G., Molin, E.J.E., Van Wee, B., 2006a. Use and effects of Advanced Traveller Information Services (ATIS): A review of the literature. *Transport Reviews* 26, 127-149.
- Chorus, C.G., Molin, E.J.E., Van Wee, B., Arentze, T.A., Timmermans, H.J.P., 2006b. Responses to transit information among car-drivers: Regret-based models and simulations. *Transport Plan Techn* 29, 249-271.
- Christensen, T.K., Røpke, I., 2011. Can Practice Theory Inspire Studies of ICTs in Everyday Life?, In: Bräuchler, B., Posthill, J. (Eds.), *Theorising media and practice*. Berghahn Books, Oxford and New York.
- Farag, S., Lyons, G., 2008. What affects use of pretrip public transport information? Empirical results of a Qualitative study. *Transportation Research Record: Journal of the transportation Research Board*, 85-92.
- Farag, S., Lyons, G., 2010. Explaining public transport information use when a car is available: Attitude theory empirically investigated. *Transportation* 37, 897-913.
- Farag, S., Lyons, G., 2011. To use or not to use? An empirical study of pre-trip public transport information for business and leisure trips and comparison with car travel. *Transport Policy*.
- Flyvbjerg, B., 2006. Five Misunderstandings about Case-Study Research. *Qualitative Inquiry* 12, 219-245.
- Gärling, T., Eek, D., Loukopoulos, P., Fujii, S., Johansson-Stenman, O., Kitamura, R., Pedyala, R., Vilhelmson, B., 2002. A conceptual analysis of the impact of travel demand management on private car use. *Transport Policy* 9, 59-70.

- Gaver, B., Dunne, T., Pacenti, E., 1999. Design: Cultural Probes. *Interactions* 6, 21-29.
- Gigerenzer, G., Todd, P.M., Group, t.A.R., 1999. Simple Heuristics that Make Us Smart. Oxford University Press, New York.
- Hargreaves, T., 2011. Practice-ing behaviour change: Applying social practice theory to pro-environmental behaviour change. *Journal of Consumer Culture* 11.
- Hemmings, T., Crabtree, A., Rodden, T., Clarke, K., Rouncefield, K., 2002. Probing the Probes, Participatory Design Conference, Malmö, Sweden, pp. 42-50.
- Jain, J., Line, T., Lyons, G., 2011. A troublesome transport challenge? Working round the school run. *Journal of Transport Geography* 19, 1608-1615.
- Johansson, R., 2005. On case study methodology, In: Vestbro, D.U., Hurol, Y., Wilkingson, N. (Eds.), *Methodologies in Housing Research*. The Urban International Press, pp. 30-39.
- Latham, A., 2004. Researching and writing everyday accounts of the city: an introduction to the diary-photo diary-interview method, In: Knowles, C., Sweetman, P. (Ed.), *Picturing the Social Landscape: visual Methods and the Sociological Imagination*. Routledge, London, pp. 117-131.
- Line, T., Jain, J., Lyons, G., 2011. The role of ICTs in everyday mobile lives. *Journal of Transport Geography* 19, 1490-1499.
- Loomes, G., Sugden, R., 1982. Regret Theory - an Alternative Theory of Rational Choice under Uncertainty. *Econ J* 92, 805-824.
- Lyons, G., 2006. The role of information in decision-making with regard to travel. *IEE Proceedings: Intelligent Transport Systems* 153.
- Lyons, G., Avineri, E., Farag, S., 2008. Assessing the demand for travel information: Do we really want to know?, European Transport Conference, Leeuwenhorst Conference Centre, The Netherlands.
- Lyons, G., Avineri, E., Farag, S., Harman, R., 2007. Strategic Review of Travel Information Research, In: Transport, D.f. (Ed.), London.
- Nye, M., Hargreaves, T., 2010. Exploring the Social Dynamics of Proenvironmental Behavior Change. *Journal of Industrial Ecology* 14, 137-149.
- Peirce, S., Lappin, J., 2004. Why Don't More People Use Advanced Traveler Information? Evidence from the Seattle Area, Transportation Research Board 83rd Annual Meeting, Washington DC.
- Schwanen, T., 2008. Managing uncertain arrival times through sociomaterial associations. *Environment and Planning B: Planning and Design* 35, 997-1011.
- Shove, E., 2003. Converging Conventions of Comfort, Cleanliness and Convenience. *Journal of Consumer Policy*, 395-418.
- Shove, E., Pantzar, M., 2005. Consumers, producers and practices: Understanding the invention and reinvention of Nordic Walking. *Journal of Consumer Culture* 5, 43-64.
- Simon, H.A., 1956. Rational choice and the structure of environments. *Psychol Rev* 63, 129-138.
- Southerton, D., 2003. 'Squeezing Time': Allocating practices, coordinating networks and scheduling society. *Time & Society* 12, 5-25.
- Southerton, D., 2006. Analysing the Temporal Organization of Daily Life:: Social Constraints, Practices and their Allocation. *Sociology* 40, 435-454.

- Sunitiyoso, Y., Avineri, E., Chatterjee, K., 2009. Role of minority influence on the diffusion of compliance with a demand management measure, In: Kitamura, R., Yoshii, T., Yamamoto, T. (Eds.), *The Expanding Sphere of Travel Behaviour Research*. Emerald Group Publishing Limited, pp. 643-672.
- Sussman, J.M., 2005. Perspectives on Intelligent Transportation Systems (ITS).
- Todd, P.M., 2007. How much information do we need? *Eur J Oper Res* 177, 1317-1332.
- Verplanken, B., Aarts, H., Van Knippenberg, A., 1997. Habit, information acquisition, and the process of making travel mode choices. *Eur J Soc Psychol* 27, 539-560.
- Watson, M., 2012. How theories of practice can inform transition to a decarbonised transport system. *Journal of Transport Geography* 24, 488-496.
- Wilk, R., 2009. The Edge of Agency: Routines, Habits and Volition, In: Shove, E., Trentmann, F., Wilk, R. (Eds.), *Time, consumption and everyday life: practice, materiality and culture*. Berg Publishers, Oxford, pp. 143-156.