Travel Time Use in the Information Age: Report

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Background

The time taken to travel from place to place shapes transport systems and the broader society within which people live. Yet on average such travel time amounts to only one hour per person per day. So why might travel time be so significant? Investment in transport has largely been justified by the *savings* in travel time that are brought about by more transport network capacity and improved transport services[i]. In economic terms it is assumed that time saved from *faster* journeys converts 'wasted' travel time into productive time in terms of paid employment[ii]. It is also presumed that in their personal lives, people are willing to pay more for faster journeys that 'save' time. On the basis of such assumptions major investments are made so as to develop the transport system[iii].

However, national statistics[iv] seem to suggest that being able to travel faster has not, on average, reduced the amount of time spent travelling per person per day. Travelling faster has meant travelling further. This has in turn brought about changes in patterns of land uses, economic activities and friendship and family patterns[v]. Travel time also in terms of its quantity and quality affects the choices that people make in *how* they travel and especially which modes they use.

But in transport studies there has been little interest in travel time *use* itself. Conventional wisdom is that travel is a demand derived from a need or desire to participate in activities at the *destination*. Travel is a means to an end rather than an end and seen as a disutility or cost of reaching a destination in order to attain a utility or benefit from activity participation. However, there is growing interest in the possibility that travel can itself have positive utility[vi]– attributed to the experience and sensation of travel itself and to what one can do with that time. This project contributes to and is part of this shift within the transport studies literature[vii].

And the contemporary world is also increasingly 'informationalized'. Not long ago information and communications technologies (ICTs) were associated with fixed locations – the landline telephone, the fax machine, the desktop computer, TV and so on. Things have changed. There are now *mobile* phones so that people can communicate and network wherever they are (assuming the batteries are charged and the train operator provides good connections). And such phones are transforming into mobile devices to take photos, send and receive emails, pictures and video, play music, and help organise schedules. Laptop computers offer the prospect of mobile offices allowing electronic filing cabinets to accompany those on the move. Such computers/MP3 players allow people to watch/hear films, TV, music while spending time travelling. This project thus examines travel time use in the information age in order to understand its significance for people, governments and corporations[viii]. The objectives and research goals are set out on the EPSRC form.

Methodology

A wide array of different methodological approaches was used to research travel time use. In general these were followed sequentially with each being informed by (emerging) findings from those preceding. Analysis, reporting and dissemination have, to differing extents, combined materials from across these approaches.

Literature review – A 54 page multi-disciplinary literature review[ix] considered and reported on various areas of theory/research, including: social theories of time; co-presence, time and travel; mobility infrastructures and time-space co-ordination; travel time and varied time-regimes; and the positive utility of travel time use. This review developed various conclusions, including the importance of 'equipped travelling' and of how travel should be viewed as a 'performance', and these conclusions fed into the subsequent research.

Stakeholder interviews – Ten one-to-one in-depth interviews with representatives of the private and public surface transport sectors, technology development, and passenger representatives groups, were undertaken. These sought to: ascertain the extent to which stakeholders have given and are

giving consideration to travel time use; understand their level of awareness of, understanding of and interest in the ways in which travel time use is or could be affecting their customers/employees; discuss the viability of stakeholders accounting for travel time use in the development of their policies, business, products or services; identify key questions they would have as prospective beneficiaries of the project; and explore ways in which the project might address them. This project also employed a kind of action research in that it responded to the various interchanges with stakeholders and sought to develop relevant research that then fed back to subsequent workshops.

Focus groups – A series of six male and female only focus groups were conducted in London, Bristol and Cumbria. The aim was to probe in depth the following topics: the experiences and desirability of travel; time constraints; preparation for journeys; activities conducted while travelling; and mobile technologies. Especially significance was attached to what is called the 'teleportation' test, that is, whether people thought that instantaneous transportation would be desirable and if not, why not.

National Rail Passengers Survey – Interest in the project from the Strategic Rail Authority (now disbanded with many functions absorbed into DfT) led to the research team designing a module of questions on travel time use that was included in the November 2004 wave of the ongoing national survey of rail passengers. With 26,221 responses this provided extensive survey data as to how rail passengers us their time, how worthwhile such time is considered to be and the significance for different types of passenger of various old and new technologies that may be brought onto the train.

Mobile ethnographies – 'Immersing' the researcher over a period of time in the sites of travel so generating close observation of the practices and relations between people, places, and technologies, has been rarely attempted. This project involved one of the first mobile ethnography studies focused on the use of travel time 'in-situ'. Ethnographies were conducted on the following (either as part of wider participant-observation or through shadowing individual passengers): West Coast mainline to London; Cross Country; East Coast mainline; Cumbrian rural bus services; urban bus services in Bristol, London and Lancaster; Thames Valley commuter train; South East commuter train; Nottingham Express Transit tram; Oxford-London express coach service; Manchester airport train.

Diary study – The project included a PhD studentship specifically focused upon the time use of 'briefcase' business travellers – a category of traveller where the orthodox valuation of travel time in transport appraisal is least robust[x]. This research examined in depth 13 case studies of business travellers. Participating individuals took part in two in-depth interviews. In between these interviews (and used to inform the second interview) two 1-day time use diaries were completed – one for a working day including a business trip and one not including a business trip.

Travel remedy kit – The concluding aspect of the project 'validated' the findings of the rest of the research. The exercise tested the findings by 'equipping' participants with new conceptual approaches and new equipment (a 'travel remedy kit') with the aim of 'improving' their travel experience. Five individuals underwent the experimental exercise which began with a highly structured interview involving over 30 different notions derived from the research findings; this was followed by the researcher preparing a personalised 'travel remedy kit'. The individual was then interviewed following completion of their chosen journey to assess the effectiveness of the kit and concepts, and the consequences for their travel experience.

Key findings and outcomes (as detailed in the 5 listed publications on the EPSRC form)

1. Travel time has value

Most rail passengers either make some use or very worthwhile use of their time travelling by train, suggesting that rail travel has positive utility for many travellers. Only 18% of passengers agreed with the statement that their travel time was wasted. Only 3% of rail passengers spent most of their time being bored or anxious.

2. There are varied uses of travel time

The most popular activities on the train are reading for leisure, window gazing/people watching and working/study. Business travellers spend more time working/studying; commuters spend more time

reading for leisure; and leisure travellers spend more time window gazing/people watching. Across journey purposes, more than 1 in 10 passengers who spend most time window gazing/ people watching consider their travel time very worthwhile. Thus one should not infer utility only from what people would appear to be doing (or not doing!)

3. Travel time use is equipped

Many people come well-equipped with ICTs on the train. But they are not necessarily used. The focus group discussions especially show that the ability to equip time, by bringing mobiles, laptops, books, magazines, food, work-related documents (even thoughts and ideas) into the travel space, in combination with appropriate and efficent infrastructure design/ facilities (such as wifi, tables, etc) is very important. We show elsewhere the significance of 'material worlds' in providing affordances for 'productive' time use[xi]. A fifth of rail passengers carrying ICT devices considered that having such a device made their time a lot better. However, just under half of passengers considered such devices had not made their time better. Of those carrying such devices, 46% thought their time had passed more quickly than would otherwise have been the case.

4. The importance of planning travel time use

Passengers who consider travel time as wasted are more than twice as likely not to have planned in advance how to use their travel time (70%) as compared with those who consider their travel time to have been very worthwhile (31%).

5. Travel time to be seen as a gift

Emerging from the focus groups, ethnographies and diary studies is that travel time should be viewed as a gift[xii]. Travel in order to be co-present with significant other people in one's business or social network can appear as a gift from the traveller to the network but as a burden to oneself. The exchange of such gifts is important in showing how travel patterns are negotiated with others since they are rarely 'individual' actions. However, the research also reveals that the 'giving' of time can result in something 'given back' to the traveller. There are three forms of time:

- *transition time* - a need for experiencing distance and the opportunity for gearing up to the demands when arriving at the 'destination'
- *time out / time for* – to escape from the obligations of co-presence by providing 'back-stage' time to be by oneself or for a specific activity (such as powerpoint preparation)
- *scheduling time* – time to make, remake and readjust schedules with others while one is on the move

6. The packed/unpacked passenger

From the ethnography and focus groups it is clear that passengers should be understood as not simply 'individual subjects' but as a 'body' plus 'property' (they are 'embodied and embaggaged'). Bags, tickets, novels, newspapers, mobile phones, laptops, all constitute the passenger. Moreover, the configuration of the passenger alters the possibilities for travel time use. The 'packed' passenger is appropriate for waiting and boarding a train/bus, but affords little possibility for travel time use. The 'unpacked' passenger, by contrast, is a reconfiguration of the passenger where their equipment is unpacked and ready-to-hand for an active and plural set of possible uses of time.

7. The ownership of travel time within a changing economy

The time diary study and related interviews shows how the treatment of travel time in transport studies is increasingly inappropriate within the growing knowledge economy[xiii]. Within 'Fordist' industrial societies clock time is dominant. Employers buy set amounts of an employee's time and there is a clear divide between 'work time' owned by the employer, and 'leisure time' owned by the employee. Under this time regime, the valuation of travel time as in transport appraisal is based upon the ownership of time. Thus, travel outside of the working day is personal time and its value is based on an individual's willingness to trade time for money. Meanwhile travel during the course of the working day is employer's time and is valued, for a given mode, according to the average wage rate of people using that mode. But our research shows that increasingly people's time use does not conform to such a clear divide. 'Briefcase' travellers often perform their employment in terms of tasks - and where and when during the day these tasks are undertaken and 'productive' is not easily compartmentalised. In simple terms, travel time during the course of work can be used for time out

while work tasks may be performed in 'personal' time or on the way to/from work (also considered personal time in transport appraisals). We also found that a person's work may include some tasks which are *better* carried out when on the move. Far from being unproductive time (whether in the office or on the move) this is *necessary* time. Also briefcase travel is often compressed and because of new mobile machines people are increasingly 'on call' and unable to engage in what we describe above as 'time out / time for'[xiv]. This research more generally shows how travel time finds its place within the broader context of a person's overall time use and related patterns of life and the distribution of their work, family and friendship networks[xv].

8. The experiences of travel times

The ethnographic research reveals how travel time can be variably experienced by different passengers of different journeys at varied times. In particular it is *experienced* as stretched or as compressed[xvi]. Different activities alter this experience, making time ebb and flow. So the people and objects that people engage with affect how quickly time seems to pass; in short, the experience of travel time is made in travel time *use*. Saving travel time is therefore not simply a matter of reducing the clock time between stops or stations, but must be attentive to this stretching *and* compressing experience of travel time.

9. The infections of travel

Especially for train and bus travel, although less for car travel, there is a somewhat fluid travel environment structured by the changing composition of other travellers and their diverse activities. People can be 'infected' by each other. There are various sensuous effects contributing to travel time experience and ritual - sounds punctuate and interrupt journey time and cause distractions (or conversely mask such distractions); food smells connect to the experience of time and the temporal organisation of the day; and windows provide the sighted with a permeable boundary between the vehicle and the passing scenery or roadscapes and a backdrop for thinking and/or relaxation. Specifically these patterns of infection accounts for the appeal of designated quiet coaches for some travellers that can produce greater predictability of the travel environment.

10. Industry discourses of travel time use

Our research shows that relatively few transport providers had directly engaged with the issue of travel time use. In part our project did succeed in bringing such notions to the attention of stakeholders and to show how travel time is designed for, used and experienced in many different ways. To the extent that travel time use is now seen as important this is mostly through considering travel time strategically as a marketing tool (cf certain of Virgin's recent campaigns). Most organisations seemed to have limited knowledge of the nature of travel time use but are keen to have further research conducted. Stakeholders are mostly aware that marketing and technological design impact upon competitiveness within and between modes and recognise that addressing travel time use could be important in modal choice. Our research shows that the car industry is especially developing 'quality interiors' and all-round travel experiences. The rail industry is developing various innovations especially in this period with regard to Wi-Fi communications and entertainment. There is some innovation in the bus sector in terms of vehicle design. Research shows that interchange facilities form a crucial part of the overall travel time experience and this also need to be appropriately 'designed' for potential use. These are a specific subset of what we term 'interspaces' that in a more mobile world are increasingly significant – spaces that are in-between work, home and leisure[xvii].

Methodological insights

This research clearly shows that a plurality of methods is necessary to capture something as inchoate as the 'experience' of travel and travel time[xviii]. As is common more generally now in social science a range of quantitative and qualitative methods has been deployed, as well as considerable scholarship on the history of travel. Both the RAs had undertaken relevant PhD work (on transport and on mobile telephony) which fed into this research. Also the project represents an unusual alliance between transport researchers and developers of the new mobilities paradigm drawing upon geographical, cultural studies and sociological approaches.

Dissemination

The project has successfully disseminated its findings to various audiences – academic communities in transport studies and mobilities research; stakeholders (transport operators as well as policymakers); businesses (in relation to promotion of rail as a travel mode for employees); and the general public. Academic articles and conference papers have been published and presented and a significant number of international enquiries received from other researchers with invitations to present at many events.

Results from the National Rail Passengers Survey have been reported extensively[xix]. An article written by one PI for the transport trade press[xx] led to an invitation from the DfT to organise and facilitate a specialists' workshop on 'Travel Time Use - Developing a Research Agenda' in September 2005, the report from which is now on the DfT website[xxi]. Two workshops have been held to inform and engage stakeholders and this has led to the rail industry taking an active interest in the project. The Association of Train Operating Companies used the research findings for its ongoing promotion of rail as a preferred mode (and they funded the closing workshop in September 2007). A series of short 'media' articles were prepared. Reference to the project's work is included in a major promotional campaign targeted at many thousands of businesses encouraging rail use for employee travel. UWE commissioned a 4-minute professional video on the project which was broadcast to international news feeds on 16 May 2006 (http://www.research-tv.com/stories/society/time/). Ongoing media interest has included Radio 4's *You and Yours* programme featuring the Travel Remedy Kit (Watts, 2007). The project also developed a dedicated website to make material widely accessible - http://www.traveltimeuse.org. The final event was a stakeholder workshop on 'Travel-Time Use. Social, Practical, Physical and Strategic Effects' held at the RGS, September 2007.

Conclusions and Recommendations

Overall this research shows that people would rarely substitute travel with instantaneous teleportation of themselves to the destination. As various researchers are noting[xxii], there is something in the experience of travel and movement that generally renders travel time as positively used and experienced, even, it seems, when such travel involves predictable and tedious commuting[xxiii]. And if so then ongoing analysis of travel time is essential not just for transport studies and the appraisal of transport developments but more generally for the social sciences seeking to understand the changing nature of working 'on the move', for families and for friendship, and for the changing way in which scheduling takes place in everyday life.

Overall, and stemming from our research goals, we recommend the following:

- Review notions of clock time in transport appraisal and measurement of willingness to pay, as well as specifically (re)examine the validity of assumptions associated with the treatment of 'briefcase' travellers in relation to their broader time use and productivity.
- Introduce consideration of the passenger experience to policy discourse and decision-making through a broadening of focus to include 'travel time use' as a measure as well as, or instead of 'travel time'. This would necessarily encapsulate and represent the social, material and spatial qualities and values of the passenger experience. It would also broaden transport policy discourse beyond only 'saving time' to the 'value of travel time' - recognising passenger productivity in addition to a focus only upon the speed of travel.
- Examine the opportunities for employers' travel policies and practices for their staff to be influenced by and oriented towards the opportunities for positive travel time use, especially involving public transport.
- Develop a large scale survey of bus passengers and car driver/ passengers replicating the rail passenger survey undertaken to allow greater comparative analysis across modes.
- Develop qualitative research capturing the complex nature of waiting at interchange spaces, with a particular emphasis on bus stops/stations.
- Gather trend data in order to better understand and monitor travel time use phenomena.

- Undertake ethnographic study of transport policy formulation within key institutions in order to understand the possibilities and resistances to travel time use approaches to business strategy, transport policy and modelling (e.g. DfT).

Explanation of expenditure

The expenditure at Lancaster reflected the application details. At UWE the researcher Dr Juliet Jain had a 12-month period of maternity leave during the project. Her absence was effectively addressed through the employment of Laura Watts following the conclusion of her employment on the project at Lancaster.

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Endnotes

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[vii] See our contribution, Lyons, G. and Urry, J. (2005). Travel time use in the information age. *Transportation Research*, 39(A), 257-276; and see the rest of this journal issue for related studies.

[viii] See Lyons, G. (2003). Future mobility - it's about time. Proc. 35th Universities Transport Study Group Conference, January, Loughborough; also vii above.

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[xiv] See Holley, D. and Urry, J. (2008) Business travel. in N Thrift et al *Globalisation in Practice*. Blackwell.

[xv] This is shown more generally and in greater detail in Urry, J. (2007) *Mobilities*. Cambridge: Polity.

[xvi] Watts, L. and Urry, J. Moving methods. *Society and Space*, under consideration; also xi above.

[xvii] See Urry, J. (2006) Travelling times. *European Journal of Communication*, 21(3), 357-72.

[xviii] As shown in Watts, L. and Urry, J. Moving methods. *Society and Space*, under consideration.

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[xxi] See X above.

[xxii] As in *Transportation Research* 39(A), 2005.

[xxiii] See related work in Lyons, G. and Chatterjee, K. (2008) A human perspective on the daily commute: costs, benefits and trade-offs. Forthcoming in *Transport Reviews*.