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Understanding Business Travel Time and Its Place in the Working Day

David Holley, Juliet Jain and Glenn Lyons

ABSTRACT. This article argues that there is a need to understand business travel time in the context of the wider organization of work time. It considers why travel time use is potentially changing with the use of mobile technologies by the increasing number of individuals engaged in 'knowledge work', and examines existing evidence that indicates that travel time use is part of a wider work-related 'task-scape'. However, it not only considers material productive output, but suggests that travel time as 'time out' from work-related activities also plays a vital role for employees. It also suggests that business travel time use that is not of benefit to the employer may not be at the employer's expense. This is contrasted with the assumptions used in UK transport appraisal. Data gathered from the autumn 2004 wave of the National Rail Passenger Survey (GB) is used to illustrate some key issues concerning productivity and 'anti-activity'. A case study of an individual business traveller then points towards the need for a new approach to exploring the role played by travel time in the organization of work practices to be considered. **KEY WORDS** • business travel • productivity • time use • transport appraisal

Introduction

Major policy and investment decisions concerning transport schemes are supported by an appraisal process. A significant element of this process is to

establish whether or not schemes such as building new roads, increasing speeds for rail travel or road pricing are justifiable in economic terms. Time is a central element to such justification. Through assigning monetary values to unit time, the economic benefits of any travel time savings are argued on the assumption that such time will be reallocated to more economically productive tasks. There is currently little requirement within economic appraisal, the basic principles of which have endured since the 1960s in the UK, to understand how travel time itself is actually used and how it is situated within wider social practices.

A significant proportion of the benefits from a transport scheme's travel time savings can be associated with *business travel* (i.e. travelling on behalf of one's employer for work purposes).¹ However, little is known about the context of such travel in terms of the organization of time, space and tasks during the (working) day or week as a whole and of the opportunities travel time may afford the business traveller. This article explores such considerations for business travel, bringing into question some of the assumptions embedded within the orthodoxy of economic appraisal.

The first part of the article aims to explain how the development of much of the UK's transport infrastructure has been justified based upon a rather limited (theoretical) interpretation of time, in terms of changes in the labour market over time, and the effect this has on the relationship between time, productivity and money. The second part of the article then considers in more detail how individuals can organize their time in practice throughout the day, including the utilization of time spent travelling and the role therein of new mobile technologies. Data gathered from the autumn 2004 wave of the National Rail Passenger Survey (GB) is used to illustrate some key issues concerning productivity and 'anti-activity'. A case study of an individual business traveller then points towards the need for a new approach to exploring the role played by travel time in the organization of work practices to be considered. The article will suggest that only with full consideration of wider contextual factors can the role of business travel time (beyond its function in reaching the destination) be understood.

Transport Appraisal, Work and Productivity

In the field of transport studies, travel is often separated into three distinct categories: commute, business and leisure. The first includes journeys to and from a fixed place of work, the second comprises journeys made in the course of work and the last encompasses all the remaining journeys that are conducted for non-work purposes.

There is an underlying assumption common to much of transport studies' research into each of these categories of travel, namely that they are 'intermediate activities' (Tipping, 1968), that is, they are only allocated as much time as is

required, not for their own sake, but as a necessary step to achieving other activities (such as getting to a business meeting or delivering goods). It is not unusual for research to also assume that the only value of time spent travelling is derived from what is achieved or undertaken at the destination. It is therefore unsurprising that a primary aim of most UK transport schemes is to reduce this time. In order to assess the merit of achieving this aim, transport appraisal assigns monetary values to the potential travel time savings of the proposed schemes. The resultant values then form the most important part of the monetary benefits (SACTRA, 1999; Wardman and Waters, 2001). These are compared to the estimated costs of implementation and assist in the decision regarding whether the scheme should proceed or if there is a more beneficial, cost-effective alternative. This is illustrated by the evaluation of a recently proposed high-speed railway line from London to the North. One of the scheme options was estimated to cost £8.4bn. This was offset by estimated benefits totalling £11.8bn, £8.8bn of which were 'primarily journey time savings to users' (Atkins, 2004: 37–8). The standard values used in the UK for converting time savings to monetary savings in such cases are shown in Table 1.

TABLE 1
Examples of values of travel time savings

	Cost (£/hour)
Working time	
Car driver	26.83
Car passenger	18.94
PSV (bus) passenger	20.22
Taxi passenger	44.69
Rail passenger	36.96
Underground passenger	35.95
Walker	29.64
Cyclist	17.00
Motorcyclist	23.91
Non-working time	
Commuting	5.04
Other	4.46

Source: Department for Transport (DfT), 2004

As shown in Table 1, time savings for travel during working time (business, travel), are assigned much higher values (varying by mode) than savings to non-work journeys. Non-working time values are based on empirical evidence of individuals' 'willingness to pay' for travel time savings (averaged to produce an equity value, applicable to all travellers regardless of personal and journey

characteristics, which then avoids favouring schemes which affect those with higher incomes). The business travel values meanwhile reflect the average wage rates for the travellers on each mode, calculated using the National Travel Survey 1999–2001 and the 2002 New Earnings Survey, with a 21.2 per cent mark-up for non-wage labour costs (such as national insurance) (Department for Transport, 2004). The justification for using the ‘wage rate approach’ is summarized in the Department for Transport’s (2004) transport appraisal guidance as follows:

Time spent travelling during the working day is a cost to the employer’s business. It is assumed that savings in travel time convert non-productive time to productive use and that, in a free labour market, the value of an individual’s working time to the economy is reflected in the wage rate paid. This benefit is assumed to be passed into the wider economy and to accrue in some proportion to the producer, the consumer and the employee, depending on market conditions.

Of particular interest to this paper (which concerns itself primarily with the sub-set of business travel referred to as ‘briefcase’ travel)² is the assumption that the business travel time that is removed is unproductive time, and therefore of no value, and that the time that replaces it will be productive time with a quantifiable value equal to the wage rate. This, as well as other potential criticisms of the assumptions used in the current UK transport appraisal approach have been widely discussed within the transport studies field (e.g. Harrison, 1974; Fowkes, 2001; Mackie et. al., 2003). An often stated caveat seen to dispel the criticisms is that it is sufficient for the assumptions made to be correct on *average* for them to remain appropriate for use in an appraisal context (Fowkes, 2001).

However, underlying these is a further assumption, namely that it is possible to clearly distinguish between what constitutes productive or unproductive use of time and in turn assign corresponding economic values. Business travel, as noted earlier, is taken to constitute travel on behalf of one’s employer for work purposes. Thus, values of business travel time savings arise from the perspective of the employer, whereby employment-related activities constitute productive time use and, conversely, unproductive time is defined as time in which such activities do not occur. It is thereby assumed that a reduction in business travel time allows the travelling employee to spend an increased amount of time conducting the activities for which they are paid and which are not possible while travelling.

This perspective fits in well with the notions of time and productivity discussed by E. P. Thompson (1967) that reportedly came about with the rise of capitalism and industrialization. Here, spatially constrained work activities were easily monitored using the unnaturally imposed ‘clock-time’ and employers began buying set amounts of employees’ time (for example, an employee being contracted to work 9 till 5, Monday to Friday), to meet the need for ‘regularity and steady intensity in place of irregular spurts of work’ (Pollard, 1965: 213).

This led to a clear dividing line between 'work time' which is 'owned' by the employer, and 'leisure time', which is 'owned' by the individual. By categorizing travel time according to the activity conducted at the origin and/or destination, transport appraisal, along with much of transport studies, would appear to be maintaining this division, with business travel time being 'employer owned' time and leisure and commute travel time 'owned' by the individual.

These notions of time and productivity, inherent in transport appraisal, were demonstrated most famously in the forms of Taylorism and Fordism. In 1911 Taylor first published *The Principles of Scientific Management* (1911/1972) which introduced the idea of breaking manual labour into its component parts (or motions) in order to remove those which were not necessary and rearrange the remaining components so that they were conducted in a more efficient manner and achieved greater productivity. It also resulted in a complete removal of workers' autonomy. A similar approach was taken by Henry Ford for car production lines a few years later. A dominance of these work practices would aid in the justification of transport appraisal's approach.

However, over the past few decades in the UK there has been a move away from the sort of work that Taylor and Ford's principles were developed for, as described by Sellen and Harper (2001):

One of the great changes of the past few decades has been the shift away from manufactured goods towards knowledge-based products and services. Whereas our grandparents may have worked in factories making anything from ships to textiles, today we are more likely to work in an office where we use our skills to produce and analyse information . . . Workers are becoming less likely to be using their hands and more likely to be using their minds to monitor, manage, and control the flow of information. There are now more knowledge-based activities within organizations than ever . . . Predictions are that the proportion of work that is knowledge-based will continue to increase significantly into the new millennium. (p. 51)

We suggest that, in terms of the treatment of business travel time, this shift in the composition of the labour market has had important implications for the role played by business travel time in the context of the working day and week.

First, as highlighted earlier, the work activities that are becoming increasingly common throughout the labour market involve the manipulation of knowledge. Knowledge work itself is not a new phenomenon – it can be argued that it has existed for thousands of years in various forms (Cortada, 1998) and that all types of work use 'knowledge' in some way (Noon and Blyton, 2002). However, the types of knowledge used and the way in which they are used is changing. Blackler (1995/2002) identifies five distinct types of knowledge:

1. *Embedded* – knowledge allowing routine operations to be conducted with little or no thinking.

2. *Embodied* – practical knowledge learned from experience.
3. *Encultured* – organizational knowledge or shared understanding.
4. *Encoded* – information communicated via signs and symbols, such as books or the internet.
5. *Embrained* – abstract and conceptual knowledge used for creative problem solving.

The knowledge work developments discussed in this article (as reported by Blackler, 1995; Frenkel et al., 1995) relate to the increasing emphasis across the work force on the use of encoded and embrained knowledge rather than the more traditional embedded and embodied.³ The use of these types of knowledge is less restricted spatially (assisted in this regard by technological innovations as discussed later), thus increasing the *opportunity* to use travel time for employment-related activities. The existence of this opportunity would imply that travel time is (increasingly) not the barrier to productivity appraisal assumes it to be. It could also be argued that the increased flexibility to organize tasks that is associated with knowledge work means individuals have increasing autonomy over the organization of when and where tasks are undertaken.

As part of this change in the organization of work, there is now a reduced (and reducing) dominance of the clock-controlled industrialized time and a resurgence of the pre-industrial task-oriented concept of time. This concept, where the timing of activities is determined by the tasks that need to be undertaken, has endured in some regions of the world, often using natural events such as birth and death, night and day, harvesting and planting, as reference points (see Adam, 1990; Elias, 1992; Ingold, 1993; Glennie and Thrift, 1996; Macnaghten and Urry, 1998).

The existence of more than one time perspective has implications for business travel time due to its potential to *decouple* travel time (and its use) from the traditionally assumed association with what takes place at the origin and destination. This suggests that if the time spent travelling is not automatically assumed to be 'owned' by the employer, it cannot be automatically assumed to be a barrier to productivity. For example, for an individual/employer combination that adheres strictly to the industrial time perspective, any time spent travelling that is not spent conducting activities that are of benefit to the employer is a 'cost' to the employer; a cost that would be reduced by reducing the travel time. However, a strict adherence to the task-oriented concept of time would imply that the 'ownership' of the time is determined by the activity consuming that time. Time spent conducting non-work activities while travelling is not automatically a cost to the employer that needs to be reduced.

The individual's concept of time can determine the benefits and disbenefits of travel time to the employer. Work by Westenholz (2006) identified six 'time identities' among a group of 337 IT workers depending on their flexibility of

working and symbolic distinction between leisure and work time. The study found that the majority of the individuals fell between the two extremes of 'clock timers' (rigid working times and clear symbolic distinction between work and leisure) and 'task timers' (flexible timing of work activities and no symbolic distinction between work and leisure). The time identity of the traveller is one piece of contextual information that is needed to understand the role of business travel time. Knowing the time identity of the worker can assist in identifying whether business travel time use which is of *no benefit* to the employer (transport appraisal calls this unproductive time) is also at the *expense* of the employer.

However, there is an implicit assumption in the last paragraph that it is possible to distinguish between business travel time use that is of benefit to the employer and that which is not. This article suggests that differentiating between the so-called productive and unproductive uses of time is dependent upon the temporal viewpoint taken. To illustrate this we can refer back to transport appraisal's isolation of business travel time from time spent not travelling and introduce two opposing views of time as proposed by McTaggart: the A series and B series (see Adam, 1990; Ingold, 1993; Urry, 2000; Peters, 2006). Transport appraisal currently takes a B-series view of time, where events relate to one another only in terms of chronological occurrence (an event will occur after a separate event and before another) and, more importantly for this article, are treated in isolation. A-series time, however, is more subjective and context dependant, reliant on the relationship between the past, present and future, and a notion of duration (Urry, 2000). It is in taking the A-series view of time that Ingold (1993) establishes the concept of the 'taskscape', which can be defined as an ensemble of 'mutually interlocking' tasks, where each task takes its meaning from its position within the ensemble.

The difference between looking at business travel time using the concept of the taskscape or using the more traditional B-series view has significant implications for the understanding of what 'productive' time might mean, as will be discussed in more detail in the following section.

Time in transport appraisal is clearly defined by the concept of industrial time where first the notion of 'time is money' is defined by measuring output by units of clock time, and second, where tasks are decontextualized from preceding and future activities (i.e. they have no effect on the value of business travel time). This article argues that there is a need to consider the context of travel time in the wider organization of work time. Therefore, the notion of taskscapes resonates with exploring travel time use among a population of 'business travellers' who have greater autonomy in controlling when and where work tasks are undertaken. Thus, the next section develops this approach by considering why travel time use is potentially changing with the use of mobile technologies for those engaged in 'knowledge work', and examines existing

evidence that indicates travel time use is part of a wider work-related 'taskscape'. However, it not only considers material productive output, but suggests that travel time as 'time out' from work-related activities also plays a vital role for employees (and their wellbeing and productivity).

Taskscapes, Technology and Travel Time Use

Critique of the assumptions of transport appraisal is not new (e.g. Harrison, 1974; Hensher, 1977; Fowkes, 2001; Mackie et al., 2003) and in response there have been attempts to consider the value of work conducted while travelling. These have concluded that, based on current evidence, work conducted while travelling has little impact on the way that values of time savings are calculated (see Mackie et al., 2003). However, the evidence for making this judgement is somewhat limited and does not consider how employees choose and allocate different tasks, for example in the office or to complete while travelling on business. Neither has it conclusively had the opportunity to evaluate the developing role afforded by mobile technologies to work on the move, which is likely to have a growing impact in the future:

The opportunity to use travel time productively can be expected to impact on the value of time, and in this respect the advent and widespread ownership and use of mobile phones and the possibility to use laptop computers on some modes may have had a significant downward influence on the value of time. Future developments may further increase the quality and quantity of useful activities which can be undertaken whilst travelling. (Mackie et al., 2003: 50)

Finally, transport appraisal is only concerned with the economic gains and losses for the employer, and has not explicitly considered the potentially beneficial effect of 'time out' or 'anti-activity' during travel on the productive output at other times of the working day. It *could* be argued that on average these positive effects will be negated by detrimental effects such as tiredness from driving. However, there is a difference between understanding time in terms of quantification of unit output and looking at more qualitative interpretations and meanings to individuals of travel time.

Despite Mackie et al. (2003) indicating future research directions, the actual nature and composition of travel time use has not been the subject of much research in the field of transport (Lyons and Urry, 2005), let alone contextualizing business travel time use in the working day or week. That research which has addressed mobile workers has tended to focus on those 'hotdesking' or teleworking rather than considering working *on the move*. However, many of the principles remain the same, especially when considering the difficulties (or benefits) of conducting work away from a fixed location (referred to here as the 'office') as discussed next.

In connecting the organization of work practices and mobile technologies for workers who travel between multiple locations, Perry et al. (2001) and Brown and O'Hara (2003) suggest that many of the difficulties of working away from the office are due to (in)ability, or at least (lack of) knowledge of how, to access the required resources and technologies necessary to complete work. The office space is specifically structured, partly by the worker, to facilitate access to the required documents, information, technology and work colleagues, and this allows for a suitable degree of flexibility in the organization and timing of activities or work tasks. It is this access that is potentially lost when attempting to work while on the move. However, the effect can be negated through a combination of forward planning and new technologies, with the increased use of the latter potentially reducing the need for the first.

The apparent advantage of the new technology used by mobile workers is to reduce the divide between work at the office and work away from the office. New technology makes it possible to carry and access much larger amounts of information and resources (such as with a laptop or PDA) than previously possible; transforming the relatively confined travelling space into an environment more akin to the office. This transformation is not restricted to public transport. Laurier and Philo (1998) found that activities previously associated with the office were being carried out in company cars (see also Laurier, 2004). The mobile phone was found to be of most importance to conducting work-related activities while on the move (as well as playing an important social role) (Laurier and Philo, 1998; Perry et al., 2001, O'Hara et al., 2002; Brown and O'Hara, 2003). Rather than constituting a technological *substitute* (such as laptops replacing large amounts of paper-based information), the mobile phone provides access, such as to co-workers in the office, not previously possible when on the move.

Increased wireless connectivity (Wi-Fi) will make similar access more common via other new technologies, such as laptops and PDAs (Personal Digital Assistants), through email and instant messaging. Currently, however, although research has found an increasing number of travellers are carrying these technologies capable of more closely recreating the access and flexibility of the office environment, they are not being used to their full potential (Brown and O'Hara, 2003). Instead, activities are rearranged so, for example, emails are read where there is a more reliable internet connection, and the reading of paper-based information is conducted on the train (Brown and O'Hara, 2003). In some cases this can give the travel time a value in its own right. Rather than recreating the office environment, travel time can allow specific work activities to be conducted which cannot be conducted (as satisfactorily) in the office (such as reading important documents or dictating a letter without interruptions from colleagues).

A key consideration emergent from the cited work is the way in which travel

time use is planned and appropriated, whether using new mobile technologies, or more traditional paper-based means, in relation to a range of tasks that need completing. Such research particularly illustrates the flexibility of tasks and the autonomy of the individual in selecting what to take and do within the wider context of the work programme. Qualitative evidence indicates mobile workers selecting tasks that can fill different times in different spatial scenarios. For instance, paper work which requires quiet concentration is selected for long-haul air trips partly because use of laptops or mobile phones is restricted, but also because it provides a window of opportunity for uninterrupted quiet time that the office may not (Jain and Lyons, 2008). Emails are downloaded onto laptops for reading and drafting responses where there are smaller slices of time that can be filled with 'productive' activity (Gleick, 1999).

This 'liberated' and flexible organization of tasks is an important factor in allowing business travel time to be used for work-related activities and one which can accommodate situations where new technologies may not as yet have provided a suitable means of doing all tasks. This is exemplified by paper, along with the mobile phone, appearing to still be the most important resource for working on the move (O'Hara et al., 2002; Brown and O'Hara, 2003; Lyons et al., submitted). Whereas a laptop allows thousands more documents to be accessed while travelling, it is likely that only a small number will be looked at in the course of a trip which, with a modest amount of forward planning, could in some instances be identified in advance and carried in paper form. The paper form then has the advantage of less space requirement, affords the ability to easily annotate and, while travelling, is more easily shared and discussed with any accompanying colleagues (Sellen and Harper, 2001). However, it is possible that new and future development in ICTs, such as 'tablet' and 'ultra-mobile' PCs (which are capable of running the same software as desktop-based computers, but are the size of just the laptop screen, or a paperback book, respectively, and can be written onto directly using a specialist pen), will eventually reduce paper's dominance by combining its flexibility with increased functionality.

The focus of the above research has been looking at productive output in alternative locations to the main place of work, including travel spaces. However, empirical evidence suggests that the majority of time spent travelling on business may not be spent taking advantage of these opportunities to undertake activities most readily deemed productive. This is illustrated by the results of the autumn 2004 wave of the National Rail Passenger Survey (GB) which asked 26,221 travellers about their time use on their journey; the results were then weighted (according to train operating companies, journey purpose and weekday/weekend travel) to be representative of rail travellers nationwide (for information on the methodology of this survey as well as a more detailed discussion of the findings, see Lyons et al., forthcoming). Selected results from this

survey concerning those individuals travelling for business purposes are provided later.

Individuals were asked the following: 'In terms of your paid employment is there some work that could easily be undertaken on the train?' and 86 per cent of business travellers responding to the survey answered 'Yes'. This is an indication of the *potential* to use travel time for work purposes. Table 2 reflects the extent to which this potential is realized in terms of actual behaviour. While working or studying during the journey features prominently, many business travellers are not spending (all of) their time doing so. It may be suggested that this reflects individuals not considering the time to be 'employer-owned' (as transport appraisal implies it is) so feeling no obligation to conduct work activities and instead using the time to conduct personal activities.

TABLE 2
Percentage of business travellers who spent 'some'/'most' of their travel time conducting each activity

Activity	Spent some time (%)	Spent most time (%)
Sleeping/snoozing	13	3
Reading for leisure	47	25
Working/studying	51	31
Talking to other passengers	13	5
Window gazing/people watching	53	13
Listening to music/radio	5	1
Text messages/phone calls – work	22	2
Text messages/phone calls – personal	15	1
Eating/drinking	21	1
Entertaining children	< 1	< 1
Playing games (electronic or otherwise)	1	< 1
Being bored	9	1
Being anxious about journey	5	< 1
Planning onward or return journey	9	< 1
Other	13	7
Not answered	1	10
TOTAL	280	100

Note: Figures have been rounded.

Table 3 separates the business travellers according to the activity on which they spent the *most* time (as identified in Table 2), and shows the percentage of those travellers who found their journey worthwhile, wasted or somewhere in between. This highlights that from the individual's (as distinct from the employer's) perspective, the inherent value of time use when travelling is not derived from whether or not they work or study.

TABLE 3
Comparing the activity travellers spent most time on, with their assessment of the use of the travel time

Activity on which the passenger spent most time	I made very worthwhile use of my time (%)	I made some use of my time (%)	My time was wasted time (%)
Sleeping/snoozing	15	57	27
Reading for leisure	23	63	12
Working/studying	42	54	2
Talking to other passengers	24	56	19
Window gazing/people watching	12	58	28
Listening to music/radio	14	53	27
Text messages/phone calls – work	39	58	2
Text messages/phone calls – personal	26	50	12
Eating/drinking	19	80	1
Entertaining children	85	5	11
Playing games (electronic or otherwise)	35	44	16
Being bored	0	42	51
Being anxious about journey	14	61	26
Planning onward or return journey	18	67	15
All activities	27	58	13

Note: Figures have been rounded, and do not include those who did not answer.

It can be suggested that a reason why non-work-related activities are conducted while travelling, and considered worthwhile, is that they are (implicitly) serving a work-related function. Even though travel time use is not directly deriving a measurable output (such as number of emails sent, calls made or documents edited), it does not necessarily follow that this seemingly unproductive time is a cost to the employer, even when taking an industrial time perspective. By using a taskscape approach to understanding the organization of the working day, we can argue that 'time out' or 'anti-activity' (e.g. window gazing or sleeping) has a beneficial role for both employee and employer.

Taylorism depicted unproductive time as any time spent away from the main work activity and not therefore producing a tangible output. For those conducting knowledge work, time away from the main work activity is likely to be the result of interruptions (rather than necessarily the result of where they are), which, as identified by Jett and George (2003), can take one of four forms:

- *intrusions*: unexpected encounters initiated by another person, such as visitors or telephone calls, which results in a temporary stop to the current task;
- *breaks*: planned or unplanned stoppages to working activities (often dependent on work progression) to 'accommodate personal needs and daily rhythms';

- *distractions*: psychological reactions caused by competing activities or environmental stimuli resulting in a loss of concentration; and
- *discrepancies*: perceived inconsistencies between the expected and the observed, causing attention to be redirected to the source of the inconsistency.

Although each of these can inhibit immediate output and appear therefore detrimental to productivity, each can also have positive consequences such that a subsequent increase in, or prevented loss of, productivity might result (providing such interruptions occur with appropriate frequency and duration within the taskscape). Using breaks as an example of this, an experiment by Csikszentmihalyi (1975) required the subjects to refrain from any activities that could be considered 'play' or 'non-instrumental' for 48 hours. This revealed consequent increased feelings of tension, irritability and fatigue and a substantial decrease in creativity. Although an extreme example, it demonstrates the need for 'non-work' activities, both for the general wellbeing of employees (which is of value to the employer due to the resultant increased productivity; see Drucker, 1999) and for creativity which in contrast to Taylor's manual work, is essential for embrained knowledge work.

Creativity is assisted by these interruptions, and specifically by breaks, partly by providing periods of time for what is referred to as 'incubation' which can be essential in the formation of ideas and problem solving: 'During incubation, while the conscious mind is idle, the subconscious mind repeatedly attempts to combine elements of an idea until it becomes stable and coherent enough to emerge back into consciousness' (Csikszentmihalyi and Sawyer, 1995, cited in Jett and George, 2003: 499). Business travel time is likely to provide a suitable opportunity for some of these interruptions to occur, resulting in many of the same (intangible) benefits (although not necessarily for the entire journey) that are not currently accounted for in transport appraisal whilst the B-Series view of time prevails.

The authors are currently pursuing a methodological approach to examine travel time use within the context of the working day. This concerns a series of in-depth case studies of individuals. Each case study has two stages. The first involves an interview to provide contextual information and have an initial discussion of business travel and its place within the (working) day. The second stage then involves a time-use diary completed for two or more full days, followed by a second interview to discuss and enrich the diary record. In this article we now consider the first of these case study individuals – Oscar. His case study illustrates the mixture of both scheduled and flexible time scheduling of tasks, and the role played by mobile technologies, the context in which activities are completed (past/present/future) and the opportunity provided by travel time for time out for individual wellbeing and potential creative thinking.

Oscar is a 25-year-old male manager of a large electrical retail store. He

describes his job role as both ensuring the 'day-to-day' running of the store and, 'more so', about strategic planning. When expanding upon this part of his job role which implies the use of embrained knowledge, Oscar also gives an indication as to his 'time identity' through the illustration of the utilization of travel time (in a company car) and 'home time' for work-related activities:

Because there is a degree of strategic role, in terms of where we are going to be in a months' time, 6 weeks' time, 8 weeks' time, how are we going to get from A to B, there is a degree of thinking and analysing and thought process that goes on so its nice, from my point of view, from a car journey, it's nice to be able to drive home and reflect on decisions that need to be made or scenarios that can be played through in my head. Unfortunately, I'm not the sort of person where I walk out the door and I switch off, or get out the car and switch off, so inevitably I'll be at home, wake up at 3 o'clock in the morning and think, 'Ah, I need to do that', or half ten, 11 o'clock at night when I'm trying to go to sleep, I'll be thinking about something else, so the good thing in my role is that there's a lot of stuff to think about which I do do outside the four walls, as it were.

From a methodological viewpoint this information is useful, not only in its own right, but also to help contextualize other pieces of information obtained throughout the case study. Further evidence of a task-oriented concept of time came from the completion of the time-use diary, which included numerous examples of work-related 'intrusions' (such as phone calls and emails, both incoming and outgoing) into traditionally non-work time (such as commute journeys and at the home in the evenings). It was suggested earlier in the article that a task-oriented concept of time may decouple the journey purpose from the 'ownership' of the journey time, meaning time spent not conducting work-related activities while travelling was not necessarily at the expense of the employer, and time spent conducting personal activities was also of value. However, despite Oscar stating in the interview that he felt no obligation to use business travel time for work purposes and had no indication from his employer that he should be making productive use of the time, the diary provided little evidence of travel time being used for personal activities, although he did state that he sometimes uses the time as a break:

It's nice to have time out, if I'm working in the store 24/7 it's nice to have time out and I actually, if I get to drive up the road for 20 minutes to go to another store, then I actually enjoy that, it's time you come out, you have a breather, actually still working, because in terms you're still thinking about stuff, but change of environment, all change is as good as a rest!

The quote demonstrates that although, as shown in the first quote, time spent thinking is seen as an integral part of the job, it is considered here to be 'time out'. This highlights a difficulty faced by more quantitative assessments of work activities; where there is a risk that, by classing the time as 'time out' the impor-

tant role it is playing as thinking time is overlooked. It also highlights the need for contextual information, which can directly affect the value of the 'time out' (by, for example, identifying if it is the only opportunity for such time).

Recall that transport appraisal is concerned with reducing travel time, and the values for business travel time rely on productive use being made of that 'saved' time. Oscar's case study points to the possibility of there sometimes being a dis-benefit to reducing travel time. The following quote regards what would happen to the time currently spent thinking when travelling in a scenario where tele-transportation (being able to move from anywhere to anywhere in an instant) removes all business travel time:

I don't think I would be able to make time in my working day, well, I'd have to make time somewhere to do it, because it would still need to happen, so it's not like it's a luxury, it's probably still essential. In my working day at the store, I'd probably end up getting interrupted, it probably would be less productive time, because you know there'd be more interruptions and so forth, there would be a benefit that I'd have access to resources and stuff to look at, but generally I think it would be more of a hassle than it's worth, because it would be just constantly interrupted, so it would probably end up having then to do more stuff at home, spend more time laying in bed thinking about stuff and less time sleeping, that would probably be the reality . . . So it would affect the quality of life.

This would imply that, due to his 'time identity', a removal of his business travel time would result in no direct disadvantage to the employer, but would be to the detriment of Oscar, which in turn may eventually feed back to the employer. This use of travel time for activities not directly replicable at a fixed place of work, and the possible effects of reducing this time is not currently considered by transport appraisal. The extent to which this could be deemed a shortcoming would depend in part on whether this case study tends towards reflecting the exception or the rule across the wider population of 'briefcase' business travellers.

The vast majority of the business travel time recorded in Oscar's time-use diary was spent talking on a company mobile phone (so calls were paid by the employer). In itself this contradicts the assumptions used in appraisal. However, although the only criteria used for selecting the participant was job type and amount of travel, it may be that Oscar is an exception. The discussion regarding these phone conversations does, however, give further insight into the way individuals can organize their time and, similar to the thinking time, the opportunities travel time provides for unique activities not currently considered in transport studies:

If you're in the car and you need one hour to travel and you can make a phone call, then there's no rush to get the phone call over and done with because you haven't necessarily got anyone else to phone for the rest of that time, so you can take a bit more time and it's really good for building relationships with different people.

For this reason, as recorded in the time-use diary, Oscar would organize his time so that phone calls could be made while travelling, illustrating the opportunities provided by the worker's autonomy and the use of new technology. By looking only at travel time use quantitatively and out of context (as in the *National Passenger Rail Survey*), it is not possible to assess whether the time use has the additional benefit of making other time periods available and whether any 'added value' is gained from conducting the activity at that location (as shown in the next quote). Using the same teleportation scenario as before, Oscar was asked whether the phone calls made while travelling would still occur and if so how would they change:

Oh I think I'd have to make them in the work time, but there would be a more, there would be more time constraints to just run through the conversation, talk about the necessary stuff and not get any added value out of the conversation, because there's a lot of added value to be had out of building relationships, you know, and that, if you know somebody and you need a favour, they're more likely to help you.

The case study of Oscar has provided a number of insights into the possible roles of business travel time and its value, both to the individual and the employer that would not have been possible using more traditional quantitative methods looking at travel time in isolation. It has illustrated how business travel time can serve a similar function to breaks, and on one of the days of the diary, was the only time that served this function; thus highlighting the need to view travel time in context to assess its value. The case study has also highlighted how travel time, enabled through ICTs (in this case the mobile phone), can be used for productive work activities. This has only received limited attention in transport appraisal.

The case study has further revealed that work-related business travel time use may not necessarily be a direct transferral of time use and task from the fixed place of work, but actually represent a unique opportunity. This is something that would need careful consideration if transport appraisal is to take into account the possible effects of travel time use on the values of travel time savings. The intention of the complete set of case studies is to yield further and reinforced insights which may in turn help inform what and how future data should be collected that is suitable for best reflecting time use and substantiating or refuting the core assumptions in transport appraisal and other travel behaviour study.

Conclusion

This article has identified three challenges to the current understanding of business travel time informing UK transport appraisal. The first concerns the notion that the purpose of the journey defines what constitutes beneficial time use within it. This notion has strong links with the concept of industrial and clock time; concepts that are not necessarily universally applied. Alternatives such as the task-oriented concept of time which have been shown to be in existence in the UK, partly due to the blurring boundary between work and non-work time, mean that time spent not conducting work-related activities whilst travelling may not be at the cost of the employer as currently assumed. If travel time is not a cost to the employer, the benefit of reducing that time is lowered – current ‘official’ government values (see Table 1) of non-work travel time savings are up to five times lower than the corresponding work values.

The second challenge concerns the need to consider the (positive) effects of travel time use. The move away from a manufacturing and manual-labour-based workforce to one characterized to a greater extent by knowledge work, and the accompaniment of an increased availability and functionality of ICTs, means that, increasingly, travelling is no longer a barrier to productivity in itself. Indeed, this article highlights how travel time may provide unique (and often enforced) opportunities for work that individuals would find difficult, or be unwilling, to create elsewhere.

Lastly the article identifies the possibility that business travel time serves a similar function to traditional work breaks – providing anti-activity time which can assist productivity at other time periods and assist creativity by providing ‘incubation’ time.

These challenges are born from the use of a taskscape approach to looking at business travel time which offers a way of contextualizing the travel time and understanding its role and relationships within a range of tasks. It is hoped that ongoing examination of travel time in this way will contribute to a strengthening of the understanding and considerations underlying transport appraisal, the assumptions within which have been and will be significant in the shaping of our transport system.

Notes

1. *Business travel* can take a variety of forms, from travelling to a business meeting on the train to driving a lorry to deliver goods. The proportion of each type of business traveller affected by a particular transport scheme under consideration will vary from case to case as will, therefore, the significance of the issues raised in this paper. However, this article concerns itself principally with what have been referred to by other authors (Fowkes, 2001; Mackie et al., 2003) as ‘briefcase’ business travellers.

2. Although the article refers directly to the UK, many of the issues raised are relevant to any country in which business travel occurs.
3. This also avoids the more contentious discussions of what actually constitutes a knowledge worker (see Noon and Blyton, 2002).

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