Commission on Travel Demand

Understanding Demand

Briefing Paper 01

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Executive Summary

This briefing paper introduces different theoretical positions which have been used to provide an interpretation of how the demand for travel arises. The list of five perspectives is not exhaustive but it is representative of the most commonly applied perspectives:

- Economics
- Time-Space Geography
- Social Psychology
- Mobilities
- Social Practice Theory

Each section is deliberately brief but attempts to provide a clear explanation of how demand is understood and how changing demand is conceptualised. In addition, strengths and weaknesses of each approach are identified from the literature.

The theoretical perspectives have, to varying degrees, some shared positions but also some radically different and mutually incompatible positions. The intention of the briefing note is not to identify a 'best' perspective but to debate and understand the relative merits of each and to understand the assumptions which underpin the way in which travel demand is conceptualised today.

Some important differences which emerge include:

- Whether the approach to demand is based on an understanding of demand as the aggregate of a series of individual (sometimes household) choices
- Within individual or household approaches, the extent to which behaviour is explained by rational economic choice or mediated by underlying preferences (for particular lifestyles or social outcomes)
- The extent to which transport is treated as a derived demand for participation in activities or whether mobility has meaning and purpose in its own right or as part of societal participation
- The degree to which the changes in the nature and location of activities that people are travelling to participate in are included within the approach to understanding demand change
- The extent to which temporal and spatial constraints are included in understanding demand and how those factors are represented.

It is worth noting that the dominant approach within the transport sector has been based on economics. There is a strong body of work which demonstrates the worth of this approach to understanding demand. However, there have also been some trends observed recently which challenge the completeness of the understandings given and, as Briefing Note 02 describes, the ability of such an approach to project longer term futures. For example, the decline in trip rates and distances across most categories, the decline in driver licence uptake amongst younger people and the reversal of some well established trends between income and travel preferences in the centre of major cities were not foreseen. In addition, there is potential for the transport system to move to an approach based on access to mobility services rather than ownership of cars and also for more automated driving to emerge. The intertwining of on-line access in many walks of life may change what we move around for and why as well as whether and if so where and how we do that. These

present an opportunity to debate how travel is conceptualised and how it is meshed with broader societal change. For which sorts of change might different perspectives provide different insights?

1. Travel Demand and Economics

1.1. How is travel demand conceptualised?

There are several core assumptions in the conventional neo-classical economic understanding of travel demand (drawing on Cowie, 2010).

- First, demand is represented by what can be observed, be that kilometres, trips or tonne-kilometres. It relates to actual journeys or transactions not desires, wants or needs.
- Second, market demand is constructed through the aggregation of the individual decisions of rational economic agents.
- Third, transport is a 'derived demand' and "travel is not normally an end objective of the consumer but rather a concomitant of other activities such as work, shopping and recreation" (McFadden, 1974)
- Fourth, the decision to travel is made in the context of all of the other goods and services people can spend their money and time on. They seek to maximise the utility of their bundle of consumption given their available resources of time and income.
- Because it is treated as a derived demand, travel is seen as a disutility with the cost of the journey and the inconvenience of the journey time needing to be at least offset by the positive utility derived from the activity for the journey to take place.

There have been many extensions and elaborations of these core principles. For example, the conditions of strict rationality can be relaxed with acceptance of imperfect knowledge, strong loss aversion and short termism amongst others (Metcalfe and Dolan, 2012). It has been found that some aspect of travel have positive utility (Mokhtarian and Salomon, 2001). Nonetheless, the core principles set out above shape the interpretation of demand.

Vickerman and Monet (2003, p15) note that "Freight transport demand is much more complex than the simple derived demand model…it is intimately related with decisions on where to locate production but also with decisions on how to produce." They also caution against simple measures of demand for freight "Tonne-km is an awkward measure, however, since it can be pulled in different directions by similar changes in underlying demand. For example, the trend towards more footloose industries producing less bulky goods in an integrated global market simultaneously decreases the volume of freight to be carried whilst increasing the distance it is carried." (p16).

1.2. Understanding demand change through economics

Demand change can be looked at through economic principles in several ways.

- Changes in transport markets. A core application of economics is to understand how changes to the journey attributes of a mode of transport impact on travel demand. For example a price rise in bus would, all other things being equal, make bus less attractive and would lead to a reduction in bus use. Some would transfer to other forms of transport, some to other places to conduct activities and some may cease to travel. Choice modelling techniques have been developed to understand the extent to which a whole range of journey attributes might impact on the attractiveness of modes and therefore the demand for using them (e.g. journey times, costs, comfort, reliability and personal safety).

- Changes in non-transport markets. Changes to disposable income resulting from economic growth have received much attention. Bayliss (2008) expresses this as “money has enabled people to participate in a wider range of activities outside the home requiring more travel” (p4). The types of activities that people participate in and their sensitivity to travel costs changes over time. The growth or decline in activities in an area would change the attractiveness of each individual’s bundle of activity consumption with an associated impact on travel. This has been developed further in “activity-based” approaches (Section 2).
- Changes in tastes. The approach adopted for representing shifts in demand which are not explained by the marketisable attributes set out above (price, comfort etc.) would be to look at changing tastes (Kitamura, 1981) or lifestyles (Ben Akiva et al., 1996). So, for example, a negative association with flying or diesel vehicles linked to environmental motivations or a increase in attendance at live music festivals would be factors that would be captured by taste changes. Lifestyles, as defined by Ben Akiva et al. (1996, p242) are simply the “the way time and resources are allocated to participate in these activities.”

1.3. Strengths of economics and demand

There is a very substantial evidence base on the associations between a large array of variables and the demand for transport beyond income, price and car ownership. Paulley et al. (2006) for example review the evidence on elasticities (%change in demand per %change in some other attribute) of public transport use covering topics such as quality of service, service intervals, waiting environment, reliability and ease of boarding.

Many transport providers organise the principles of their provision around the trade-offs which people make between price, convenience and journey time. This is often adjusted in real-time to ensure that maximum use is made of the supply decisions that have been made (known as yield management). Search engines present options to consumers around these trade-offs (e.g. Opodo and National Rail Enquiries).

Transport economics recognises that for the vast majority of journeys transport is a means to an end and that it is the bundle of the activity and the journey that people consider.

1.4. Weaknesses of economics and demand

The observed relationships between attributes of supply (price, comfort) and demand are most robust when other factors are held constant and when change is incremental. So it is well suited to answer questions about “if we put a bus lane in next month what will happen to bus patronage?” However, it is less well suited to new trends such as why license holding and driving amongst younger people has fallen for example.

Whilst transport economics recognises transport as a derived demand it does not treat how the activities themselves might change. So, for example, the theory does not account for changing organisation of healthcare provision or the reconfiguration of retail and shopping with ICTs.

More fundamentally, whilst it is difficult to argue that the demand (e.g. kms travelled) which is observed today is the sum of all of the individual journeys which are measured, this is not the same as saying that an individual level analysis of demand will allow you to explain the aggregate changes in demand. This is referred to as the ‘micro-fallacy’ by Byrne and Callaghan (2014).

2. Travel Demand and Psychology

2.1. How is travel demand conceptualised?

Social psychological theories have increasingly been applied to "to explain how users act and react in the transport system" (Gehlert et al.,2013, p19 see also Van Acker et al. 2010). Behaviour is generally used as the key concept to understand in social psychological research. This is large part results from the disciplinary perspective that seeks to understand factors which explain one type of behavioural choice over another and a desire to understand what factors explain why individuals exhibit different behaviours and how these might be changed. Demand could be taken to be the summation of observed behaviours.

Whilst there are many different approaches in social psychology, the focus is on the choices of the individual. These individual choices occur within a spatial environment (e.g. the presence or absence of certain opportunities or transport options) and a social environment (e.g. what other people do). The latter is often captured through the term 'social norms'. "Individual mobility is determined by an interaction of driving factors that are both internal to a person and external…Within situational constraints person factors determine travel behavior." (Gehlert et al., 2013, p20). There have been attempts to link the wider spatial environment and social environment to the individual travel behaviours, for example in the study of residential self-selection and the location of people in areas that suit how they typically travel (Schwanen and Mokhtarian, 2005). However, the majority of work considers the factors which explain individual choice included below.

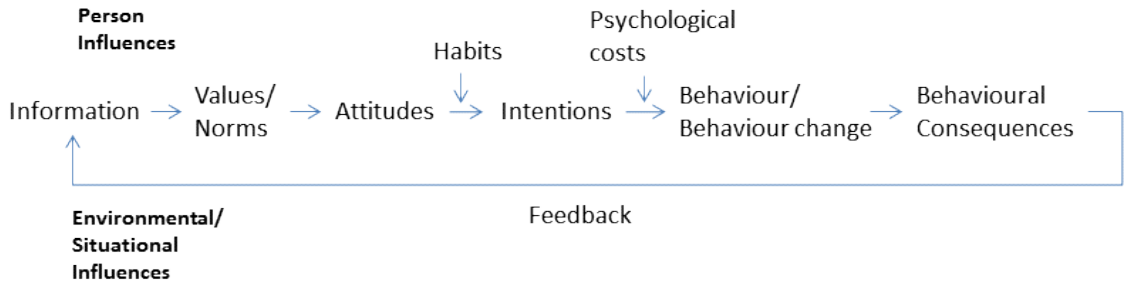

Figure 1: Conceptual framework identifying person factors influencing sustainable travel behaviour (adapted from Gehlert et al., 2013, p20)

2.2. Understanding demand change through social psychology

Behaviour change is understood to result from changes to underlying values or norms or attitudes. These are associated with a shift in underlying behavioural intentions. The extent to which behavioural intentions manifest themselves in actual behaviour is influenced by a range of factors such as habit and perception and experience of alternatives.

Gehlert et al. (2013) review different strands of theory which emphasise the role of different elements of the framework shown above. The norm-activation model and value-belief-norm theory identify "the driving force of behavior is a strong intrinsic feeling of obligation, referred to as a personal norm" (p20). In the Theory of Planned Behaviour there is a stronger focus on the relationships between attitudes and behaviour. "If people have a positive attitude towards the

behavior outcome, if they think that significant others approve that they perform the behavior, and if they believe they will successfully perform the behavior, then the intention to perform the behavior is strong" (*Ibid*.). Donald et al. (2014, p40) identify the "central premise of the model is that the sequence leading from beliefs to behaviour is a rational process, one in which individuals systematically consider, process and utilize the information available to them to arrive at a behavioural decision". Habit has been introduced into several models of behaviour change (Verplanken et al., 1997) whilst Gärling et al. (2002) suggest the need to account for planning efforts, activity suppression and increased time pressure.

Other approaches treat behavioural change as a process over time including the trans-theoretical model (Prochaska and DiClemente, 1982). Here, before making a change, individuals will move from a state of not planning to change through preparing to change to making a change which may or may not be maintained (see Parkes et al., 2016). Social psychological theories have also looked at variation in behaviour across the population. Jillian Anable's work in particular (2005) has been influential in developing attitudinal based segmentations of the population (as apposed to socio-demographic based groupings which had dominated transport) to consider the propensity of the population to reduce car use, access school by particular modes (Long et al., 2015) or purchase electric vehicles (Brand et al., 2016) for example.

2.3. Strengths of Social Psychology and demand

Has a focus on variation in behaviour across social groups – i.e.by focusing on the individual it helps to understand why people subject to the same current socio-technical system and with similar demographic and socio-economic characteristics might respond differently to policy.

Includes a broad range of factors including both individual objective/contextual factors (e.g. existence and knowledge of options) to the individual subjective (values, sense of agency, emptions, identity and status. Whilst some of these factors are difficult to target in policy terms, they can shape the way interventions are targeted and framed.

The consideration of the social context is often overlooked by other theories whereas trust, social dilemmas, shared norms, group cultures are a part of the social psychological framing.

2.4. Weaknesses of Social Psychology and demand

There has been little work done to establish how attitudes change over time, or for example whether the characteristics of clusters are somehow inherent or evolve with new contexts.

Whilst there have been a series of studies establishing strong relationships between attitudes and intentions, intentions have typically not been strong predictors of actual behaviour.

Shove (2010) criticises the very large number of 'external drivers' which are mobilised as both facilitators and barriers with limited clarity. Further to this, Shove suggests that the individual level approach does not incorporate changes to the broader socio-technical system (infrastructures, rules, markets) of which the behaviour being studied is a part (rather than a separate downstream decision).

3. Travel Demand and Time-Space Geography

3.1. How is travel demand conceptualised?

Boyce and Williams (2016) review the evolution of activity-based approaches to travel analysis which emerge from the work of, in particular Torsten Hägerstrand who was instrumental in connecting people into the geographies of activity development (1970). Eric Pas (1985) summarises some of the key themes that inform the time-space geography or activity based approach to thinking about travel demand:

a) "Analysis of the demand for activity participation (and the analysis of travel as a derived demand)
b) The scheduling of activities in time and space
c) The constraints (spatio-temporal and interpersonal) on activity and travel choice
d) The interactions between activity and travel decisions over the day (or longer time period), as well as the interaction between different individuals, and
e) The structure of the household and the roles played by various household members" p460

Hägerstrand also included institutional constraints (e.g. timetables when services are offered and opening hours) and capability constraints (e.g. need for sleep or sustenance).

The study of travel demand through an activity-based approach lens therefore looks at "how people have to negotiate space and time in the course of weaving together the activities which comprise their days" (Watson, 2012, 491). Rather, therefore, than looking at single trips, this approach requires consideration of 'tours' of interrelated journeys linked to activities across the day (and possibly longer). It also looks at a household level and considers the types of activities that will be conducted by a household in a given stage of the 'life cycle' (Boyce and Williams, 2016, p484).

Demand can be captured through the approach adopted as the summation of the enacted mobility tours (by time and mode as necessary) summed across all individuals but with the understanding that individual travel patterns are determined in the context of other household decisions.

3.2. Understanding demand change through time-space geography

There are two separate, but related, strands to the discussion of understanding demand-change. First, the behaviour that households exhibit is a function of the feasible activity set available to them. Any changes to the location and timing of activities, to the time constraints of people in the household or to the speed (and therefore time) with which activities can be accessed will potentially alter the set and sequencing of activities which meet household needs in the best way and will therefore serve to reconfigure the tours which are made and therefore the demand for transport to different places at different times. Most of the academic effort in activity-based modelling, which seeks to operationalise this way of thinking, surrounds these types of changes.

The second strand relates to the dynamics of the changing locations and means of conducting activities. Twenty years ago Ben Akiva and colleagues (1996) sought to understand how travel might change through an activity-based approach in an era of changing IT. In line with the paragraph preceding, they noted that it is presumed that "The availability of telecommuting, teleshopping and

other teleoptions gives individuals and households additional flexibility to alter their activity plans or have more flexible schedules." (p256). ʜowever, they acknowledged that there was no satisfactory way of understanding or incorporating how firms might adapt to ıT advances including the extent to which they might change what happens where in the business (e.g. back officing), whether they would move for better ıT infrastructure access or allow greater telecommuting. So, time-space geography approaches provide only limited insight (through understanding feasible activity sets) into how the demand for activities from which travel is derived is changing.

3.3. Strengths of time-space geography and demand

ıt does not treat trips in isolation from each other or individuals in isolation of others in the household with whom coordination matter. More recent applications are also exploring wider social networks and their role in coordination with important others outside the household.

ın looking at tours, the approach can develop understanding about which activities tend to be sequential or can be reconfigured in sequences and what aspects of the journey, locations or travellers seem to associate most strongly with that.

ıt can operate over time periods of longer than a day to factor in the ability to fulfil activities which operate over (sometimes) regular but (often) less frequent cycles (such as shopping or going to the theatre).

3.4. Weaknesses of time-space geography and demand

The approach does not offer an account of how activities change in their location, ways of being done or timing. As such, the development of insights into demand change have largely focussed on the organisation of tours across households which is only one feature of how demand changes.

The approach to operationalising activity demand models derives from travel diaries which can be time consuming and expensive to collect and typically offer only a cross-sectional insight (see Axhausen and colleagues for some longitudinal insight). ıf the nature of activity change is quite dynamic or if new ways of doing things emerge then this will not be captured. Whilst new data sources make tracking patterns easier and cheaper they do not bring the richness of insights into why they are done as they are nor into the within household constraints.

Whilst the home is an undeniably important hub for thinking about activity participation, the focus on the household as the unit of analysis could be seen to give undue primacy to the agency of individuals (within households) to the structuring of daily life.

4. Travel Demand and Mobilities

In preparing this description we draw from three agenda setting and review articles Sheller and Urry (2006 and 2016) and Caleterío (2016).

4.1. How is travel demand conceptualised?

Mobilities sees life as mobile and so to understand the demand for travel you need to understand the role of distance and movement in society and how they relate to places and power (the more and less mobile) and what mobility means in society (Caleterío, 2016). This covers a broad range of social phenomenon from migration, through sport to day to day movement around a city. It covers notions of surveillance, control, meaning and inequalities which go well beyond the physical transportation of people and goods between A and B.

Sheller and Urry criticise the a-mobile or static approach of other disciplinary understandings of transport which they argue treats transport as a black box somehow in-between happenings. Mobilities requires "examining the constitutive role of movement within the workings of most social institutions and social practices" and recognising that "Social relationships involve diverse connections, sometimes at a distance, sometimes face-to-face" (Sheller and Urry, 2016, p11). They argue that such an approach requires a different set of methods (Sheller and Urry, 2016) capable of understanding what is happening during mobility and what it means to be mobile (or immobile).

Sheller and Urry (2006) suggest that to understand demand through a mobilities lens it is necessary "to begin from the complex patterning of people's varied and changing social activities. The developing and fulfilling of such activities then mean that travel is necessary for social life, enabling complex connections to be made, often as a matter of social (or political) obligation." (p213). This they suggest means not putting mode or activity as a focus of analysis "as if these were separate and self-contained." (p213) It involves virtual and imaginary mobilities as part of how we live.

A further key distinction in the mobilities approach is that "the time spent traveling is not dead time that people always seek to minimise. Whereas the transport literature tends to distinguish travel from activities, the new mobilities paradigm posits that activities occur while on the move, that being on the move can involve sets of `occasioned' activities (Lyons and Urry, 2005)" (Sheller and Urry, 2006, p213). The relationships between infrastructure and mobility is understood by treating infrastructures as immobile systems. Drawing on Sassen (2002) they suggest "There is no linear increase in fluidity without extensive systems of immobility" (Sassen, 2002).

There is no direct measure of 'demand' for mobility in the mobilities literature. It might be associated with capturing increases in the 'liquidity' of modern society (Bauman, 2002) or "with the patterning, timing, and causation of face-to-face copresence. What brings person to person? When? How often?" (Sheller and Urry, 2006, p217). It is generally the performance and meanings of mobility that are studied. However, there are also strands of research focussing on immobility.

4.2. Understanding demand change through 'mobilities'

As noted above, mobilities thinking does not easily align with notions of demand in terms of kilometres and mode shares. Sheller and Urry (2016) suggest that it explores "how the social world is constituted of complex adaptive systems stretching over time–space" (p12). The tools used to

understand change relate to complex, adaptive social systems including "theories, of complex systems, notions of transition and analyses of how mobilities fit and form social practices" (p14).[1]

Urry's (2004) writing on the development of a system of 'automobility' for example, looks at the automobile as an object, an item of individual consumption, a complex of necessary infrastructures, and a cultural norm (amongst other things). He looks at change to elements in the system that might push the future development path either slowly or more rapidly to new states (e.g. post car).

At a more micro-scale mobilities research seeks to understand how people use, innovate and combine different systems and how this relates to mobility. It would, for example not bound the study of the impacts of mobile technologies to what goes on on a transport system but would seek to understand the changing integration of physical mobility into everyday life in the light of changes to the practices which mobile technologies allow.

4.3. Strengths of mobilities and demand

It asks us what the phenomenon is we are studying (mobility as part of everyday life) and therefore what the units of analysis are (not it is suggested kilometres or distance to shopping). It does not simply treat activities as a pull and travel as a disutility nor does it put such great emphasis on the attributes of the transport system in explaining its use.

It recognises that mobility can be an activity in its own right and that multiple activities are often happening during mobility. As imaginations of more autonomous or shared mobility systems emerge, the meaning of travelling and an increasing focus of what goes on during mobility will surely grow in importance. This could substantially change what mobility means in daily life.

It treats virtual travel, communication and imaginative travel as part of how we think about mobility.

It invites a longer-term and broader systemic view of the factors that lead to shifts in the type of mobility system we have, suggesting that different elements might change or be changed that will alter the trajectory of the mobility system.

4.4. Weaknesses of mobilities and demand

It is a 'paradigm' in its comparative infancy (Sheller and Urry, 2016) and not a unified field (Caleterío, 2016). It is possible to describe some of the key concepts of mobilities thinking but difficult to understand what the units of analysis are, what the dimensions of change are and how these relate.

It ranges from the micro-understandings of movements through places and activities to long-term systemic change. This could be a strength but it is not clear that the approaches are consistent (similar to many micro-macro field debates).

Mobilities work has been criticised for not paying sufficient attention to history and change over time and from over-emphasising the importance of movement over matters such as economic exchange (Caleterío, 2016).

[1] Caleterío (2016) adds geography, economics, politics and environmental sciences to the disciplinary mix of perspectives informing mobilities.

5. Travel Demand and Social Practice Theory

5.1. How is travel demand conceptualised?

Social practice theory sees demand as an outcome of people's participation in a variety of social practices. Such an approach would consider, for example, how exercise is performed in society (and the extent to which different forms of mobility form part of that).

"Theories of practice decentralise the individual, instead placing the practices which constitute individual lives at the centre of analysis. It is at this fundamental level that theories of practice offer a very different view of the relations between subjects and their actions… [to] fields such as micro-economics or psychology, and within transport studies." (Watson, 2012, p490).

The performance of social practices depends on conjunctions of materials (such as infrastructures, appliances, vehicles and devices), meanings (such as keeping fit or reciprocity) and competencies (such as know how to web search or ability to cook) (Shove et al. 2012). Returning to the exercise example, to understand how travel features in exercise and how it is changing it might be necessary to consider the reduction in physical activity as part of everyday life, the changes in clothing and materials that support running, cycling, swimming and the proliferation of heated and cooled sports (and social) facilities, where such facilities are located and their opening and closing times.

Practices relate to each other in various ways including in how they are sequenced and organised in time and space. Some practices are highly synchronised (e.g. evening meals) and others are highly synchronised and institutionally co-ordinated (e.g. working in a company or attending school). Shove et al. (2012) refer to the interaction between different practices as bundles or complexes of practice. Bundles or complexes may be particularly important in structuring what and how practices change and so change in transport demand might be understood as an outcome of changing practice bundles/ complexes and how they are connected in space and time (Spurling and McMeekin, 2015).

5.2. Understanding demand change through social practice theory

Watson (2012) states that "transport is a deeply complex and profoundly embedded sociotechnical system" (p488). He suggests that practices (and therefore what people do) are partly constituted by the socio-technical systems of which they are a part; and those socio-technical systems are constituted and sustained by the continued performance of the practices which comprise them. Consequently, changes in socio-technical systems only happen if the practices which embed those systems in the routines and rhythms of life change; and if those practices change, then so will the socio-technical system" (p489)

Practices evolve over time in part because the populations of those who enact specific practices (the 'carriers' of the practice) change (Watson 2012). Changes in practices is the result of more, fewer or different performances of social practices over time.

When materials, meanings and competences change then practices do too. For example, on-line shopping has been established through new digital infrastructures (web, mobile communications and mobile devices) and is rapidly evolving. However, there is no one form of on-line shopping – different people do it in different ways (some only at home and only for certain types of goods, whilst others might still visit and prefer to touch and scout certain purchases or make them

physically). What constitutes on-line shopping is also changing as the infrastructures evolve (e.g. secure locker boxes and networks of local stores taking deliveries and returns) and the social meanings (e.g. leaving goods with neighbours, in wheelie bins) change.

Whilst the study of individual practices is common in the discipline, it is understood that understanding travel or mobility practices within this is strongly linked to the "overall co-ordination of daily life. A practice can therefore change as neighbouring practices change. Here a practice approach to understanding personal mobility has clear resonances with insights from the activity-based approach to travel demand analysis (McNally, 2000)." (Watson, 2012, p491). In the on-line shopping example, the removal of a physical trip to a supermarket on a Saturday morning may allow the reconfiguration of the timing or even nature of leisure activities. Over time, if enough people started to shop for groceries differently then the nature of the observed travel patterns would change.

Social practice theory would not therefore talk in terms of 'drivers' of demand but would instead look at how practices or bundles of practices fit together and might evolve and the extent to which that relates to the other elements around which they are based (Schatzki, 2010). Shove and Walker (2010) examine this through examining changes to routines with the London Congestion Charge.

5.3. Strengths of social practice theory and demand

Social practice theory identifies the importance of time and space and the co-ordination and sequencing of practices (Mattioli et al., 2016). This requires greater attention to knock-on effects of changes in any one area of daily life and places a focus on understanding change through reconfiguration rather than substitution.

The approach integrates transport into the broader systems of provision and ways of doing things. As such, it allows for a much richer consideration of how non-transport change influences how, why, where and when we travel without diminishing the relevance of infrastructures and vehicles. It emphasises that current forms of transport demand are historically contingent.

It does not fossilise the units of analysis by recognising that shopping changes. So, in transport surveys we ask about shopping trips and make associations between income, accessibility and shopping trip frequency and length. Practice theory would suggest these trips are not for the same reasons and therefore challenge the basis for the association.

5.4. Weaknesses of social practice theory and demand

Social practice theory examines how social patterns change over time and what the influences on those are. Whilst it can draw on micro-level observations and big data sets (e.g. time use data) it does not seek to predict demand in ways commonly used in transport practice.

As Watson (2012) identifies, there remains a challenge in bringing together understandings from the micro-level observation of the performance of practices and the larger scale thinking about processes of change.

The vast array of elements which comprise a practice (or still more bundles of practices) renders the establishment of causality challenging.

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