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Key Research Themes on Travel Behaviour, Lifestyle and Sustainable Urban Mobility

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Abstract

The concept of lifestyle adds a behavioural component to travel models that used to be dominated by engineering and econometric traditions. This paper presents an overview of how lifestyle is defined and measured in transport studies, and how travel behaviour is influenced by lifestyles. Lifestyles are often are often used pragmatically rather than theoretically in the behaviour studies. Nevertheless, some important theoretical contributions have been made, especially in sociology by scholars such as Weber, Bourdieu, Ganzeboom and Schulz who agree on the communicative character of lifestyles: individuals express their social position through specific patterns of behaviour, consumption and leisure. These behavioural patterns are shaped by underlying opinions and orientations, including beliefs, interests and attitudes. Thus, travel behaviour is not simply determined by price, speed and comfort but is also related to attitudes, status and preferences. Because lifestyle has many different dimensions, a variety of measurement approaches exists. Nevertheless, most studies suggest that travel behaviour is conditioned by specific lifestyles. How lifestyles themselves can be modified to promote more sustainable patterns of transport has not received much attention to date. This paper argues that lifestyles need to

be considered as dynamic rather than as static and given, and that future research could delve more deeply into this area.

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1. Introduction

Sustainable urban mobility has come to mean the development of high-quality, liveable cities with acceptable standards of access to goods and activities. Such sustainable urban development shortens distances between locations of activities so that more sustainable transport modes than the car can be used resulting in a reduced use of energy and other resources and a reduction of emissions including carbon dioxide (Banister, 2008, 2010). The core common feature of such sustainability in European cities thus primarily depends on a reduction of car use. This involves shifting people's way of life, to a greater or lesser extent, and therefore understanding the conditions of such a shift is a recurrent research and policy concern.

Policies aimed at reducing or containing car use precede current concerns with climate change, and have been variously driven by concerns for quality of life, safety, congestion, and health. This means that practical experiences of success and failure exist, and empirical observations of the shift in behaviour which have been associated with it. Over recent decades, some particularly important developments have included the following:

- Shifting the balance of power from vehicles to pedestrians in urban residential areas in the Netherlands ('woonerven');
- Pedestrianisation of town centres especially in Germany (and the extension of the pedestrian area into the inner cities by traffic calming or 'Verkehrsberuhigung');
- Interest in road pricing mostly in the UK and Scandinavia (of which London and Stockholm were later implemented on a substantial scale);
- A reinvestment in public transport to reverse its declining role most markedly in France, Italy and Spain;
- More recently a substantial renewed interest in cycling supported by new infrastructure, changes in roadspace priorities; inventive rental schemes (e.g. Vélib in Paris);
- Particular attention on a set of policy instruments formerly called 'soft measures' or 'mobility management' encouraging travel behaviour change in the workplace or household.

Since all the developments listed above involve shifting travel behaviour, there has been a great interest in understanding where travel choices come from, and how they are changed. Travel behaviour is a multidimensional concept in which choice of mode of transport is often given most prominence, but it also includes the numbers and frequency of trips made, destination choice, trip-chaining, driving styles, car purchasing behaviour, preferences for particular routes, times of day, levels of comfort and convenience, and arrangements made between individuals in families, neighbourhoods, workplaces and other social groups. Travel behaviour is generally considered as a derived demand. People mainly travel in order to access activities in other locations. Activities such as living, working, shopping and recreating are in most cases spatially separated. It is therefore logical that travel behaviour will alter when the location of these activities is changed or the design of these locations is altered. Many studies have tried to model this relationship between the built environment and travel behaviour while controlling for socio-economic and demographic differences among individuals and households. However, different travel patterns can still be found within similar neighbourhoods or within socio-economic homogenous population groups. This is where the concept of 'lifestyle' is relevant. A variety of attitudes or orientations towards family, work, leisure and consumption exists which might explain the different behaviour patterns within otherwise socio-economic homogenously considered population groups (van Wee, 2002; Mokhtarian and Cao, 2008).

Different values or norms are often defined as 'lifestyles' in travel behaviour research although definitions and methodologies to measure lifestyle are hard to find, as outlined in Sections 2 and 3 respectively. In section 4, the use of the 'lifestyle' concept in travel behaviour research is discussed and the ways in which lifestyles can influence travel behaviour are examined. Section 5 considers how changes in travel behaviour can be achieved through long-term changes in lifestyles. Section 6 then identifies some important research themes and policy issues. Finally, Section 7 presents some conclusions and possible future research directions.

2. The concept of 'lifestyle': background and definitions

Despite its frequent and colloquial use, there is not a formally agreed definition or defined established body of theory and practice of 'lifestyle' (also cited as life-style and life style). Salomon and Ben-Akiva (1983) suggests that the first recorded use of the word 'lifestyle' is by the psychologist Alfred Adler in 1933. A simple literature search on the ISI Web-of-Science however illustrates that the concept is mainly used in research areas such as health sciences and medicines.

1.1 Pragmatic approaches in health and consumer research

Many medical studies relate diseases such as diabetes, obesity and cancer to lifestyle factors such as smoking and alcohol use, and consider lifestyles as:

"The constellation of habitual activities unique to a person, which lend consistency to activities, behaviour, manners of coping, motivation, and thought processes, and define the way in which he/she lives; lifestyle activities include diet, level of physical activity, substance abuse, social and personal interactions." (Segen's Medical Dictionary, 2011).

Another modern source for the idea of 'lifestyle' stems from marketing. A typical definition in marketing is:

"Lifestyle is expressed in both work and leisure behaviour patterns and (on an individual basis) in activities, attitudes, interests, opinions, values, and allocation of income. It also reflects people's self image or self-concept; the way they see themselves and believe they are seen by the others. Lifestyle is a composite of motivations, needs, and wants and is influenced by factors such as culture, family, reference groups, and social class. The analysis of consumer life styles (called psychograhics) is an important factor in determining how consumers make their purchase decisions." (www.businessdictionary.com)

Both definitions clearly overlap: lifestyle is considered as habitual activities that result in consistent behaviour patterns. However, the use of the lifestyle concept is somewhat

different. In medical studies the concept is mostly associated with 'lifestyle *factors'* which present health risks, of which the four most emphasized factors are smoking, diet, exercise and alcohol use. In business studies – especially in fashion, advertising and marketing – the emphasis is on identifying those features of a person's self-image, aspirations, and way of life which make them most likely to buy particular sorts of product.

In both health and consumer research, lifestyles are often used pragmatically rather than theoretically. Many studies define their own sets of lifestyle groups and comparison between the studies is therefore difficult. These lifestyle groupings are then used as one factor among others to explain behaviour (for a critique, see for example Sobel, 1983). Nevertheless, some theoretical contributions to the lifestyle concept have been made, especially in sociology in which the concept of lifestyle is used to describe society and understand social structures.

2.2 Theoretical approaches in sociology

In sociology, social structure used to be explained in terms of *social class* measured by differences in education, profession and income. Such indicators clearly emphasize participation in labour force which seems adequate when describing the structure of an industrial society preoccupied with production. However, it has various disadvantages especially in modern societies which are more focussed on consumption rather than on production (Richter, 2002). Social structure is not as stable as it once was (Hradil, 1987) and there is less uniformity of behaviour within social classes (Ferge, 1972; Bootsma *et al.*, 1993). Individuals now not only behave according to their social class, but also to their personal lifestyles based on their values and interests in life. Consequently, a cultural dimensions needs to be added to the discussion on social structure.

Weber's *Wirtschaft und Gesellschaft* (1922) was one of the first sociological studies that contributed to the theoretical debate on lifestyles. Criticising Marx' class theory in which a person's behaviour is determined by his or her economic position (i.e., the possession of means of production), Weber emphasized the importance of a cultural/symbolic and a political dimension. He argued that behaviour is not always based on what a person

produces (i.e., economic dimension) but also on what he or she consumes (i.e., cultural/symbolic dimension). Through these consumption patterns, a person has a particular *social status*. According to Weber, social status refers to a group of people that shares the same prestige and who clarifies this prestige. Lifestyle is thus considered as a pattern of observable and expressive behaviours. Weber conceptualized lifestyles (or 'Lebensstil' in his work) through 'Lebensführung' (translated ad life conduct) and 'Lebenschancen' (translated as life chances). 'Lebensführung' refers to choice and self-direction in a person's behaviour and 'Lebenschancen' refers to structural conditions that constrain these choices (e.g., economic conditions such as income and property but also social elements such as rights, norms and social relationships). Consequently, Weber recognized that people have choices in the lifestyles they adopt, but the actual realization of these choices is influenced by their life chances. Or in other words, lifestyle is the result of the interplay between choice and structure (Cockerham *et al*., 1993).

Following Weber, Bourdieu (1979) considered lifestyle as a pattern of behaviours indicating the social position of the individual. His work *La Distinction* is based on the analysis of consumption patterns in France. He combined socio-demographic data (e.g., education, profession, income) with information from thirty surveys on preferences and behaviours associated with lifestyle related subjects such as purchasing behaviour, holidays, car type, culinary preferences, fashion, cultural activities and taste. Based on this information, each individual occupies a position in a two-dimensional social space which is defined by the volume and the composition of capital. Within this two-dimensional space, traditional socio-demographic variables define the 'space of social position', whereas specific patterns of behaviour define the 'space of lifestyles'. Based on this, two hierarchies can be distinguished. One category reaches from the traditional lower status groups to the economic elites who pursue material welfare and obtain rather traditional aesthetic and moral beliefs. Another category reaches from the same lower status groups to cultural elites.

Ganzeboom (1988) builds on the work of Bourdieu (1979) in order to analyse lifestyles in the Netherlands. In his work, lifestyle is related to the individual's socio-economic characteristics but is also influenced by intermediate variables referring to opportunities and constraints offered by time budget, income, cognitive skills and status. Ganzeboom argues that lifestyles

must not be considered as unambiguous types but rather as a continuum determined by three dimensions: (1) an economic dimension, (2) a cultural dimension, and (3) a stage of life-dimension. The first two dimensions are inspired by Bourdieu (1979). Whereas Ganzeboom (1988) considers economic and cultural capital as two separate dimensions instead of opposite extremes of one dimension. The third dimension originates from Bourdieu's 'space of social positions', which is based on traditional socio-economic variables. Ganzeboom (1988) distinguishes stable socio-demographic background variables (e.g., gender) from changeable characteristics of stage of life (e.g., household composition, profession). He argues that certain socio-demographic variables have a dynamic nature and therefore need to be treated differently.

Schulze's *Erlebnisgesellschaft* (experience society) (1992) is another example of this postmodern approach. Moreover, he added a spatial dimension to the discussion on lifestyles. He observed that leisure consumption often occurs outside the home in specific places that attract a congenial group sharing similar lifestyles (e.g. cafes, shopping centres, football stadiums). Schulze refers to these specific sites as 'scenes': combinations of a congenial lifestyle group sharing similar leisure consumption behaviour. These scenes gain importance in a postmodern society at the expense of traditional urban living and working environments (van der Wouden and Kulberg, 2002).

Without any intention of providing a comprehensive overview, the work of Weber (1972), Bourdieu (1984), Ganzeboom (1988) and Schulz (1992) illustrate how the theoretical discussion on lifestyle has evolved throughout the years. Two opposing views are apparent: Weber and Bourdieu who considered social class as an important determinant of lifestyles and thus a clear hierarchy of lifestyles in contrast to Ganzeboom and Schulz who considered lifestyles as niches that are no longer in line with social classes in a post-modern society where old social structures are flattened (Tomlinson, 1998). Nevertheless, they agree on the communicative character of lifestyle: the individual indicates his or her social position through specific patterns of behaviour, mainly consumption and leisure behaviours. However, lifestyle includes more than observable patterns of behaviour. According to Ganzeboom (1988), lifestyle also refers to opinions and motivations, including beliefs, interests and attitudes. This may confound our understanding of the lifestyle concept. For

that reason, Munters (1992) distinguished *lifestyles* from *lifestyle expressions*. He considered lifestyles as the individual's opinions and motivations, or orientations. Frequently studied lifestyle orientations relate to fields such as family-life, work-life, leisure, consumption and housing (Salomon and Ben-Akiva, 1983; Bootsma *et al*., 1993). Consequently, lifestyles are internal to the individual and are thus unobservable. A lifestyle, then, manifests itself in observable patterns of behaviour, or lifestyle expressions. In this way, observable patterns of behaviour (lifestyle expressions) are explained by underlying opinions and orientations (lifestyles). Travel behaviour is then one example of a behavioural pattern in which lifestyles are expressed. For example, a family-oriented lifestyle manifests itself through picking up the children from school by car rather than by public transport.

3. How to measure lifestyle ?

Defining lifestyles is one thing, 'measuring' them is another one. Some empirical studies in travel behaviour research (e.g., Salomon and Ben-Akiva, 1983; Cooper *et al*., 2001; Hildebrand, 2003) analyse what they would call lifestyles, but in fact combine various objective socio-economic and demographic characteristics of the individual and the household. Such studies are characterized by a *demographic approach* and rather measure stage of life or household composition than lifestyles. Statistical techniques such as cluster and factor analysis are frequently used to determine stage of life groups like youngsters, households with young children, single-parent families and the elderly. The advantage of this demographic approach is that data on socio-economics and demographics are widely available. However, the theoretical discussion above illustrates that such characteristics do not necessarily reflect how people want to socially represent themselves towards other people. It is therefore questionable whether a demographic approach can be considered appropriate to measure lifestyles. In addition to this demographic approach, Pisman (2012) distinguishes six other quantitative lifestyle approaches. What follows below is a summary of Pisman's work.

Instead of focusing on objective socio-demographics, a *psychographic lifestyle approach* analyses subjective characteristics of the individual such as personality traits and related motives, norms and values. Cathelat (1993, p. 85) describes this approach as considering

"lifestyle as a personality style". The concept of lifestyle was introduced into psychoanalysis by Alfred Adler in 1933 (Heijs *et al*., 2009) who considered lifestyles as the totality of the individual: the set of motives, personality traits, interests, attitudes and values that each individual develops and which structures behaviour. Less attention is paid to other aspects such as the social and cultural dimension of consumption (see for example Bourdieu 1979) and the socio-economic and social context. Data on personality traits are generally not systematically collected so that each study collects its specific dataset and analyses remain exploratory without any generalization. One important classification is nevertheless the 'Values and Lifestyles' (VALS) typology developed at SRI International by the sociologist Arnold Mitchell (1983). The VALS typology departs from the Hierarchy of Needs developed by Maslow (1954) ranging from basic needs (e.g., food, water, employment) to more advanced needs such as love and belonging, esteem and eventually self-actualization. Mitchell extended this hierarchy of needs by adding a psychographic dimension distinguishing 'inner-directed' from 'outer-directed' individuals.

Closely related to the psychographic approach is the *cultural lifestyle approach*. The focus shifts from individual personalities to underlying, common norms and values. Cathelat (1993, p. 87) summarizes this approach as "the lifestyle as a value system". Analyses are based on a theoretical model so that results are less tentative compared to the psychographic approach. Cultural lifestyle studies tend to use the concept 'community' instead of 'lifestyle'. A community refers to a group of individuals who share a set of values that influences attitudes and behaviour. Cultural lifestyle studies thus analyse the extent to which an individual, within a specific social context, supports a set of norms and values. Results are therefore very context-dependent and cannot be easily generalized towards another time-space context.

In the *sociographic lifestyle approach*, the focus shifts from common values and norms towards individual opinions and attitudes. Cathelat (1993, p. 92) describes this as "the lifestyle as a fashionable way of thinking". Sociographic lifestyles studies aim at monitoring changes and trends in society by the analysis of changing individual and shared opinions and attitudes. Individual opinions and attitudes are thus considered from a historical time perspective. Similar to the cultural approach, analyses are not exploratory but based on an a

priori determined model. This model is often empirically established through observations or interviews with focus groups whereas cultural models are rather theoretically formulated.

Some marketing studies use information on personality traits but also norms and values as well as attitudes. Or in other words, a psychographic lifestyle approach is combined with a cultural and sociographic approach. Such a *psychographic marketing approach* is used to obtain a better insight into consumer behaviour. Information on personality traits, norms and values, and attitudes is used to point out differences between but also within traditionally used socio-demographic groups.

The *mechanistic lifestyle approach* considers the simplest content of the lifestyle concept: lifestyles as a way of living or as "a condition of existence and a manner of being" (Cathelat, 1993, p. 97). It focuses on behavioural patterns and is, as a consequence, completely different from previous approaches that mainly focus on underlying reasons for these behavioural patterns. Mechanistic lifestyle studies use available data on (consumer) behaviours and often combine it with socio-demographic data. The empirical analyses in Bourdieu's *La Distinction* can be considered as a good example. His two-dimensional social space is based on a correspondence analysis of socio-demographic data combined with information on consumption behaviour. The proximity of characteristics within this two-dimensional social space implies that these characteristics are often combined with one another.

The *post-structural lifestyle approach* is characterized by a partial or complete disconnection between lifestyles and social structure. Bourdieu considered a hierarchy of lifestyles ranging from no lifestyle differences among the traditional lower status groups to different economic and cultural lifestyles among the higher status groups. Lifestyles were thus still considered to reflect social classes. Post-structural lifestyle studies however do not consider any hierarchy among lifestyle groups. 'Distinction' is no longer expressed by someone's position in a cultural or economic hierarchy but rather as simply 'being different' than others. Consequently, post-structural lifestyle studies focus on individual choices which highly depend on the local and temporal context.

The last lifestyle approach might seem somewhat different than all other approaches. The *geographic* (or *geo-demographic*) *lifestyle approach* combines diverse types of information on the individual with spatial information on their residential locations (e.g., type of residence, neighbourhood characteristics). Geographic lifestyle studies can be considered as an analysis of geo-demographic differences between neighbourhoods. The end result is not a lifestyle typology but an understanding of geographical submarkets or neighbourhoods, although these submarkets are only significant for the lifestyle groups that live in these neighbourhoods. An example is the ACORN typology (A Classification Of Residential Neighbourhoods) of UK's population developed by Richard Webber at the commercial company CACI. Census data are combined with information on behaviours (e.g. Internet behaviour, property ownership, finances) and, most importantly, spatial characteristics of the neighbourhoods were respondents reside (e.g., housing density, urbanity).

4. Lifestyles in travel behaviour research

Lifestyle studies in travel behaviour research remain limited compared to other research domains such as health science and sociology. Moreover, travel behaviour studies only recently focused on the influence of lifestyles. The first empirical lifestyle studies appeared in the 1960s but there has been a surge in interest in lifestyles among transport researchers over the last decade or so.

As outlined above, lifestyles refer to the individual's opinions and orientations toward issues such as family, work, leisure and consumption, which in turn structure behaviour patterns. Considering lifestyle from this perspective, one of the first explicit references to the issue of 'lifestyle' in travel behaviour was work by Salomon (1983), based on his PhD thesis in 1980. He defined lifestyle as 'the pattern of behaviour which conforms to the individual's orientation towards the three major roles: as a household member, a worker, and a consumer of leisure, and to the constrained resources available'. He argued:

"Choice of a life style is made by each individual. The social context within which the individual resides may determine the choice set open to the individual, as some social

systems may not tolerate certain life styles. In such cases, the individual's choice is either bound by the acceptable styles or else the preferred style needs to be practices elsewhere."

Although some travel behaviour studies used the word 'lifestyle' before Salomon (e.g. Gillan and Wachs, 1976; Wachs, 1979), these studies took a different perspective on lifestyle. Because orientations toward family, work, leisure and consumption are internal to the individual and difficult to observe, these early travel behaviour studies employed combinations of socio-economic and demographic variables to represent situations in which persons live. Or as Wachs (1979, p. 21) stated:

'*A particular combination of income, family status, educational attainment, residential density, and similar variables differentiates the patterns of living of those who share them from those who are represented by other ranges of the same variables*'

As such, these early lifestyle studies in travel behaviour employed a geo-demographic approach but without including any information on the individual's orientation toward family, work, leisure and consumption.

Alongside Salomon (1983), the work by Kitamura (1988, republished in 2009) was also very influential in bringing this idea of lifestyles into travel behaviour research. He distinguished between two meanings of lifestyles: (i) activity and time use patterns, and (ii) values and behavioural orientation. These two are related to each other but a critical difference still exists between both. Lifestyles as behaviour or activity and time use patterns may change as an individual adapts to a change in the environment. But a lifestyle as an orientation is more stable and changes in orientations only occur in the long term through changes in values, attitudes and preferences.

Applications of lifestyle in travel behaviour research are mainly in activity-based travel modelling studies. By using the concept of 'lifestyle', activity-based studies seek to make a significant progress toward a more behavioural framework for simulating household travel behaviour (e.g. Krizek and Waddell, 2002; Krizek, 2006). Transport researchers are becoming aware that the utility maximization principle, which is widely used in transport economics

and modelling, does not completely explain human behaviour (Talvitie, 1997). Within this behavioural approach to travel behaviour, daily travel patterns are often considered within a hierarchical decision structure (e.g., e.g., Ben-Akiva, 1973; Salomon, 1980; Salomon and Ben-Akiva, 1983). This hierarchy ranges from short-term decisions on daily activities and travel, to mediate-term decisions on vehicle ownership, residential and workplace location, and long-term decisions on lifestyles. A significant challenge remains how to integrate these short -and long-term decisions.

Following Salomon (1983) and Kitamura (1988), various researchers have tried to examine the general concept of lifestyle more quantitatively (e.g., Lin *et al*., 2009). However, as Reichman (1976) suggests, lifestyles are not merely a typology of observed activity and time use patterns. Lifestyles can be considered as a latent factor that motivates these behavioural patterns. As a consequence, various recent empirical travel behaviour studies have collected data on attitudes and preferences. We do not provide a comprehensive review of this body of work but merely highlight some examples and key findings related to travel behaviour.

Applying factor and cluster analysis to leisure and mobility data from four neighbourhoods in Cologne, Germany, Lanzendorf (2002) identified seven lifestyles (although referred to them as 'mobility styles'). He found that these mobility styles significantly explained the decision to travel for various leisure purposes and distance travelled by car, while it was not a significant influence on modal choice. Meanwhile, Bagley and Mokhtarian (2002), in their analysis of data on individual interests and activities from five neighbourhoods in San Francisco, identified eleven lifestyle types, some of which were associated with longer travel distances by car than others. Using data from a different survey in the same geographic area, Collantes and Mokhtarian (2007) analysed 18 statements on work, family, money, status and time use which were used to identify four lifestyle groups. Individuals in certain groups used travelled more frequently by car and longer distances. Research by Scheiner (2006) and Scheiner and Holz-Rau (2007) confirm some of these conclusions and report that, although travel behaviour is influenced by lifestyles, the socio-demographic characteristics of the respondents are more important. More recently, Van Acker (2010) and Van Acker *et al*. (2011) have quantified lifestyles using a structural equation approach to examine the complex relationships between lifestyles, the built environment, stage of life, car availability,

and travel behaviour. These studies reported that certain lifestyles have a clear influence on modal choice.

This idea of a set of personal preferences, chosen in terms of individuals' social roles but constrained by the options open to them, is a recurrent theme. However, it reveals a fault line in the conceptual framework (identified by Salomon but not pursued by him and ignored by much subsequent work), namely the dynamic process over time which may soften or change the constraints, or alter the preferences. Salomon (1983) suggested that lifestyle choices were the long-term choices relating to family formation, the type of employment to pursue and preferences towards leisure. He recognised that there was a two-way relationship between short-term decisions (related to daily activity preferences and travel behaviour) and long-term lifestyle decisions. Early work tended to blur this important distinction. It was very clear that people whose lifestyles were different in some way had different travel patterns: a large body of empirical studies explored this exhaustively (some of which are described here) but this does not say what will happen when lifestyles change. A large body of work relates transitions in family composition (i.e., major changes due to employment status, marital status, children, age, and death of a family member) to changes in travel behaviour (e.g., Goodwin, 1988; Dargay and Vythoulkas, 1999; Dargy and Hanly, 2007; Chatterjee *et al*., 2013; Clark, 2012). However, the results of these studies generally only say that people whose lives are changing also experience more volatile and rapid changes in their patterns of travel. The results of these studies do not however address the underlying reasons for the travel changes (i.e., changing behavioural orientation associated with these life events or changes in stage of life).

5. Future prospects for lifestyle and sustainable urban transport

The discussion so far has mainly been about the question of how a specific lifestyle will condition the choice of travel behaviour. However, there is a different question, which is about how far lifestyles can be modified in such a way to change transport choices. In the context of sustainable transport, this primarily means addressing the question about whether people will change their lifestyle in such a way as to use cars less. It also questions how behavioural orientations (e.g. values, attitudes, preferences) can be modified and made

more sustainable. Lifestyles must therefore be considered as *dynamic* rather than as static and given. Travel behaviour studies with a dynamic approach of lifestyles are however limited, mainly because of a lack of longitudinal data. This type of data is necessary for such a research approach.

5.1 Choice of an urban lifestyle without cars

A series of studies by Melia compared the effects of initiatives in a number of European cities to build 'car-free' housing areas. Residents agreed not to own cars, and car parking provision was greatly limited in these initiatives. These are voluntary schemes, attracting people who have decided, or are considering, a lifestyle without cars, for reasons of personal preference, environmental principle, or economic advantage. Melia *et al*. (2012) report the results of studies of users defined as 'Car-free Choosers' and 'Car-free Possibles'. The greatest potential demand for housing in car-free areas, at least in the short-term, was found amongst Car-free Choosers living in, and preferring to remain living in, larger urban areas. The reasons for this are mainly practical. Although Car-free Choosers walk and cycle more frequently, access to public transport is clearly a key locational requirement for them. Urban residential locations tend to permit them to travel in different directions with rail generally available for longer journeys.

Melia *et al*. (2012) note that target groups are not static. At different points in the lives of most interviewees decisions were made to acquire or give up a car. Nearly half of the Car-free Choosers had owned a car at some point in their lives, and subsequently decided to give them up. At these points, car owners might become more receptive to the prospect of living in a car-free development. This implies that potential demand for car-free development may be larger in the longer-term. This analysis also implies, paradoxically, that car-free developments which provide some limited peripheral parking (for residents' as well as car club vehicles) with charges as a disincentive may have a greater potential to change behaviour, and reduce overall car use, than developments where no parking is possible, which may only attract the most committed Car-free Choosers.

The importance of proximity to services for the Car-free Choosers would imply that successful car-free developments would need to be built at relatively high densities, as were all the European developments visited. This would be consistent with the housing and location preferences of most of the Car-free Choosers. Another important finding was that the prevalence of car-free families with young children in European car-free developments suggests their design and location has helped these families to avoid the usual pressures to acquire a car at that stage in their lives.

5.2 Lifestyle scenarios

It has been common for studies of future trends to use a scenario approach – postulating a number of different possible future lifestyle patterns, rather than seeking to forecast a specific most likely one (e.g., the early exploratory study by Lyons *et al*., 2002). A recent study by Anable and colleagues (Anable *et al*., 2010; Eyre *et al*., 2011) applied this to a large scale analysis of future possibilities for sustainable travel. Their starting point is that the:

"Transition in the discourse from sustainable 'consumption' to sustainable 'lifestyles' implies a shift in the salient source of meaning away from consumption towards specific values, rules and social practices which are shared by groups of persons and constitute their 'way of life' (…) people are also seen as ethical and political actors who are responsible for reflexive and political preferences as well as market choices (…). Consequently, lifestyles are viewed as more than transient fashions or trends. They encapsulate ethical commitment so that they straddle both notions of individuality and identity on the one hand and community or sociality on the other. (…) This allows our scenario approach to pay attention to the interaction between society and technology (…) and underlines the role that policy can play in working with attitudes, opportunities and impacts to exert a positive influence on the type of society that develops and the nature of the technical system that co-evolves with it".

On this basis, they devise a 'lifestyle scenario' in which low-energy and zero-energy (non-motorised) transport systems will gradually replace current petrol and diesel car-based systems. The increased uptake of slower, active modes reduces average distances travelled as distance horizons change. Localism means people work, shop and relax closer to home

and long-distance travel shifts from fast modes (primarily air and car) to slow-speed modes covering shorter distances overall (local rail and walking/cycling). They then formally modelled the effect of such a change in quantitative terms, with the estimated result of a 74% reduction in distance travelled by car by 2050. Clearly, the scale of change in transport demand implied as a consequence of lifestyle shifts is very substantial and greater than frequently assumed in other studies.

6. Summary of research themes and policy issues

Because the concept of lifestyle is so broad, a wide range of transport studies touch upon issues related to the topic. The main ones can be divided into two broad groups, which we term 'static' and 'dynamic'.

6.1 Static versus dynamic

Travel choices do not occur in a vacuum but are built into a complex web of other choices on how people live, work and recreate, and the constraints and conditions under which they make those choices. Therefore it will almost inevitably be the case that the range of travel choices open to people will be wider over time periods in which lifestyles can also change, than in the short run when the constraints will be more prominent. As such, the whole way of thinking about travel and lifestyle must be seen as a process of change over time, not as a fixed state. This has both policy and methodological implications.

There is a very strong logical expectation that short run and long run effects will be different, with important political consequences on whether initiatives have a lasting effect, an increasing effect, or a decaying one. Therefore political programmes must deal with a prolonged time scale, and consider the trajectory and sequence by which impacts build up. These prolonged time scales are however longer than the three to five years of election cycles, which consequently imposes some problems for the political process. If the political timetable can be resolved, it also presents a rather optimistic longer term view, since the effects over a longer period – *provided that initiatives are sustained* – are likely to be bigger and more settled.

Methodologically speaking, almost no tradition exists of monitoring the impact of policies designed to last longer than a year or two, except at the most aggregate level which contains the least information about individual behaviour change. The paradox is therefore that the biggest impacts are likely to occur over periods for which the least data are collected, which makes politicians vulnerable to criticism and poorly informed about the exact details of policies which may be most helpful.

6.2 Which model of 'lifestyle analysis' to choose?

There are too many different dimensions of 'lifestyle' even to list, let only measure. Two broad perspectives can however be detected: (1) lifestyles as a behavioural typology of activity and time use patterns, and (2) lifestyles as a behavioural orientation – values, attitudes and preferences – and a latent factor motivating behaviour patterns. There is little evaluation of which of the many formal classification systems are more useful. It is a characteristic of research studies to invent different segmentation systems, usually with much thought given to expressive labels but with little or no thought given to whether each new system is better than the previous ones. Moreover, there is a recurrent finding that the point at which lifestyles shift for non-transport reasons is the point at which people may be particularly receptive to initiatives offering new travel arrangements to them. This suggests that different marketing strategies will be appropriate for those in more or less stable lifestyle situations, but so far there is limited evidence on the effects of making this concrete with specific, tested, targeted strategies. The policy implication here is a very strong and robust expectation that lifestyle classification will be helpful in drawing up different target groups for whom different approaches and strategies will be successful. However, different disciplines (psychology, economics, social marketing, etc.) offered a different set of segmentation approaches. The methodological issue in theory is that the effectiveness of different segmentation approaches need to be systematically compared. However, the proof of effectiveness of behaviour changes based on any specific segmentation scheme cannot be judged by internal statistical diagnostics which led to the identification of that scheme in a data set. Rather, it should be based on the observation of sustained change in practice, which will have to include judgements about the scale and design of the campaign.

7. Conclusions and derived research needs and questions

Lifestyle approaches provide useful insights into travel choices because they are not simply made by considering prices, speed and comfort, but are also related to social relationships, attitudes, status, preferences and constraints at various levels. With a given set of lifestyle choices, different population groups will respond with more or less enthusiasm and ease to sustainable transport policies. As a result, initiatives need to be tailor-made for different people, focusing particularly on those whose circumstances, preferences and constraints are changing for other reasons. This is reasonably well established by research although the body of work about how best to distinguish between different people still needs further work.

In the longer run, lifestyle choices are not 'given': social attitudes about acceptable levels of traffic, required standards of speed, what constitutes a high status, how much 'mobility' is a good thing, all themselves change, sometimes quite quickly. This is not yet so well-established in research, in particular in how easily people adapt to a less car-oriented lifestyle, but there is some evidence that it may be easier than in previous policy presumptions.

With the caveat that well established trends can themselves change (as shown in recent discussion that car use may have peaked, see Goodwin, 2012), it still seems to be a strongly established trend that the range of different types of family life will continue to expand, with less traditional forms becoming more popular. It follows that the range of associated lifestyles will also become wider. A logical consequence may be that the dominance of a small number of socially accepted lifestyles will diminish, and heterodoxy in lifestyle will be accompanied by a wider range of different travel arrangements. This is an entirely helpful social trend in the context of an environmental and economic need to encourage new lifestyles which meet people's needs more closely and also support sustainable transport strategies. However, it does not lend itself to a well-established stable body of behavioural theory which will give clear guidelines on exactly how best to proceed. It follows that the

next phase of work is more likely to be based in empirical real-world policy initiatives – trial-and-error – than in theoretical refinement.

The questions for new research that can be derived from this paper are the following:

- How can transitions in family composition and lifestyle be best exploited in order to change mobility behaviour?
- What are the long-term effects of 'real world' sustainable transport initiatives on lifestyles and behaviour, particularly when individuals experience changes in personal circumstances?
- Is there a two-way relationship between car ownership and travel behaviour (i.e. does car ownership affect travel choices and does travel behaviour affect car ownership)?
- How does lifestyle condition the choice of travel behaviour?
- To what extent can lifestyles be modified to promote more sustainable patterns of transport?

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