TRANSPORT AND SOCIAL EXCLUSION: WHERE ARE WE NOW?

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ABSTRACT

The late 1990s and early 2000s witnessed a growing interest amongst UK academics and policy makers in the issue of transport disadvantage and, more innovatively, how this might relate to growing concerns about the social exclusion of low income groups and communities. Early academic studies began to make more explicit the links policy between poverty, transport disadvantage, access to key services and economic and social exclusion (see for example Church and Frost, 2000; TRaC, 2000; Lucas *et al* 2001; Kenyon 2003; Kenyon *et al*, 2003; Hodgson and Turner, 2003; Raje, 2003). In 2003, the UK Social Exclusion Unit published its now internationally recognised report on this subject, which subsequently resulted in the development of a set of transport policy guidances to local authorities in England to deliver what is now commonly referred to as *accessibility planning* as part of their Local Transport Plans (Department for Transport, 2006). Since this time, researchers, policy makers and practitioners in several other countries have become interested in adopting a social exclusion approach to transport planning, largely because of its utility in identifying the role of transport, land use planning and service delivery decisions in creating and reinforcing poverty and social disadvantage.

Seven years on from the SEU report, we can begin to reflect on whether adoption of the *accessibility planning* approach to transport has been successful in encouraging a more socially inclusive transport system in the UK, and/or in addressing the problems of transport related social exclusion. The paper begins by briefly revisiting the basic theories and core definitions which underpin and inform a social exclusion perspective. It then considers how these have been translated and understood in terms of transport. Secondly, it considers some of the emergent empirical studies that have been undertaken over the past ten year in attempts to more robustly measure and model the interactions between transport and mobility inequalities and relational negative social outcomes. Thirdly, it considers the policy progress on this issue in the UK context. Finally, it offers some broad suggestions on how further progress might be made on this issue and also considers whether social exclusion is still a relevant theoretical approach in terms of future practical progress in this respect.

Keywords: *Transport disadvantage, social exclusion, UK policy*

INTRODUCTION

It has been seven years since the UK Social Exclusion Unit (SEU) published its now widely acclaimed report on transport and social exclusion (Social Exclusion Unit, 2003). The intervening period has witnessed considerable academic and policy interest not only in the UK (e.g. Kenyon, 2003; Kenyon *et al*, 2003; Hine and Mitchell, 2003; Hine and Greico, 2003; Hodgson and Turner, 2003; Raje, 2003; 2004; Lucas, 2004a; 2004b; 2006; McDonagh, 2004; Cass *et al*, 2005; Preston and Raje, 2007; Farrington, 2007; Britow et al, 2008; Lucas *et al*, 2008; Mackett *et al*, 2008) but also across mainland Europe (Schonfelder and Axhausen, 2003; Kaufmann *et al, 2004*; Grieco, 2006; Ohnmacht *et al,* 2009; Cebollada, 2009; Priya and Uteng, 2009; Priya Uteng, 2009), Australia (Hurni, 2006; Currie et al, 2007; 2009; Stanley and Stanley, 2007; Batellino, 2009; Loader and Stanley, 2009; Stanley and Vella-Broderick, 2009; Currie 2010; Currie and Delbosc, 2010), Canada (Litman, 2003; Paez, *et al*, 2009a; 2009b); New Zealand (Rose *et al*, 2009) and South Africa (Lucas, 2010).

Despite increased theoretical understandings of the nature and causes of transport-related social exclusion and a growing body of empirical research evidence to support its increasing rather than decreasing prevalence globally, in the UK case at least, very little has been done on the ground to deliver better transport services to affected and at risk populations and even less to monitor the effect of this in terms of social outcomes. The reasons for this inertia appear to be fourfold:

i) The identified delivery agenda cuts across the responsibilities of a number of different central government departments, most of whom do not recognise providing physical access to their services as part of their policy remit (Centre for the Research of Social Policy (CRSP), 2009);
ii) Over-emphasis on 'black-box' accessibility mapping techniques by central government has failed to appreciate the subtleties and nuances associated with the social exclusionary process (Preston and Raje, 2007). It has also encouraged local transport authorities to deliver partial and piecemeal responses at best and little more than plans gathering dust on the top shelf of offices at worst (Preston, 2009);
iii) The multi-dimensional approach that is required to achieve real changes on the ground demands a multi-stakeholder delivery agenda. While the case for including consideration of social equity issues within transport policy is increasingly accepted by local transport professionals, it has been difficult to secure the interest of other key stakeholders locally (CRSP), 2009);
iv) More locally specific understandings of the problems, as they are experienced by the differently affected populations groups, are needed. Local communities need to be actively engaged in the design and delivery of locally appropriate solutions, as their empowerment is a necessary part of the inclusion process (Hodgson and Turner, 2003; Raje, 2003).

This paper considers these issues in greater detail by first briefly revisiting the basic theories and core definitions which underpin and inform social exclusion as a concept. It then

considers how these have been translated and understood in terms of the transportation literature. Secondly, it considers some of the emergent empirical studies that have been undertaken over the past ten year in attempts to more robustly measure and model the interactions between recorded transport inequalities and relational negative social outcomes. Thirdly, it considers policy progress on this issue in the UK context. Finally, it offers some broad suggestions on how further progress on this issue might be made and also considers whether social exclusion is still a relevant theoretical approach in terms of future practical progress in this respect.

UNDERSTANDING THE CONCEPT OF SOCIAL EXCLUSION

In the latest definition for the UK Department of Communities and Local Government (DCLG) Levitas *et al* (2007) identify, social exclusion as involving:

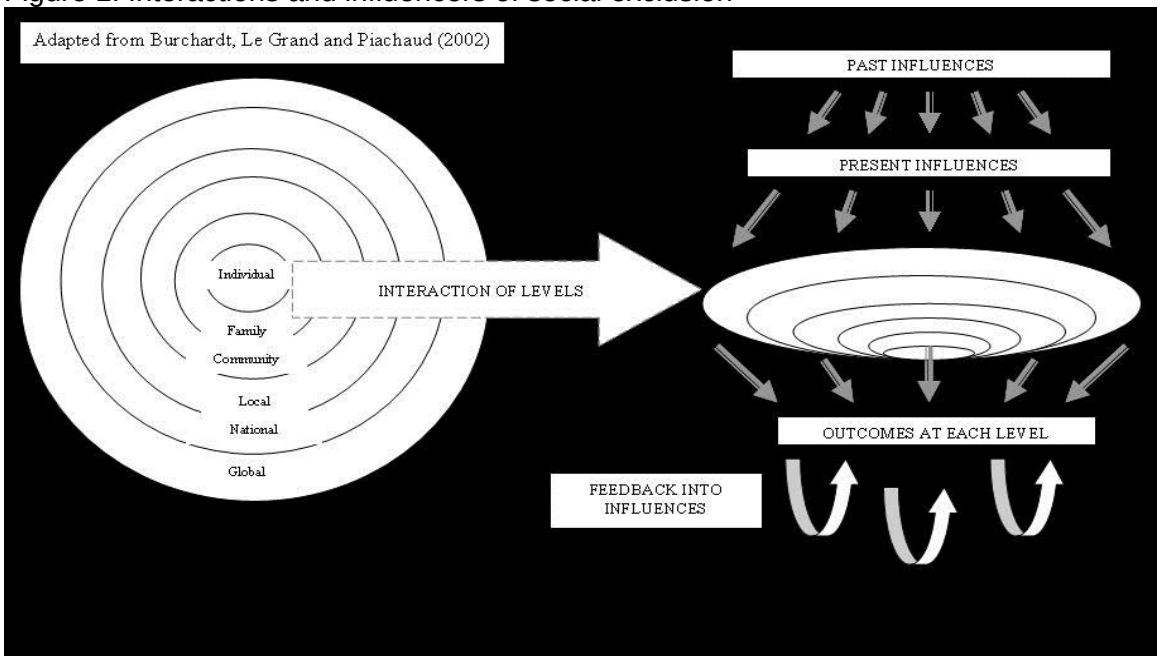
> '… the lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of people in a society, whether in economic, social, cultural or political arenas. It affects both the quality of life of individuals and the equity and cohesion of society as a whole.'
>
> (Levitas et al, 2007: 9)

Importantly, social theorists emphasise that social exclusion is a multidimensional, multilayered and dynamic concept and there is an interaction between its different causal factors at every level, i.e. individual, family, community, local, national, global, as well as over time and space (as illustrated in Figure 1 below).

The particular rationale for adopting a social exclusion approach to transport disadvantage is that it helps policy makers to recognise that: a) the problem is multi-dimensional (i.e. can be located with both the circumstances of the individual who is affected and processes, institutions and structures within wider society;, b) it is relational (i.e. that disadvantage is seen in direct comparison to the normal relationships and activities of the rest of the population; and c) it is dynamic in nature (i.e. it changes over time and space, as well as during the lifetime of the person who is affected). In policy terms the concept also it forces a focus not only on the experience of disadvantage but also on the associated economic and social **outcomes** of this condition. As Burchardt *et al* note, it is also important for policy makers to recognise that:

> '*As far as social exclusion is concerned, bygones are not bygones but represent the starting point for the present'*.
>
> (Burchardt *et al,* 2001:8)

Figure 1: Interactions and influencers of social exclusion



Source: Adapted from Burchardt *et al*, 2004

Crucially, for the study of transport-related disadvantage, it is essential to recognise that the concept of social exclusion emphasises the interactions between those causal factors which lie with the individual such as age, disability, gender and race **and** those that lie with the community such as a lack of available or inadequate public transport services, failing local services **and** those that lie with the wider local, national and global economy such as the re-structuring of the labour market, cultural influences, migration and legislative frameworks.

The concept is also useful from a transport policy perspective because it specifically relates these problems back to the values, processes and actions of key delivery agencies, which are seen to have systematically excluded certain individuals, groups or communities from the benefits of their policy decisions and practices. The implication of this conceptualisation, therefore, is that its resolution primarily rests with the social agencies that are responsible for policy delivery, rather than the individuals that are affected. However, it is also vital for policy makers to recognise that the abilities, skills, resources, capacities and past experiences of the individual also need to be considered in the design of policy solutions.

Furthermore, documenters of the social exclusion phenomenon are less interested in the fact that there is no transport available to people *per se* but rather the consequences of this in terms of their (in)ability to access key life-enhancing opportunities, such as employment, education, health and their supporting social networks. In this way, there is a move away from the traditional systems-based approach to transport provision, towards a more people-focused and needs-based social policy perspective, which asks question about equality of opportunity to access key services and equity of outcome rather than outputs and also begins to raise the issue of redistributive justice (see Lucas *et al*, 2004a for more on this).

TRANSPORT AND MOBILITY INEQUALITIES

Transport and/or mobility inequality is not a new theme within the transportation literature. For example, as early as 1973 Wachs and Kumagai identified physical mobility as a major contributor to social and economic inequality in the US context. Similarly, in the UK, Banister and Hall (1981) asserted that transport clearly had an important role to play in determining social outcomes for different sectors of modern society in terms of both the absence of adequate transport services and the impact of the transport system on individuals and communities.

There is also plenty of empirical evidence of this phenomenon. Almost every National Travel Survey (NTS) across the Western identifies significant inequalities in the travel patterns and access to transport of lower income populations in comparison to their higher income counterparts. For example, the 2006 UK NTS identifies that, whilst on average car ownership levels rest at around 85%, less than 50% of the lowest income quintile households own a car. Although 40% of individuals in the lowest income households report travelling by car at least once a week, they make only around one-tenth the car trips of members of one car households and they make far fewer trips in a week overall, using any mode of transport (Department for Transport, 2007). The annual journey distances of non-car owners is also roughly half that of car owners (*ibid*) with the consequence that many people on low incomes also experience social exclusion as a direct or partial result of these transport inequalities (Social Exclusion Unit, 2003).

Surprisingly, given the levels of car penetration in the US (approximately 92% of all households have access to a private vehicle), car ownership amongst the lowest income quintile is only slightly higher than it is in the UK (around 60%). Women are more likely to drive across all age categories in the USA than in the UK and there is less of a gender difference between licence holders and non-licence holders than in the UK. Black Americans are far less likely to own and drive a car than their white counterparts, with 20% of all Black households not having access to a car. American Indians, Hispanics, Pacific Islander, Asian and people of mixed race are also less likely to own cars than white Americans (Clifton and Lucas, 2004). There is considerable evidence to suggest that low income non-car owning households in the US also have less access to public transit (Garcia and Rubin, 2004) and, hence, experience considerable difficulties in accessing jobs (Cervero, 2004) and other key facilities (Morris, 2004).

Similarly in Australia, Currie *et al* (2007) identify that social disadvantages associated with transport to be particularly significant when compared to other countries in suburban Australia, where distance is a major barrier to economic and social activity. Although, Australia has amongst the highest car ownership in the world, not everyone has a car or can drive. Young people, those on lower incomes, seniors, people with disabilities and many aboriginal and minority groups, in particular, are known to experience difficulties in accessing work, education, shops and leisure and cultural activities. Also, driving cessation is a major concern for older Australians, since economic and social life tends to revolve around the car and cessation has been associated with a decline in travel and social activity in later life.

More recently, Paez *et al* (2009a and 2009b) have been recording similar trends from their analysis of the Toronto and Montreal Household Travel Surveys finding that lower income households and particularly elderly and disabled Canadians travel considerably less and over shorter distances and have less access to key services than the average Canadian population.

These transport inequalities can also be seen within a development context. For example, the 2003 South African National Household Travel Survey identified that identifies that the majority of poorer households also experience extremely poor access to private vehicles and public transport services. On average, only 26% of the lowest income quintile households had access to a car, more than 75% had no access to a train station and nearly 40% did not have access to a bus service. Whilst the majority of the white population (83%) hold a driving licence, only 10% of the black population, and 21% of coloureds[1] and just over half of the Asian population (56%) do so (Republic of South Africa National Household Travel Survey, 2003). As a result, the majority of black South Africans state difficulties when trying to access work, education, healthcare, social welfare assistance and with visiting family members (Lucas, 2010).

What is less clear from this recorded evidence of transport inequality between different social groups and their corresponding reduced mobility and access to services within societies is the extent to which this prevents their full participation within that society and/or reduces their social capital or well-being. This next section of the paper considers some of the key literatures that have attempted to make evident these social interactions that arise from the transport system.

INTERACTIONS BETWEEN TRANSPORT DISADVANTAGE AND SOCIAL EXCLUSION

From the Levitas definition of social exclusion above (and others that have preceded this), it is immediately possible to identify an associated accessibility and participation, if not transport, dimension to the problem. Kenyon *et al* offered the following early definition of transport-related social exclusion, highlighting its accessibility and mobility dimensions, which has since been widely cited within the transport literature:

> '[It is] The process by which people are prevented from participating in the economic, political and social life of the community because of reduced accessibility to opportunities, services and social networks, due in whole or part to insufficient mobility in a society and environment built around the assumption of high mobility'
>
> (Kenyon *et al*, 2003: 210)

[1] Coloured is still an official racial classification within the RSA NHTS

This definition is particularly cogent in the transport context because it identifies the relational nature of the problem, i.e. that it is the high and increasing levels of mobility within the population as a whole that is a key causal factor in the reduced, accessibility and, ultimately, exclusion of less mobile sectors of the population. Indeed, in another paper which was published around the same time, Kenyon (2003) recommends that practitioners will only succeed in reducing social exclusion and increasing exclusion if they reduce the overall car use and mobility of the rest of the population. Whilst this author would agree that this is undoubtedly the case, intervention measures are also needed to more directly address the multiple transport disadvantages that socially excluded individuals and communities currently experience, as Kenyon herself notes.

In an early paper, Church *et al* (2000: 198-200) denote seven specific features of the transport system that are contributing and/or related to the exclusion of certain population groups, which in line with social exclusion theory would appear to confirm the multidimensional nature of the problem. The identified seven categories are:

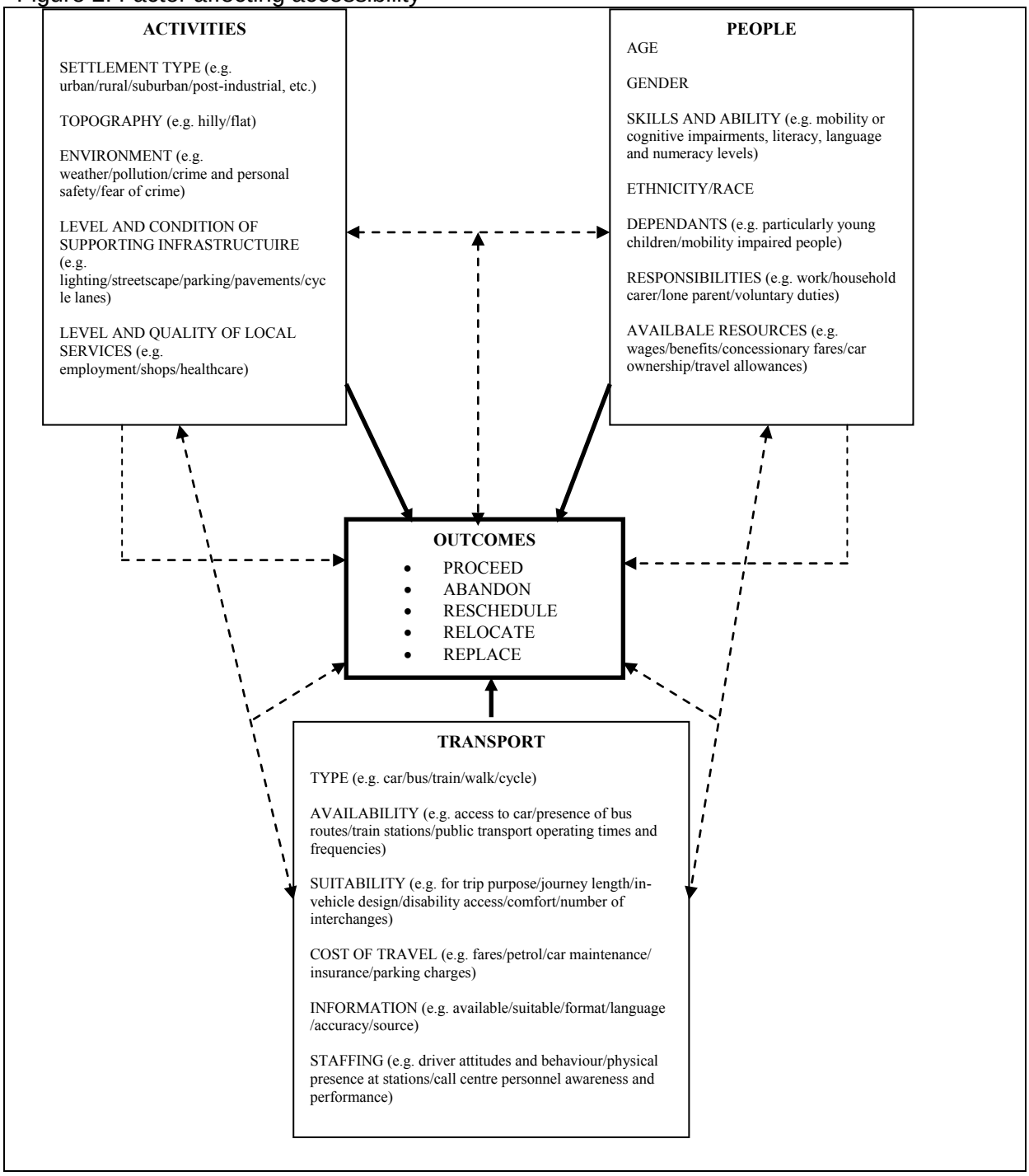
i) *physical exclusion*: whereby physical barriers, such as vehicle design, lack of disabled facilities or lack of timetable information, inhibit the accessibility of transport services;
ii) *geographical exclusion*: where a person lives can prevent them from accessing transport services, such as in rural areas or on peripheral urban estates;
iii) *exclusion from facilities*: the distance of key facilities such as shops, schools, health care or leisure services from where a person lives prevents their access;
iv) *economic exclusion*: the high monetary costs of travel can prevent or limit access to facilities or employment and thus impact on incomes;
v) *time-based exclusion:* other demands on time, such as combined work, household and child-care duties, reduces the time available for travel (often referred to as time-poverty in the literature);
vi) *fear-based exclusion:* where fears for personal safety preclude the use of public spaces and/or transport services;
vii) *space exclusion:* where security or space management prevent certain groups access to public spaces, e.g. gated communities or first class waiting rooms at stations.

In order to make any progress towards improving the accessibility of socially excluded populations, policy makers need to find ways to address all seven of these dimensions in tandem. Whilst this list maps the overall nature of the problem of transport-related exclusion, it does little to express at which level or layer of activity it occurs and, thereby, fails to identify where the policy attention should be directed, i.e. is it the individual which needs direct policy assistance, the social capital of the community that needs to be enhanced or better local services that are needed or the more strategic system of transport or land use planning that needs to be addressed?

In this respect, Greico (2006) proposes three main dimensions for the analysis of transport-related social exclusion, namely: i) place-based measures, including opportunities and

services within the immediate area in which a person lives; ii) social-category based measures, such as social stratification within as community to identify social need; and iii) person-based measures, such as the individual public transport user's profile of journey needs. The author has suggested a similar three-pronged approach in Figure 2 below.

Figure 2: Factor affecting accessibility

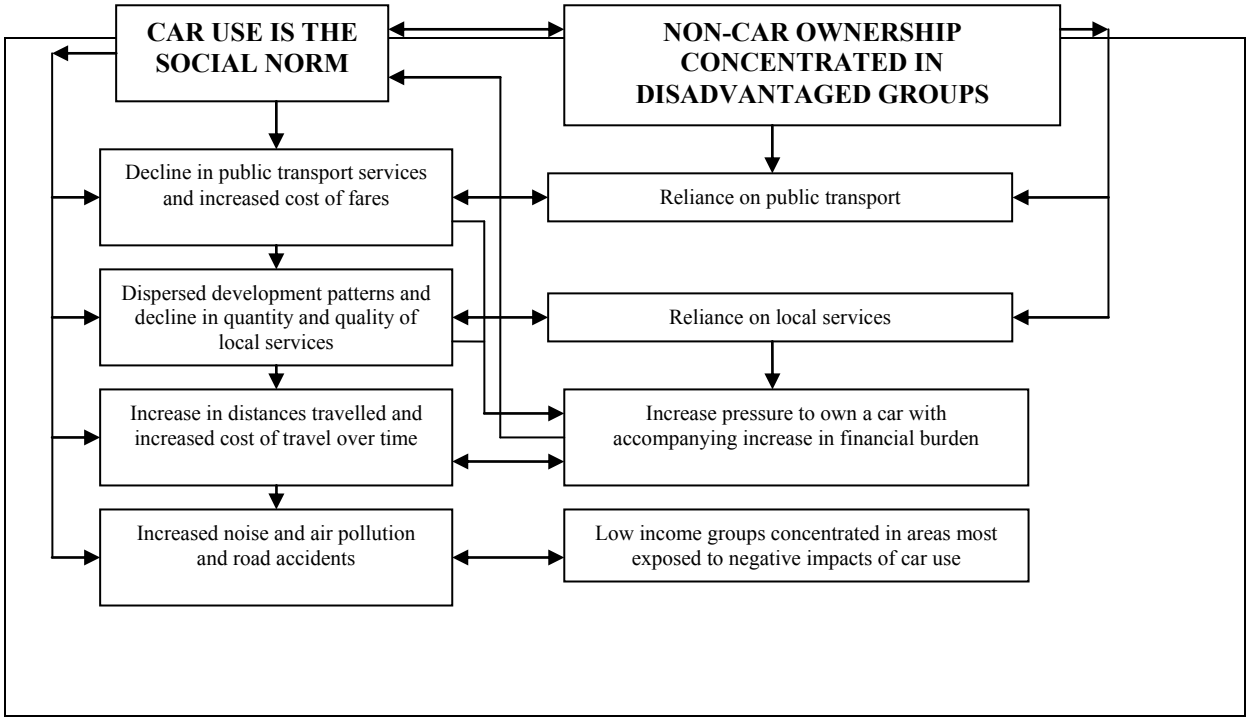


Source: Lucas, 2004: 43

The central box in the diagram identifies the choices that are left to an individual when their personal circumstances and/or activity opportunities and/or transport options prevent access to a given activity. This is in effect denoting the underlying causal factor that results in the continued exclusion of the individual. In this way, the diagram also helps to identify where the policy attention or project intervention needs to be focused.

However, as Kenyon, 2003 notes, it is also essential to recognise, the dynamic nature of the exclusionary process where transport is concerned, however, i.e. the more mobile society becomes the more certain groups are excluded from and/or disproportionately impacted by the system, as Figure 3 demonstrates.

Figure 3: Diagram to demonstrate the dynamics of diminishing accessibility experienced by non-car users.



Source: Lucas, 2004: 16

This suggests that to reduce transport-related social exclusion policy makers should not only be concentrating on the populations that are currently excluded or at risk of exclusion but also on reducing the escalating dynamic of *hypermobility* and its effects across society as a whole (Urry, 2000).

The 'new mobilities paradigm'

Urry (2000) builds on this theme of dynamic exclusion from the transport system within his *new mobilities paradigm*. His theories are concerned with macro (global), meso (national) and micro (local) changes in the physical and virtual movement of people, goods, services, images and information over time (Kaufmann, *et al*, 2004; Sheller and Urry, 2006; Urry, 2007). As Cass *et al*, 2005, identify that the mobilities perspective is particularly important in

the debate because it explores how different forms of mobility help to shape societal values and norms and social stratification.

Theorists from this perspective identify *motility* (movement) as consisting of three main layers: i) access – the range of all available mobilities according to time, place and other contextual constraints; ii) competence – the skills and abilities that directly or indirectly relate to the appropriation of access; iii) appropriation – how individuals, groups, networks or institutions act upon or interpret perceived or real access and competences (Kaufmann *et al*, 2004). Unequal mobilities are seen as arising from differences in the status, wealth, prestige, power and geographical distribution of people and activities (Urry, 2007).

Urry argues that unequal 'network capital' is distributed across traditional social stratifications leading to differential opportunities to access goods, services, social networks and life chances, which results in the social exclusion of individuals and whole communities. One of the key issues that Urry and his colleagues bring to light within their theses, is the extent to which transport-related social exclusion can ever be properly addressed within a global system that prioritises *hypermobility*. Dennis and Urry (2009) predict that it is not until *After the Car* that we will be able to establish the more equitable distribution of transport services. This implies that the problem of transport-related exclusion largely lies outside the influence of national or local policy makers.

Time geography perspectives

Human geographers have also opened up further challenges for the study of transport-related disadvantage. Time geographers, in particular consider the issue from a time-space perspective, originally developed by Hagerstrand in 1960 and later by Miller (1999; 2005) and others (Dijst and Kwan, 2005; Neutens et al., 2009). Theorists here focus on the fundamental societal changes that have taken place over the last fifty years in spatial organisation of society, which have created new inequalities in the opportunities that are available to different people within given timeframes, causing time-poverty based exclusion for certain social groups, particularly women (Priya Uteng, 2009). The demands of tight scheduling, multi-tasking and multiple responsibilities are experienced differently by different population groups (women are identified as being particularly disadvantaged in this respect) and by people living in different locations (people living in rural areas and on peripheral urban estates can be most disadvantaged in both their access to goods and services and transport choices).

The particular insight time geography offers to the analysis of transport-related exclusion is that often it people's own preferences, needs and attitudes which determine the transport choices that are available to them. In this case, the transport disadvantages or time poverty that they experience may be the product of self-enforced, rather than externally imposed, physical isolation and exclusion. The phenomenon was observed by Currie and Delabosc (2010) in their analysis of their Melbourne surveys. They found that many of the people who identified themselves as suffering from transport disadvantage in the survey sample were actually relatively income rich and economically active respondents. The types of

disadvantage they recorded were not related to a lack of transport or its non-affordability, but rather, traffic delays and the time they spend travelling. Barry (2002) refers to this form of self-imposed exclusion in his chapter entitled 'Social Exclusion, Isolation and Income', finding that:

> 'The private car is the enemy of social solidarity in as much as public transport is its friend. The private car isolates people and puts them in competition with other road users'
>
> (Barry, 2002: 26)

He suggests that the problem of higher income sectors of the population effectively 'opting out' from the use of public services is all part of the dynamic nature of the problem of social exclusion and also needs to be addressed by policy.

The social construction of difference

A final, and far less well researched, issue to explore is the extent to which the language and policies associated with transport delivery are responsible for socially constructing differences and inequalities within the transport system. For example, the system of concessionary fares for senior citizens that is currently in place in the UK appear to imply that anyone over the age of 60 years is financially vulnerable and in need of assistance in terms of their travel costs. This is clearly a social construct of age which is largely based on unfounded evidence in the 'real' world and can lead to a form of ageist thinking within transport policy that is both divisive and inequitable.

THE EVIDENCE FROM EMPIRICAL STUDIES

Having established a reasonably strong theoretical basis for asserting that transport-related social exclusion exists, it is now time to turn to the empirical evidence to establish the extent and the intensity to which this exists across the population as a whole. Since the 2003 SEU Report, there has been increasing an international research interest in undertaking empirical studies to examine the nature cause and extent of transport-related social exclusion, initially within the UK, but also in mainland Europe and more recently in Australia, Canada and New Zealand. This section of the paper synthesises some of the key findings of these empirical studies in terms of their contribution to the identification of the nature, causes and extent of transport-related social exclusion within different spatial, locational and national policy context. It should be noted that an environmental justice perspective has also long served to offer similar analyses of the equity impact of transport disadvantage on low income individuals and communities in the United States. However, this paper does not include these research efforts due to both the confines of paper length and their differing *environmental justice* policy focus (for more on this see Lucas, 2004), although they clearly have relevance to the identification of transport-related exclusion in the US context.

There have been numerous empirical studies over the last ten years which attempt to measure and model the incidence and cause of transport-related social exclusion. It is not possible to review all of these in the context of this paper, but some of the key efforts in this respect are now identified in the sections below. These can be broadly divided into two main categories, namely:

i) studies to identify the problem, and
ii) studies to identify the solutions

i) Studies to identify the problem

In an early Scottish study, Hine and Mitchell (2003) focused on three geographically defined case study areas to identify ways in which the transport system was creating transport disadvantage and to establish how this might be addressed through policy. They established that the population in all three areas had low levels of driver's licence holding compared with the UK population as a whole (40% on average) and also low access to a vehicle within their household (44% had no vehicle available to them). The surveys also identified that reliance on public transport in these areas made it more difficult to access key activities in the local area and a small number of respondents in each of the three areas reported that transport considerations had prevented them from looking for work or accepting a job and/or accessing education. Respondents without a car also tended to go less frequently on shopping trips and to visit friends and family. Respondents also expressed a high degree of concern for their personal safety in relation to accessing and using public transport.

In the European context, Schonfelder and Axhausen investigated the utility of 'personal activity spaces' as measures of individual social exclusion, developing three possible measurement approaches: ellipse, kernel density networks and shortest pathway networks. Activity spaces are determined by the location of the traveller's home, regular activities and travel in and around these two locations. Modelling data collected from a continuous six-week travel diary from the 1999 Mobi*drive* survey conducted in two German cities, the authors could not identify any systematic disadvantage in terms the extent of spatial activities or number of unique locations visited at the group level for the female, older or lower income survey respondents. They qualify this finding in that the survey was not specifically designed to measure social exclusion and might under-represent socially excluded sectors of the population, suggesting that a dedicated sample of such respondents might result in a different outcome. Furthermore, both the surveyed cities also have relatively good public transport access and this may also be a factor in their results.

Following their edited collection describing the role of transport and social disadvantage in in the Australian context (Currie, et al, 2007), in 2006, Currie *et al*, 2009 initiated a three year study to evaluate the differences between the travel and activity patterns of socially excluded groups and the average population in the Melbourne region. Analysis of the travel dairy data from the study (Currie, 2009) identifies a clear mismatch between public transport supply and social need across the study region, accompanied by a high degree of 'enforced' car ownership amongst many low income households. More recently, Currie and Delabosc

(2010) used structural equation modelling of the data to empirically measure the links between transport disadvantage (on a number of different self-reported dimensions); social exclusion (using pre-determined indicators of income, unemployment, political engagement, participation and social support) and well-being (using an internationally recognised Satisfaction with Life Scale). Their modelled results showed the positive relationship between transport and disadvantage to be highly statistically significant ($p < .001$). Interestingly, however, the authors found no significant relationship between realised trips and self-reported experiences of transport disadvantage, i.e. people who travelled a lot were just as likely to report difficulties with their transport as those who travelled little. It was identified that this was largely due to a time-poverty issue with the higher income, economically active respondents, which seems to support Barry's thesis above (2002) that less disadvantaged people may also experience social exclusion from the physical isolation that a car based society allows.

In Canada, Paez et al (2009a and 2009b) have examined the prevalence and extent of transport-related social exclusion in Toronto and Montreal using Household Travel Survey data, Census and Business Point Data. Their study focuses on three vulnerable groups; seniors, low income people and single parent households within the urban areas of Hamilton, Toronto, and Montreal. Their analysis is based on a statistical and spatial modelling approach to identify person- and location-specific estimates of trip making frequency and distance travelled. They identify car ownership as highly important in influencing both trip generation and distance travelled, except in the case of single parent households. They conclude that, in general, the three identified vulnerable groups tend to make fewer or no trips, and have smaller activity spaces than the average population in both study areas. In terms of their three accessibility case studies, in Toronto, single parent households have relatively better accessibility to jobs near the central part of the city, but experience relative accessibility deprivation outside of this area. In Montreal, they found that low income individuals' access to retail food tends to be relatively better than access to fast food in the central part of the region and the outer suburbs, but the opposite is true of a broad ring covering the outer part of the central city and the inner suburbs. Finally, in Hamilton, access to health care services for senior citizens is also relatively higher in the central part of the city but tends to decay very rapidly outside of this area, resulting in extremely low accessibility in most parts of the city.

Returning to mainland Europe, Ohnmacht *et al* (2009) identify three empirical studies case studies of life course and social inequalities arising from an increasing demand for people to be more mobile, dispersed and flexible in terms of their spatial activities in the context of wider global influences. The first of these summarised the key findings of the GLOBALLIFE project, which was designed to perform a cross-national comparison empirical analysis of the effects of globalisation processes on the life-courses of men and women (Blossfeld *et al*, 2009). The study concludes that the spatial dynamics of the globalisation process have significantly affected the mobility of labour and labour capital. This has had the effect of reinforcing existing social inequalities and class divides.

In the second case study, Frei *et al* (2009) examine the dynamic effects of improved communication technology and travel opportunities on social inequalities, particularly in relation to people's social networks. Social networks are a particularly important area of study for social exclusion, in that they are generally seen to be the main way in which individuals and communities maintain their social capital. The stronger the social network, the greater the level of social capital and thereby access to life opportunities and resources. The study identified that car ownership (and the associated mobility that this offers) had a positive affect on the size and strength of the respondents' social networks. Being less anchored to a physical location and also more professionally flexible also had a positive affect on the size of a person's social network.

Furthering in this theme of social capital, the third case study considered the relationship between social capital and commuting in the Swiss cities of Zurich, Genoa and Basle (Viry *et al*, 2009). The authors found that having 'a strong mobility capital' allows individuals to maintain or widen their social capital. Conversely, for the disadvantaged populations in the samples (particularly for isolated women with children, migrants, less educated people and people with disabilities) having no car and living in a place isolated from the public transport system, effectively acts to weaken their social capital. Stanley and Stanley (2010) have also explored the role of public transport in promoting social capital in the Australian context, suggesting the links to be small but nevertheless significant, particularly for older sectors of the population.

Priya Uteng (2009) used a combination of quantitative and qualitative methods to understand the mobility patterns and transport-related exclusion of a specific sector of the Norwegian population, namely non-Western female immigrants, who have been identified as particularly isolated from mainstream economic and social participation in Norwegian society. Importantly, her study identifies the way in which ethnically divided space shapes a sense of both belonging and difference, including language, codes of behaviour, value systems and social networks, that has little or nothing to do with either transport or spatial planning. She argues that in this context, mobility (and ergo transport) becomes a highly internalised personal confine, which serves to act against integration. From a methodological point of view, therefore, place-based measures of accessibility ignores these highly individualised (and internally imposed) experiences of social exclusion, which also predominantly lay outside of the transport policy makers' jurisdiction to address.

ii) Studies identifying the solutions

Turning our attention now towards the research looking at the resolution of these issues, Preston and Raje (2007) developed a matrix of accessibility, area mobility and individual mobility for practically identifying transport-related social exclusion at a neighbourhood level. Their matrix begins from the premise that individuals require a set of accessible facilities and social contacts by which to secure their social inclusion within society, which can be split into proximate or more distant locations. It is their contention that transport is not always a factor in their social inclusion in that it can be achieved through either purely proximate facilities/contact with no transport expenditure or through purely distant facilities/contact,

providing there is little or no transport expenditure, or through a combination of the two. In other words, it is only where the price of transport exceeds its affordability that social exclusion occurs. On this basis, the policy maker can improve social inclusion by either; reducing the price of transport, and/or increasing social contact through virtual mobility, and/or increasing proximate facilities/contacts through land-use planning or pro-neighbourhood policies, and/or increasing incomes. In applying their matrix to three case study areas the UK, the authors were able to identify eight different categories of accessibility and allocate each of their study areas to these. In doing so, they were able to identify a very different set of policy solutions for the social inclusion of transport disadvantaged individuals within each area, thus demonstrating that a more bottom-up, participatory and micro-level policy approach is need for the resolution of transport-related social exclusion.

Mackett *et al* (2008) have developed a GIS-based tool to assist policy makers with a set of policy options at the micro-level for improving the physical walking environment for people who experience transport-related exclusion when accessing key services. The tool was tested in the city of St Albans, in the county of Hertfordshire, which is located immediately to the north of London. It uses micro-level data on buildings, characteristics of the footway, road crossings, bus stops and car parks collected through detailed street audits together with Census data to identify the number of people in a particular social group who can reach (or not) a given set of opportunities within the study area. Clearly, replication of this study at this level of detail is expensive, as the authors recognise, but much of the data can be accessed using publicly available and commercial databases and the advantages of the study is that it alerts policy makers to the considerable accessibility and inclusion benefits of improvements to the local walking environment, many of which will be non-transport focused, e.g. street lighting and street furniture improvements, crime reduction, etc.

POLICY PROGRESS

Although limited in its scope, the paper has identified a sufficient cross-section of the empirical research to assert that transport-related exclusion definitely exists and that it can be practically identified in its various forms through data and analysis, at least in the context of the Western world. It is now appropriate to turn our attention policy and practice, in order to identify the progress that has been achieved in addressing the problems that have been identified. It is important to acknowledge upfront that much of the recorded information about this is predominantly only available within the 'grey' literature and requires dedicated case study enquiry to bring it to the attention of the academic world. For this reason, the author draws on her own observations, which are limited to the UK, and even then can provide only a partial picture of this. Nevertheless, some broad conclusions can be drawn from this evidence base.

Although the governments of a number of countries have registered a growing policy interest in making evident the links between transport disadvantage and social exclusion (Lucas, 2004b), the UK Social Exclusion Unit is widely viewed as a world leader in pioneering a social inclusion as explicit function of national and local transport policy delivery (Department

of Transport, 2006). The 2002-2003 Social Exclusion Unit (SEU) study of transport and social exclusion is widely recognised as having an important influence on this policy stance (Social Exclusion Unit, 2003).

The most important contribution of the study is generally considered to be the way it has helped to identify the inter-relationships between transport disadvantage and key areas of social policy concern, such as unemployment, health inequalities, poor educational attainment and run-down neighbourhoods and estates. One of the main recommendations of the SEU final report (2003) was that a cross-agency, multi-stakeholder approach would be needed to address the multi-dimensional and multi-layered nature of these problems. Responsibility for the implementation of the SEU's recommendations was subsequently passed to the Department for Transport, (DfT), which following a series of pilot studies (DHC and University of Westminster, 2004), issued guidance on the approach that local transport authorities should adopt to address transport-related social exclusion within their administrative areas (Department of Transport, 2006).

Since 2006, local transport authorities have been required to undertake strategic and local accessibility assessments as part of their statutory five yearly Local Transport Plans and work in partnership with other local public bodies to find solutions to the accessibility deficits these analyses identify. As yet, there are no formal evaluations of the delivery of the performance of local transport authorities in this respect or of the interventions that have been put in place to address transport-related exclusion. Anecdotally many of the assessments that were undertaken as a requirement of the 2006-2011 Local Transport Plans have ended up as 'black-box' exercises simply sitting on shelves in planners' offices with no visible actions taken on the ground (Preston, 2009). However, the authors own limited research of this (Lucas et al, 2008) and that of others (e.g. Bristow, 2008) suggests that the picture on the ground is mixed and that the local transport authorities who see a value in promoting socially inclusive transport in their areas find the DfT approach useful for supporting this and are delivering best practice, whilst those who have less of a political will or a social mandate for doing so, are largely disregarding the new duty to improve the accessibility of disadvantaged people.

The UK Department for Transport has recently commissioned a three-year evaluation study to identify both the progress and impact of accessibility planning within local transport authorities. An interim report to the Department by the Centre for the Research of Social Policy (CRSP) (2009) appeared to confirm the author's own observations. The case studies demonstrated differences in approaches, with some focusing more on targeting improved access at socially excluded groups and others on more universal measures fro improved accessibility. Some Plans were more transport-sector focused whilst other shared the responsibility for improvements with other key stakeholders such as health providers or social services. The research to date suggest that the role of champions is crucial to the process and the authorities who have key personnel who understand both the value of the process and have the skills to develop multi-stakeholder agreement are making the biggest impact on the ground.

Where new transport projects have been specifically targeted at the needs of disadvantaged populations and deprived areas, they have clearly had a considerable effect in terms of encouraging increased participation and reducing social exclusion. For example, evaluation of four such projects by the author and her colleagues (Lucas *et al*, 2008) identified significant improvements in travel uptake as well as knock-on beneficial social outcomes as a result of these interventions, such as the take-up of new employment and educational opportunities and improved uptake of health visits. The greatest impact on people's travel in the three bus-based examples, however, was observed in terms of increased shopping trips and social and leisure activities for end users. Evaluations of the UK KickStart projects (Bristow et al, 2008), which introduced new buses in deprived neighbourhoods recorded that many had witnessed significant increases in bus patronage and this was in the context of a generally declining market overall.

Interesting, Loader and Stanley (2009) note similar results in the Australian context. The authors identify that the *Smartbus'* services, which have been put in place as a result of a $14 billion Australian dollars investment over ten years by the Victorian Department Infrastructure for 'social transit' services, have resulted in both patronage growth and social inclusion. These services have been upgraded to offer new minimum service levels, particularly extending the frequency and operating hours of services and have experienced patronage growth exceeding the relative growth that would have been expected from traditional services. They have also opened up new employment and social opportunities and have increased social capital and inclusion, particularly for the youth population.

CONCLUSIONS: WHERE ARE WE NOW?

This paper offers a flavour of the theoretical, empirical and policy progress that has been made in the field of transport and social exclusion since 2003, which is identified as a pivotal point in this agenda, associated with publication of UK SEU's report on this topic. It is clear from even the partial and limited coverage of the paper that this is considerable on all three fronts. It would appear, however, that whilst theoretical and empirical studies are identifying and increasing complexities between the physical, social, time-space and intra and inter personal aspects of transport-related social exclusion, policy makers and practitioners are not.

It is the author's contention that this is in part because there has been an over-emphasis within the UK policy agenda on addressing the physical access to transport and spatial aspects of transport disadvantaged, whilst simultaneously failing to adequately recognise problems at the individual level, such as public transport affordability, individual cognition skills in terms of people's ability to understand the transport system and/or the journey information that is publicly provided and, perhaps most importantly, the opportunity for low income communities to participate in the transport decision making process. This has also been noted by other academic commentators.

The emphasis in practice is also still largely focused on improvements to the transport system and transport services, whereas, arguably far greater social benefits could be realised from more micro-level interventions which target the individual and/or the local community in which they carry out their activities. In the UK at least, the problem is mostly due to a failure to communicate to and secure the attention of non-transport professionals in this agenda, leaving transport policy makers and practitioners as its sole remaining champions. It is a position which they will struggle to maintain, as most of the changes that are needed lay outside of their jurisdiction.

The UK national transport policy agenda also appears to have moved on somewhat, with DfT's the publication of *Delivering a Sustainable Transport System (DaSTs)* (Department for Transport, 2008) now referring to a commitment to improving *equality of opportunity* rather than, as previously, addressing social exclusion. It will be interesting to see whether the social exclusion concept is still an appropriate and/or useful way of understanding and expressing transport disadvantage in this new policy context or if new theoretical and applied perspectives are needed.

Either way, there is clearly considerable interest in this policy agenda from the wider international community, where the UK is still generally perceived to be 'leading the field' in terms of its theoretical and practical innovation. Several other countries have registered an interesting in undertaking similar lines of enquiry (e.g. Victoria State Department of Transport and Infrastructure, Australia, Department of Transport New Zealand, Human Resources and Social Development Canada, Department of Transport, Republic of South Africa, Municipalitie of Recife, Brazil). For this reason alone, the social exclusion approach to transport policy can be said to be still relevant, if not essential, to our future research enquiries.

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