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TOWARDS A SOCIAL RESEARCH BASED POLICY ON CAR MOBILITY

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ABSTRACT

Social research was, until recently, not very important in the transport and mobility domain. There was a bias towards technical studies, engineering studies and towards transport economics. Social science was essentially a fringe activity ; psychology was used in traffic management, under the name “human factors”, and human geography focussed on the relationship between the characteristics of urban and rural space and the production of mobility. Sociological studies, cultural studies and governance studies were scarce in the transport and mobility domains.

This state of affairs changed the last 15 years. The relations between social research and transport and mobility are intensified. In the scientific world there is now an ongoing production of studies that relate social, cultural and governance perspectives to transport and mobility. But is the body of knowledge that did arise in these 15 years used in the design and evaluation of transport and mobility policies ? It looks like this research is first and foremost an activity within the boundaries of academia. The way in which results and insights of social research are included in the design, definition and evaluation of car mobility policies is the central theme in this paper.

Three domains and ten themes give an overview of the field. A summary of results of social research on car mobility shows interesting results. However, not many results are included in the design of national policies on car mobility. We show the state of the art and try to identify and analyse reasons for the rather difficult dissemination of results and insights from social research into national car mobility policies.

Keywords ; car mobility, social research, national policies

SOCIAL RESEARCH ON CAR MOBILITY : INTRODUCTION

Car mobility and social science had in the past a rather weak relationship. When car mobility was studied this was mostly done from a traffic flow perspective, or from a “predict and provide” – perspective related to the provision of infrastructure. A third line of research was on traffic safety. Studies on choices related to car mobility, on the experiences of car users or on the role of car mobility in the functioning of societies were scarce. There were a few early publications (e.g. Schneider, Autokind vs. Mankind, 1971, Marsh and Collett, Driving passion ; the Psychology of the Car, 1986, Sachs ; For the love of the automobile, 1992) but development of social research themes on car mobility seemed rather slow.

This state of art changed 15 years ago. There is now an ongoing production on articles and books on social and cultural aspects of car mobility. It would be interesting to study why and how this acceleration in social studies related to car mobility did arise. This however is not the theme of this paper.

I would like to present in broad lines the spectrum of social research on car mobility, to summarize in a generic way the results of this research, and to focus on the implementation of these results in the policies on car mobility. Here I will focus on the national policies on car mobility.

THREE DOMAINS OF RESEARCH RELATED TO CAR MOBILITY

For the purpose it is necessary to systematize the social research on car mobility. I have chosen to systemize in three domains.

The first domain consists of studies that focus on understanding car mobility patterns and choices. Understanding is the key word ; researchers try to understand the patterns in car mobility, and the choices made by car users.

The second domain consists of studies that focus on analysing social equity and inequalities in the transport domain. The key word here is inequality, of experiences and perspectives of different social groups related to car mobility.

And the last domain consists of studies that reflect on future perspectives for car mobility. This is the domain for scenario builders, and of governance studies.

UNDERSTANDING CAR MOBILITY PATTERNS AND CHOICES

This is a vast domain. What is studied mostly in this domain? The domain will be ordered into five important themes, that are interrelated.

The first theme is on mobility choices.

Questions here are ; why do travellers use a specific mode, is their choice behaviour constant or does it change? And what are variables for change? This theme has been studied rather often. We have studies on choice behaviour in general (Bamberg et al,2003, Exel and Rietveld,2009, Garling and Loukopoulus,2005, Stauffacher et.al,2005, Stradling,2002), on the role of habit in travel choices (Aarts and Dijksterhuis, 2000, Ajzen, 2002, Harms,2003), on experiments offering other travel possibilities (Fujii and Kitamura, 2003, Thogersen and Moller,2007) on tipping points for change of travel behaviour (Gladwell,2000, Klockner,2005), and on specific likes or dislikes of travel modes(Burbridge et. al,2005).

The second theme is on the cultural and psychological driving forces behind car mobility.

What is behind the popularity of the car ? Here we have studies on car culture (Beckmann,2001,Dahl,2005, Lucas, Blumenberg and Weinberger,2011, Redshaw,2004), on the psychology of car users (Balkmar,2007, Dant,2004, Diekstra and Kroon,2003, Gatersleben,2007, Gotz et.al,2002, Hagman 2001, Sheller,2003, Stradling,2002, Schwanen and Lucas,2011, van der Bilt,2008), on emerging new patterns of car mobility like the SUV (Aronczyk,2008), or working in your car (Laurier,2004, Lyons,2003). And we have studies on freedom (Carribine and Longhurst,2002), on the fun of car use (Borden,2005, Ory and Mokhtarian,2005, Southerton et.al,2001,Webber,1992), on cars as elements of self-actualisation (Dant, 2006, Laurier,2005, Redshaw,2008), and on frustration related to car use (Conley and Tiger Mc Laren,2008, Moeckli and Lee,2005, Maxwell,2001).

The third theme consists of studies on convenience, comfort, car consumption and related health problems.

Here we have studies on a central argument for car mobility, car mobility considered to be more convenient than other modes. What does this convenience mean? (Carrigan and Szmigin,2004, Shove,2002), and which effects – like for example obesity (Ewing et. al,2003, Freund and Martin,2008, Sturm,2008, Woodcock and Aldred,2008), traffic unsafety (Moeckli and Lee, 2005, Packer,2008) or ethical questions (Bergman and Sager,2008,Creswell 2008, Martens, 2006, Mignot,2004, van Wee,2012)- seem to be related to ubiquitous driving ?

The fourth theme focusses on time use, time scarcity and car mobility.

In recent years many researchers have shown the intricate links between family life (Bianchi,2006, Genre-Grandpierre et Josselin,2008, Giger,2008, Jarvis,2005, Kaufmann et Flamm,2002, Rammler,2003, Vilhelmson,2005 and 2007, Warde et. al,2002, Schwanen,2008), time consumption (Goddard et.al,2007, Heine und Mantz,2000), and stress and car use (Jarvis,2004, Moens,2004, Shove,2002b, Stutzer and Frey,2004, Schwanen,2004 and 2007a).

The car seems to be a great helper in reaching the necessary flexibility to live a modern and fruitful life, as noted in studies on the role of women (Craig,2005, Dobbs,2006 and 2007, Heine und Mantz,1999, Skinner,2003, Schwanen,2007b) and on time scarcity (Gershuny,2005, Hjorthol,2005, Skinner,2005, Southerton,2003)

And the last theme is on studies looking from a broader perspective.

In these studies car mobility is placed in the development of societies as they unfold (Urry,2004 and 2007). Here studies on the relationships between characteristics of modern societies like the urge for flexibility (Larsen,Urry and Axhausen,2008, Urry,2000), the spacing and timing of societal functions (Auge,1995, Larsen,Urry and Axhausen,2006a and b, Pernack,2005, Rammler,2008), the individualisation trends (Heine und Mantz,2001, Urry,2000 and 2003), and the growth in car use and car dependence (Brindle,2003, Jeekel,2011, Stradling,2002 and 2007) dominate.

ANALYSING SOCIAL EQUITY AND INEQUALITY IN TRANSPORT

This is a vast growing domain, and especially in this domain a bias on studies from the Anglo Saxon world can be seen. Studies from the United Kingdom and Australia dominate the scene. France has its own tradition of equity and inequality studies. This domain is not frequently visited by researchers of more complete welfare states like Germany, the Netherlands or the Scandinavian countries. It would be interesting to analyse this state of the art.

Three main themes can be identified.

The first theme is on specific groups in their relation to car mobility.

How do different groups approach car mobility, and which specific patterns and problems can be seen? Here we have studies on the specifics of *carless households* (Dittrich-Wesbuer und Freudenu,2002, Jeekel,2011, Sandqvist and Kristrom,2001, Zumkeller, Chlond and Ottman,2005a). We have studies on the mobility patterns and problems of the *poorer segments* of western societies (Coutard, Dupuy et Fol,2002, Grieco and Raje,2004, Kim,2002, Runge,2005,Taylor,2009), we have many studies about the mobility of *children* (Bachiri,2006, Bachiri, Despres and Vachon,2008, Davidson, Werder and Lawson,2008, Fotel and Thomsen,2004, Funk, 2009, Gough et.al,2001, de Groof,2004, Hume, Salmon and Ball,2004, Lewis, Sarre and Burton,2006, Limbourg,2005, Limbourg und Rieter,2003, Lyons and Swinbank,1998, Mackett et.al,2002, McDonald,2005, Nelson et.al,2008, Paskins,2004, van der Ploeg et.al,2008, Ridgewell, Sipe and Buchanan,2005, Risotto and Tonucci,1999, Sandqvist,2002, de Sinly,2002, Sjolie and Thuen,2002, Tillberg Mattson,2002, Tranter and

Malone,2003, Tully,2000 and 2003, Turbin et.al,2002, Weston,2005, Zwerts en Werts,2006), on the mobility of *single parent households* (Chlund und Ottman,2007, ,Titheridge,2008), *elderly* (Davey,2004, Gorti,2004, Izumiya, Ohmori and Harata,2007, Rosenbloom and Stahl,2002, Scheiner,2006, Tacken,w.y.), *students* (Choplin et Delage,2011) ,*disabled* (Bakker and van Hal,2007, Dejoux et Armoguum,2010), and of *households living far from their work* (Dodson and Sipe,2006, Halleux,Bruck et Mairy,2002, Motte-Baumvol,2007, Noack,2010, Ortar,2008, Rouge et Bonnin,2009).

The second theme is on accessibility of services and opportunities.

Are there problems in reaching important services like work or health care? (Bowden and Noseley,2006, Kawabata and Shen,2005, Larsen and Gilliland,2008, Roberto,2008, Sanchez, Stolz and Ma,2003, Stoll,2005, Todman,2003, Wright,2008, Williams et.al,2001) . And which persons and which households face these problems in which circumstances? (Lucas, Grosvenor and Simpson,2001, Miller,2001, Smith et.al,2006). What is the magnitude of social exclusion via transport? (Carson,2003, Cass, Shove and Urry,2003, Church, Frost and Sullivan,2000, Currie et.al,2009, FIA Foundation,2004, Gentili,2003, Hine and Mitchell,2001 and 2003, Imanashi,2003, Kemming and Borbach,2003, Lucas,2003, Lyons,2003, Orfeuil,2004, Social Exclusion Unit,2003, Solomon and Titheridge,2009). And are accessibility problems related to the characteristics of the afflicted households (Morris,2006, Raje,2003,Raje et.al,2004), or are they integral part of the development of modern western societies (Dowling and Lyth,2003, Grieco,2003, Sanchez and Brenman,2007)?

The third theme is on social cohesion and car mobility.

Here broader studies dominate. There are studies on hypermobility (Adams,1999 and 2005, Ascher,2006, Lipovetsky et Charles,2004, Sager,2005, Schokker and Peters,2006), on the mobility in acceleration society (Rosa,2005 and 2012, Wacjman,2008) and on the role of the car in creating cohesion or in eliminating cohesion in modern societies (Dodson et.al,2003, Donaghy, Poppelreuter and Rudinger,2005, Nuvolati,2003, Ohnmacht, Maksim and Bergman,2009, Orfeuil,2010)). And there are studies on ways in which IT- services develop *vis a vis* car mobility (Campbell and Park,2008, Ling and Haddon,2001, Manderscheid,2012, Thulin and Vilhelmson,2007, van Wee and Chorus,2009).

REFLECTING ON PERSPECTIVES FOR CAR MOBILITY IN THE FUTURE

Car mobility is now in Western societies by far the most important form of mobility, and it looks as if car mobility is here to stay. However ; we will probably face in the longer run, problems with the scarcity of fossil fuels,and problems related to climate change, with the only still growing CO2 emissions coming from transport. What will the future of car mobility look like in our car dependent societies? Here we see social science contributions in two dominating themes.

The first theme is the creation of scenario's.

Social scientists are now joining in scenario studies (Akerman and Hojer,2005, Crozet,2008, Garling, Garling and Loukopoulos,2002, Hickmann and Bannister,2005 and 2006, Lopez-Ruis and Crozet,2010, Lyons et.al,2000, Lyons and Urry,2006, Moriarty and Honnery,2009) . And they sometimes present broad visions on the development of car mobility (Becker, Clarus und Friedemann,2009, Freudendal-Pedersen,2008, Giddens,2008, Gorham,2002, Hickman and Schwanen,2010, Raad,1998, Rammler,2010, Sperling,2010, Staley,2009, Vogt,2003)

The second theme is in the governance of the mobility systems.

How are they governed, and how can they be governed in the future? What is, and what should be the role of governments, automobile industries, car users, in preparing a sustainable systems of mobility (Healey,2007, Holden,2007, Innes and Booher,2003 and 2010, Marletto,2010, Geels et.al,2012)). A central theme in many of these studies is whether we are facing with our car dependence forms of path dependence (Aigle,2007, Aigle und Marz,2007) and even lock - in in the future (Huttenmoser,2005, Soron,2009, Teisman,van Buuren and Gerrits,2009, Vilhelmson,2007).

RESULTS FROM SOCIAL SCIENCE IN CAR MOBILITY ; AN OVERVIEW

What type of results did the studies introduced in the three domains and the ten themes arrive at? What can be seen as the state of the art of perspectives from the social sciences on car mobility? Such a question is easy to ask, but difficult to answer. Most scientists are rather reluctant to present a broad overview of results. They fear to overstress their academic power. And indeed; you need to overcome some barriers to present such a broad overview of results. One the other hand, such a broad inventory is exactly where policymakers can relate to for their work on defining, refining and designing policies on car mobility. The reluctance of the scientific communities to present generic and easily readable overviews of results of social studies can lead to a lack of knowledge of important results and ideas of social research in the worlds of the policy makers.

In this paper I will present my summary of the results of the studies mentioned. I will present this summary using the ten themes and the three domains.

Understanding car mobility patterns and choices

On mobility choices we now know the importance of habit as a form of explanation for choosing a travel mode for a specific trip. When the trip was made earlier with success by a certain mode, the chance is great that the same trip will next time be made with that same mode. Most mobilists can and will change their habits preferably at tipping points. Most important tipping points are relocations, getting the driving license, going to a new school or work location, starting a new job, or starting a new education. These *tipping points* can be seen as "windows of opportunity" for a change of transport modes.

On the cultural and social driving forces it has become clear that car use means far more for many people than just using an technical instrument to make a trip from A to B. Many people love their cars, for their looks, and for what cars can offer in terms of *feeling strong, free, powerful or skilled*. Being able to drive a nice car is for many people an expression of their success in life. Cars are important in self- actualisation, especially for men. Measures and procedures that hinder or even obstruct car use can create anger and scepisis. Cars connect for most people far more to freedom than public transport. Restricting freedom is difficult.

The most mentioned motive for car use is convenience. Cars are convenient because they can make the whole trip at once, seamless. Cars are comfortable because you are able to eliminate weather influences. And they are convenient with luggage. But there is probably also a relation between frequent car use and obeisity, as cars diminish the need to move your body for transport. Related to car mobility in western societies is a *form of ambivalence*, for at least a rather great part of car users. These users consider cars the best mode of transport, but are aware of the disadvantages of car use. Driving is useful, but there is the anxiety on the traffic safety of children. Driving is needed, but there are expressions of road rage. Driving is practical, but there is the stress related to driving in dense traffic. Driving for fun is accepted, but there are problems related to the environment

and to sustainability. And it is interesting that there is now some notice of ethical questions related to frequent car use.

A very important driving force for frequent car use is the urge for flexibility in our modern western societies. Households are expected to be flexible, and to be able to organise difficult arrangements of combined activities in set time frames. Especially women in family households with children below 15 years have an important extra job on scheduling and organising different activities. In our societies with its spreading out of locations for the different activities, people that need to combine work, household activities, shopping and escorting are, with the words of Soron (2009) “driven to drive”. The phenomenon of “*rushing around*” with its related stress and anxieties is well researched. Time, time arrangements, and their pressures on car mobilities are now well studied, and from different perspectives.

Car mobility, and its growth in last decades in western societies, has an intricate relationship with the spacing and timing in society. Society asks of its members permanent flexibility, is constantly on the move, with streams of people, information and goods following criss- cross patterns. Networks of friends, family and acquaintances, once situated on a rather small scale, have now spread out in greater geographical areas. Only the car can overcome the distances to be travelled relatively easy, but this possibility creates its own wishes. We are *growing towards “systems of automobility” that steer further development of societies*. For example ; highways are becoming important spots of life for modern societies, with housing, work and leisure developing nearer and faster along highways. People can feel free in their cars, but the essence of growing car dependence is that people are also obliged to take their cars to reach their destinations. The relation to sustainability, and also to future scarcities of fossil fuels seems problematic.

As a summary ; social research brings in elements as;

- Tipping points are the moments on which change of transport modes seems best possible
- Cars are for many of their users related to freedom, feeling strong, powerful and skilled
- Car mobility has as a side effect a form of ambivalence for many car users
- The need for ‘rushing around’, created by the societal arrangements around time, creates stress and anxiety
- And our societies create “systems of automobility” that steer new developments.

Analysing social equity and inequality in transport

Social exclusion in transport is an important research theme. Carless households – mostly singles, elder women, disabled, single parent families, more frequent in urban areas than in rural areas – travel far less kilometers, and do sometimes have problems reaching services and locations without the help of others. Many poorer households have cars, but their mobility comes at a price ; a great part of their household income goes to automobility. Elderly people, especially men, fear the moment they have to stop driving. Elderly people then do only ask lifts for health care, but not for visiting friends, so their world shrinks without cars. Due to heavy traffic, to longer distances to school and to a general risk aversion in modern societies children nowadays have far fewer “free mobility” than in the past. They are very often escorted by their parents, who are anxious on what can happen. Children do not learn to become “streetwise” in all its aspects. From research is rather clear that *car mobility for vulnerable groups is an area for potential anxiety, because opportunities normally available for car users can be missed*. We still miss good data on the dimension of these missed opportunities.

Accessibility is an important theme in car mobility policies. It is mostly operationalised as “the time to reach destinations”. Social research studies the real and manifest accessibility

problems. This are the *problems that poorer and carless households can face in reaching work locations, health services and cheaper shops*. As Orfeuill (2004) states “basically the location of residences and amenities is more and more directed by the upper and middle class behaviour, for whom car use is not a problem”. A Spatial Mismatch seems to exist, between the housing locations and the work locations for poorer and less educated households. This problem becomes greater because these households mostly have smaller travel horizons, than their middle class counterparts. Services with rather easy access can than be perceived as unreachable.

Modern Western societies tend to hypermobility. Households are in constant flux, and invest in mobility, on labour markets, rather than living grounded lives in set locations. Social cohesion on a smaller geographical scale is diminishing. The question is still open whether cars facilitate the possibility to reach social cohesion in greater geographical areas, in networks. Households now tend to “community light”, identifying with their neighbours in a way characterised by a certain distance in combination with easy, flexible and shallow contacts (Hortulanus and Machielse,2001). Their friends live further away. Being on the road means being a focus point for information. Journeys are not fixed, be can changed trough new and real time information with IT-services. *Car use diminished the need to invest in the small radius near home, and created a possibility to invest in networks on greater scales.*

As a summary, social research brings in ;

- Car mobility is for vulnerable groups an area of potential anxiety, because opportunities related to car use and car locations can be missed
- Poorer and carless households can be faced with real accessibility problems in reaching work, health services and cheap shopping
- Car use diminished the need to invest in the areas around your home, and created a possibility to invest in networks on greater scales.

Reflecting on perspectives for car mobility in the future

What will be the future of car mobility?

Car mobility has been a success story, and can possibly be continued when innovations in technology will be able to create real low emission cars, with smart onboard IT- services. However, on a world scale we will face difficulties, because it is questionable whether expected growth rates on car mobility will be compatible with objectives of sustainability and fighting climate change. *The future on cars is unclear, time schedules on changing car technologies will probably be crucial.* There is at this moment still no winning technology for substantial new forms of car mobility, that can meet to sustainability objectives and that have no dependence on fossil fuels.

At the same time we are becoming more car dependent (Brindle,2003 ,Jeekel,2011 RAC,2009) . Car dependence is a fact of life, and remains a challenge. Becoming too dependent on one transport mode that will face an unknown future presents societal risks and vulnerabilities. Perceived uncertainties create reluctance on the side of investors in new technologies.

This brings in the question of governance. How is the “system of automobility” governed? Do the stakeholders have the same agenda? Are they connected in networks of change? We now know from governance studies that governing complex systems is never a linear activity, but needs a focus on opportunities, a perspective on co - evolution of practices and perspectives, and a multi centered, decentralised design of governance. *Working on implementing policies the way it was done will create lock-in situations and path dependence.* We need to envision different futures and to prepare robust pathways of change.

To summarise, two elements;

- The future on cars is unclear, and time schedules on changing car technologies will be crucial
- Path dependence and lock in situations can arise when we remain implementing policies the way we did.

RESULTS OF SOCIAL RESEARCH AND NATIONAL POLICIES ON CAR MOBILITY

In the last paragraph a summary in ten statements arising from social research on car mobility was developed. This summary has to be seen as a product for which only the author can be made responsible. It is his summary of the interesting stories that social scientist are telling about car mobility, his definition of the situation.

Are these stories used in the definition, design and evaluation of policies on car mobility? We will look at the way these stories are included in car mobility policies, and we will concentrate at policies on the national level.

Again, we developed a generic approach, looking at a summary of car mobility policies as they evolve in the western world. We selected a number of countries (Sweden, Norway, Denmark, England, France, Germany, the Netherlands, Canada, New Zealand and Australia) and looked via the websites of the national and regional (Germany and Australia) ministries at their policies on car mobility. The state of the art is that no country has a comprehensive policy specific on car mobility published. In most countries policies on car mobility are found up in four elements ;

- An infrastructure investment plan
- A traffic safety strategy
- A strategy on mobility and the environment
- And some specific policies, mostly on urban mobility (UK), on the relation between mobility and spatial planning (Netherlands), or on accessibility for the disabled (France, Australia, New Zealand).

A closer look shows that social policy in transport has centered on traffic safety, and on disability access, and in recent years, since the U.K. Social Exclusion Unit recommendations on transport (2003), also on accessibility and access for disadvantaged households (see Lucas, 2012) but mostly on the British Isles and in Australia. We will now present a closer look at the ten selected themes, as these evolve into national policies.

Tipping points are the moments on which change of transport modes seems best possible

Many national policies in modern western countries contain statements of reaching an other modal split ; more slow modes, more public transport, less car use. The best moment to change travel modes is at tipping points. It is however difficult for national policies to create instruments to influence car drivers at these moments. Civil servants have no idea when these tipping points arise in the individual households, and we would like to keep it this way. What probably can be helpful is mobility management. In mobility management governments work jointly with employers and school boards on creating alternative and practical solutions for mobility. Employers, school boards, but also driving schools are in interaction with car drivers at tipping points. They can work on interventions to realise the full potential on new decisions on travel modes. The impression is that this route is not explored fully.

Cars are for many of their users related to freedom, feeling strong, powerful and skilled

This statement is known by policy makers. But this statement creates with them more anxiety than energy. Policy makers seem to be afraid of the reactions of many car users. Policies that try to set boundaries on car use are not introduced, or are introduced with so much hesitation that failure is near. Two roads are mostly not taken. The first is to search behind this statement ; why have so many car users these feelings related to their cars? It would be possible to start societal dialogues on this theme. Probably a part of the explanation is related to the idea that in regulated societies feeling completely free and authentic is rather difficult (Diekstra and Kroon,2003, Redshaw,2004) . Moments in your car can create these feelings, and are thus cherished. But the car is here just an instrument for something that is greater and more important to discuss.

And the second road to take is to use these feelings in designing policies. Try to develop car mobility policies that use these feelings as positive energies.

Car mobility has as a side effect a form of ambivalence for many car users

Discussions on frequent car use with car users mostly reach a point where they acknowledge that their frequent car use creates problems, even for themselves, or for their families and friends (obesity, stress, traffic unsafety). But mostly they see no solution; they often conclude that in their daily life car use is a necessity. How do national policy makers use this ambivalence? The basic answer is probably ; they do not use it, except in the area of traffic safety, where they create campaigns and instruments to make traffic safer. The situation that car users feel that they have no choice but to drive is not elaborated by policy makers. This circumstance goes to the heart of the arrangements in modern western societies. We expect people to be flexible, to have the possibility to reach all sorts of locations in a fast way, to arrange for themselves the chances in the world that has spread out also through location decisions of governments. In other words ; policy makers more or less expect hypermobility of their citizens. There seems to be no reflexivity on what policy makers, but also employers, basically ask from citizens when it comes to organising mobility.

Rushing around, created by societal arrangements around time, creates stress and anxiety

Modern western societies use clock time to organise life. It is expected of modern citizens to be able to reach all activities and destinations at the settled clock times. Modern citizens have to combine on a day different specific activities – work, shopping, escorting, health aid - that all have opening hours and specific time schedules. “Scheduling your day” is now normal behaviour in modern western households. Implementing daily schedules needs flexible transport modes, as sometimes greater distances have to be overcome. Cars are great helpers in these implementation processes. Modern societies create feelings of time scarcity, that can lead to stress, and anxiety- do I reach my destinations at the settled time? Governments mostly do not acknowledge the importance of time, time scarcity and time pressure as a reason for frequent car use. Time use and time scarcity are mostly seen as just individual problems, as something for individual households. However, Jarvis (2004) explains convincingly that time scarcity is also a consequence of government policies (e.g. opening and closing times of services) and of choices of employers.

Our societies create “systems of automobility” that can steer new developments

Modern western societies develop towards their highways. Along highways we now have business centres, leisure activities, shopping malls, and housing estates, and a great part of all available jobs. Highway locations did mostly not arise from spatial planning, but from a lack of spatial planning, or from a lack of active enforcement of objectives of that planning. In

most countries highway locations just happened, mostly with the support of local governments (Jeekel,2011,373 and further). In some countries national policies now notify the unsustainability of most highway locations, that often can only be reached by car. First policies on setting boundaries on highway location are being prepared. But “systems of automobility” are also broader. They consist of networks of petrol stations, road authorities, driving schools, automobile industries, service providers, garage holders, car dealers, all earning incomes and returns from maintenance and growth of car mobility. It is not in the short term interest of these players to formulate policies that put boundaries on car mobility. Most policy makers are not active intervening in these networks.

The societal focus on car mobility is for vulnerable groups an area of potential anxiety, while opportunities related to car use and car locations can be missed

Households without cars mostly belong to vulnerable groups in modern western societies. There is a bias towards lower incomes, disabled, elderly, single parent households. Carless households travel less frequent and travel less kilometers (Jeekel,2011). Households without cars probably miss opportunities in car dependent societies. The magnitude is unknown, but it is questionable whether national policy makers would like to know this magnitude. Here we seem to have a non – elaborated problem. Vulnerable households probably just accommodate towards what is in their spectrum of choices. The same holds true for poorer households with cars. They can reach all wished activities and destinations, but this creates high costs in their household budgets. In some countries national policy makers developed some form of policy on these problems; the Social Exclusion Unit in the United Kingdom (2003) was mentioned, there is an obligation to include accessibility planning in the local transport plans in the U.K., there is a policy on accessibility for the disabled in a few countries, and there are “mobility on demand”- schemes in the Netherlands (Kennisinstituut voor Mobiliteitsbeleid,2009). However, still in many countries national policy makers remain silent in answering on these results of social research.

Poorer and carless households can be faced with problems reaching work, health services and cheap shops

It is sometimes difficult or impossible for poorer and carless households to reach work, shops or services. There is no transport available, and no car in the household, or there is a price to be paid for transport, that is considered too high by households. In the United States in the debate on the Spatial Mismatch the idea of transport subsidies for poorer households, compared with housing subsidies, was introduced. This was never materialised in national policies. In many countries national policy makers have introduced forms of “accessibility policies”, but these policies often focus on accessibility operationalised by travel times and reliability of travel times, and not on problems of access for vulnerable groups.

Car use diminishes the need to invest in areas near your home, and creates the possibility to invest in networks on greater scales

Policies for vulnerable groups are often territorial based. Neighbourhoods are still seen as important focus areas for government policies. However, from social research doubts can be formulated on the wisdom of these type of policies. Neighbourhoods often miss social cohesion, and are often no longer living entities. Households live their lives starting and returning to their neighbourhood, but are realising activities and having experiences in other locations, with people that are inhabitants of other neighbourhoods. Cars allow people to see their neighbourhood just as the location where they sleep, and not as a location to invest in. Facilitating already existing support networks for vulnerable persons would perhaps be a wiser starting position for policy.

The future on cars is unclear, and time schedules on changing car technologies will be crucial

Looking at policies related to climate change, looking at generic sustainability policies and looking at the expectations on the supply of fossil fuels it seems clear that cars will have to change in a more sustainable direction, whether this will be hybrids, electrical cars, cars on hydrogen, or cars that function as computers on wheels with the newest light technologies. Changing the car will need investments of governments, car buyers and the automotive industry. In EU policy, and in national policies there is a focus on this theme. However, as there are many uncertainties, and as there is a lot of strategic behaviour of all stakeholders no strong and clear national policies are already formulated. Most policies are subsidy policies, creating some fiscal freezones for the purchase of more sustainable cars. Policies still look rather minor, compared to the magnitude of the task in front of us.

Path dependence and lock-in situations can arise when we remain implementing policies the way we did

Most national policy makers work on policies that basically facilitate car mobility. Although they sometimes will acknowledge that car use will have to change in the future, they still notice so few “seeds of change” that for them keeping a fruitful facilitating relationship to the car users and to the “system of automobility” is still daily practice. The problem with a reluctance in defining and implementing sustainable policies on car mobility these days is that the dominant system of automobility will invest too little in change, and will remain on routes taken in the past. The problem of path dependence and lock-in can then arise, summarised by Canzler and Marz in 1996. They called the situation on car mobility “stagnation” and explained ; “the stagnation is innovative, in so far all knowledge will be mobilised for staying in the already existing small area that has always been used”.

INCLUSION OF RESULTS FROM SOCIAL RESEARCH INTO NATIONAL POLICIES ON CAR MOBILITIES : SOME REASONS FOR THE STATE OF THE ART

As seen in the last paragraph the results of social research are not very often included in the definition and design of national policies on car mobility, this with the great exception of policies on traffic safety (in the same line ; Stanley and Mulley,2010,276). This asks for further analysis, but some preliminary explanations will be offered here. These reasons can be seen as hypotheses.

A first reason can be that results ask for interventions outside what is defined as the domain for national policies. This could be seen on influencing choices for travel modes.

A second reason can be that national policy makers consider some results so difficult to implement that they are looking at lower authorities, nearer to the daily lives of households, to develop policies. This is probably the case with the accessibility problems of vulnerable groups. National policymakers like to leave these problems to local policy makers. Whether this is correct or helpful is a question outside the scope of this paper.

A third reason can be that national policy makers in most western countries consider lifestyle oriented policies a “no go area”. Normative judgements on the way households live their lives, or realise activities are in the mobility field only accepted in traffic safety policies. A comprehensive policy on car mobility would put questions like “why this demand for car mobility?” and “are we going to accommodate all car mobility?” at its core. As the reaction of a big part of the car users is feared, most national policies try in their design and wording to

be as neutral as possible. That this mostly means a bias towards the status quo is taken for granted.

A fourth reason can be the existence of a dominant paradigm in the field of car mobility. This dominant paradigm can still be described as “predict and provide” (Vigar,2001, Hickmann and Bannister,2006, Paterson,2006), but in its most clever form. Demand for car use is predicted, and capacity and infrastructure is provided. Providing capacity is now realised in a clever way , not only by creating new infrastructure, but also via traffic management and mobility management. The focus on “predict and provide” finds its rationale partly in the role of business communities, always asking for more and better infrastructure, as an important asset for facilitating the creation of extra economic growth.

A fifth reason can be a reluctance to create policies on time and time scarcity. Time scarcity and related feelings of stress and burn out (SCP,2006 and 2010) are related to the urge to be efficient and flexible. Flexibility and resilience are at the core of the economic policies of almost all western countries. Without permanence in raising standards of efficiency and flexibility most policymakers fear that their countries can not keep up with faster growing economies in the world. Time efficiency and time use are seen as central in the functioning of modern societies.

A sixth reason can be that most national policymakers frame questions of social exclusion via transport as questions of the poorer and disadvantaged groups of modern western societies. This probably explains why so little attention is paid to the problems of the vulnerable groups in the welfare states of North Western Europe. Policy makers here are faced with already a broad spectrum of policy measures oriented towards these poorer and disadvantaged groups, and are reluctant in introducing extra measures.

A seventh reason has to do with pricing. The idea of pricing car mobility can be seen as an “intervening opportunity”. Realising pricing at the national level costs so much energy, that no energy is left for other elements of renewal of national policies on car mobility. And protagonists of pricing can use the argument that pricing mobility will create a new paradigm, through which many results of social research will be included. Their idea is that the scene for car mobility will change, and that in this process of change choices of car users and relative positions of stakeholders will also change, thus creating a more sustainable and equitable mobility pattern.

And a last reason has to do with vision. National policymakers notice that the combination of scarcity of fossil fuels, strong targets on reduction of CO₂, and slow introduction of low emission vehicles can , certainly in relation with lower household budgets through the economic crisis, lead to another position for car mobility. However, they see no need to present broad visions on possible future car mobility. They put their cards on new technologies, on IT in cars, on IT and virtual mobility as a substitute for car mobility, on new lifestyles emerging. In this way they accept the possibility of further path dependence and lock- in in the mobility system . Their position relates to the common wisdom of many civil servants that “managing and mitigating problems” is a good substitute for really solving problems!

CONCLUSION : A PACKAGE FOR SOCIAL RESEARCH ORIENTED POLICIES ON CAR MOBILITY

It looks like there are important reasons for not including many results of social research in the policies on car mobility. Results of social research are often difficult wisdom. It looks like

we still have a long road to travel. But how would a professional package on social aspects in national car policies look like?

It would, in my view, consist of seven interrelated elements ;

1. A policy for non- car households ; can they reach all locations?
2. A policy for poorer households ; can they finance all their mobility needed?
3. A spatial policy for locations for new services ; allways reachable with all modes
4. Changing the frame of accessibility policies; from travel times to real access problems
5. Introducing a normative policy on car use ; not all car use is necessary or acceptable
6. Introducing ethical considerations in the mobility domain ; what is good mobility?
7. A focus on time, time scarcity and diminishing stress in general and mobility policies.

With such a package we do not have to fear that results form social research will end somewhere under the pavement !

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