Kicking the habit (Part 2): What are the real options for reducing 'Car Dependence'?

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Abstract

This is the second part of a two-part paper, the first part of which was published in *Road and Transport Research* vol. 12 no. 3 (September 2003), pages 61-73. It notes that there appear to be two options to end or at least significantly reduce car dependence: either fit behaviour to available transport technology, or adapt that technology to real needs and wants. The small behavioural changes experienced so far are not encouraging, unless they can somehow combine to create a synergistic and substantial change. A more revolutionary change in lifestyles towards a sustainable society, in which sustainable transport is a consequence rather than the objective, might be required. A more likely scenario is that transport and communications technology will supplant the car as we know it, but still provide the access and mobility that we demand. Such an outcome is unlikely to satisfy all social or urban visions and programs.

Invited Paper

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INTRODUCTION

The first part of this two-part paper (Brindle 2003) raised some questions about the meaning and implications of 'car dependence', and argued that we are not dependent upon the car as such, but rather on what it provides. It was argued that we err if we try to understand movement in isolation from everything else that a person, household or firm does. Reducing car use involves understanding and changing the choices made by people; this goes well beyond travel behaviour. These realities are not acknowledged in physical planning policies, which currently focus on creating greater accessibility so that the need to use private vehicles is reduced. The planning principles involved in these policies are not new, and the paper asked what is different now that will make them more successful than they were in a less mobile era. More effective strategies to tackle 'car dependence', however it is defined, seem to be needed.

OPTIONS FOR REDUCING CAR DEPENDENCE

It will be clear from the first part of this paper that I'm not optimistic about the chances of making much of an impact on car dependence by the sorts of policy packages currently being contemplated. I'm not saying they won't have an effect on car use, because some already do. But there is an air of gloom about even the most optimistic programs, such as Melbourne's, that aim to achieve only 20% of motorised trips by group transport in 20 years time. Will this represent a major reduction in car dependence and a lasting contribution towards sustainability? Will that in turn represent any sort of reduction in car use in absolute terms? Can we do better than that in two decades? I would answer 'no, no, and yes'.[1]

The proposition put forward here is that there were good reasons for the failure or, at best, marginal success of past attempts to minimise travel and maximise non-car modes. These are generally to do with human choice behaviour, related to attitudes and perceptions. Unless behaviour changes significantly, or unless the available choices drastically change, we will still be complaining about excessive car use in 20 years time.

There has to be a breakthrough, involving major changes in the way society operates, if we are to reduce (and perhaps eliminate) car use. There appear to be two options:

1. Fit behaviour to variations of the current technology and the physical environment; or

2. Break through to a new technological paradigm that provides new ways to satisfy mobility and access demands of the local and global complexes that we have woven for ourselves.

Can we make sufficient changes in our choice behaviour?

> *'There is a tendency to become too mechanistic in these analyses: transportation drives land use change, land use forms transport demand, transportation changes environment, and so forth. It is the human dimension that forms and shapes all of these elements. Our sense of the interactions of these sectors will only be complete when they have been properly incorporated into the understanding of human needs, values, and purposes.' (Pisarski, 1991, p. 3)*

There are two alternative conclusions one may draw about the prospects for behavioural changes using the policies now in hand: one evolutionary but pessimistic, one revolutionary but somewhat more optimistic.

In noting these, we should be alert to two things:

1. The need to distinguish symptoms from causes. All this movement is a symptom of something else, and it is that something which we need to focus on. By focusing on symptoms, we confuse means and ends.

2. A holistic is approach is therefore a pre-requisite.[2] As Tibbs (1998) says, 'the notion of a transport system that is somehow "sustainable" independently of the rest of the economy is almost certainly illusory'. Instead, we resort to reductionism, breaking the problem down into

[1] At a modest 2% increase in trips per year, over 20 years, a 20% public transport share of all motorised trips means more than trebling the present usage. A drop of the car share to 80% still implies an increase of some 20% in car trips. To hold car use at present rates would mean increasing public transport use by 5 to 6 times.

[2] This is not a new principle, either. It was among the planning 'discoveries' lampooned by Ross (1973).

identifiable issues, and developing policies, strategies and measurable outputs from each. We even create separate 'Departments of Sustainability', as in Victoria.

Mobility that defines 'the range of opportunities we have for goods and services and participation in the life of the region' is an intrinsic part of our demands as consumers and participants in society. It is an inevitable consequence of the individual and communal lifestyles and 'standards' of living we now expect. In addition, we have come to expect goods and services from far away to be available within reach, as a matter of course. Commodity and personal mobility is inherent in our production and economic system. Regardless of whether the car (and truck) 'caused' these expectations or only services them, the reality now is that the level of individual mobility offered by private vehicles, with all its externalities, costs and other shortcomings, is synergistically bound up with the way we operate as communities. To make more than a token impact on our exploitation of that mobility would mean overturning many of the assumptions that we have as consumers about range of choice, service, quality and so on. This extends beyond what is available in the supermarket (although that would be a good starting point). How would such a state come about? We are trying small evolutionary changes at the moment, but we may have to face some revolutionary changes before long.

Thus, the roots of travel choices, and the 'car dependence' that they may display, go beyond transport responsibilities as they are normally defined, and beyond planning as a whole. Travel choice behaviour (and its underlying decisions such as location choice behaviour) are merely symptoms or consequences of the whole complex of decisions that are made by households, firms and individuals within the social and market framework that we live in. To take travel behaviour out of that system context and manipulate it, hoping to keep the rest of the system functioning as before, is to ignore the realities of the whole.

Evolutionary change: Gains with small pain?

The conclusion is unavoidable:

> *'"Integrated" transport policy actually does mean something real – a long term, calculated, deliberate, clever and **necessary** intervention to shift the underlying strong, but ultimately self-defeating, social trends which cause car dependence.' (Goodwin 2002)*

The only question concerns the pace of this shift: whether or not these incremental programs can be sustained long enough to get us to the target; and whether they can succeed before they are made redundant by technological change. Seen in the light of the scale of the problems facing us, any program that seems content merely with slowing the growth in car use must seem inadequate. 'Less unsustainable' seems an oddly deficient target, under the circumstances[3].

Even so, mode change for present travel patterns, and action for longer-term changes in travel itself is undoubtedly a politically attractive course, and there is a good deal of enthusiasm for it in government circles. Some commentators are blasé about the ease and feasibility of such a course, implying that life will continue as now, but better:

> *'**All we have to do**…is provide transport choices, (and) encourage lifestyles that are not locked into car dependency.' (Whitelegg 2002, emphasis added)*

Others see it as a significant challenge:

> *'Car dependence can be reduced through modifying the opportunities for travel by improving the availability and accessibility of alternative modes; through modifying the inclinations and preferences towards travel by alternative modes, for example by marketing public transport or de-marketing the car (Wright and Egan, 2000); and through modifying the lifestyle patterns that generate obligations to travel from current origins to present destinations. **It's a tall order.**' (Wright and Egan 2000, emphasis added)*

Nevertheless, evolutionary change in travel behaviour is the thrust of virtually all current policy to reduce car use.

> *'We have had to make hard choices on how to combat congestion and pollution while persuading people to use their cars a little less – and public transport a little more.' (Transport, Local Government and the Regions Committee 2002)*

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[3] —as well as being an apparent paradox. Try putting the 'less unsustainable' into a search engine and look objectively at the results.

This sort of approach appears to be rather timid, but it reflects the advice by Goodwin (1999) that we can swing the balance through what he calls a process of 'asymmetric churn', which means—

> *'that we should stop talking in terms of encouraging people to stop driving and start using public transport – but seeking to increase a little the numbers of people who are already, every year, doing exactly that in huge numbers, and reducing a little the numbers of people who are already, every year, doing exactly the opposite, in equally huge numbers. Those are two quite separate decision processes, and they have to be targeted separately.'*

The small changes in choice behaviour through 'Smart Travel' and similar programs may after all be significant, if they can be seen in this way (Chatterjee 2001). This concept seems to be the only hope for sustained evolutionary change towards a significant outcome, which at the same time will have some political and social attractiveness. It bears closer examination by policy advisers.

Unless this 'asymmetric churn' does create the change we seek, we are likely to find that our hope that we can wean ourselves from near-ubiquitous mobility without drastic changes in values, expectations, and ethos about our whole lifestyle turns out to be a collective delusion. It might even prove that currently-promoted measures divert our attention from the main chance. Mayer Hillman said it well:

> *'There can be little doubt that impressive improvements have been made, for instance in energy efficiency, pollution control and traffic management. However, in many ways, this approach can now be seen to be counter-productive. It has provided the excuse for not grasping the nettle of acknowledging the undesirability and, at the end of the day, unsustainability of the process. And it has resulted in no serious attempts being made to appraise other means of catering for the transport and accessibility requirements of a population which do not carry the contagion of ultimate failure.' (Hillman 2000)*

Revolutionary change: A Sustainable Society

The alternative set of conclusions one may draw about the prospects for behavioural changes using policies now being considered is based the need for drastic changes:

> *'Our search for sustainability in one area of our lives – the transport sector – is compromised by the other things we want to hold constant. To promise genuine reductions in resource consumption and impacts in the transport sector without acknowledging the need for substantial commensurate shifts in lifestyle, values and attitudes is, I would argue, dishonest. Simply shifting our present patterns of exchange and interaction onto supposedly more friendly modes will not bring about the result we need. And it will not be possible to maintain our present system of production and consumption if we restrain transport and mobility enough to make a real difference.' (Brindle 1998)*

We are often reminded that, whatever else happens, we cannot settle for 'business as usual' (BAU) in transport futures. Yet, in a way, BAU is exactly what is implied in most 'sustainable transport' policies of the evolutionary sort. Life goes on much as before, or better; all that changes is the way we move around or where we chose to live. This itself is BAU, of course, because the one thing we want to avoid is the possibility that 'sustainable transport' requires substantial changes in life as we know it.

By some reckoning (e.g. Meadows et al. 1992; Tibbs 1998), we do not have the luxury of waiting to see if evolutionary change can take effect. In this 'exponential age', we might find that events are rushing towards us faster than the evolutionary tactics can take effect. If our staring point was 'a sustainable society', rather than 'sustainable transport', what differences in lifestyle and physical environment would that would that involve? These deeper sociological and lifestyle issues are producing a growing literature and debate (e.g. the STELLA project at http://www.stellaproject.org/start.htm). Tibbs sees a big role for technology:

> *'A shift to a non-growth-dependent economy, whether voluntary or crisis-induced, would rely on significant change in social values and behaviour, and would also involve significant technological change.' (Tibbs 1998, p.76)*

The technological cavalry arrives

A small but persuasive group of voices sees less hope in adapting human behaviour to the system environment, rapidly or slowly, than in technological advances that meet human behaviour:

> *'Incremental efficiency improvements to existing transport modes in combination with only modest changes in associated social behaviour would not produce a large enough improvement. This suggests that a new transport technology with radically different characteristics might be required to make a shift possible.' (Tibbs 1998, p.76)*

Tibbs points out that, whether or not a new technology emerges early this century, and notwithstanding the current surge in heavy and light rail projects[4], current technology is approaching saturation. The relatively modest targets for modal swings within the present range of choices, the many undesirable features of current vehicle-based technology, the expectation of system failure in the road system and the current global exponential growth all point to a sector that is ripe for rejuvenation.

The well-known Grüber (1988) model of technology phases demonstrates the introduction, acceleration and maturity of successive transport technologies. Canals, railways, automobiles and air transport reached their initial rapid growth phases at about 50 year intervals from around 1800 to around 1950. The transport world waits in anticipation to see what will take off in the next decade or so. This view of technology does not stop at merely a low-emission, fully recyclable silent vehicle that can be externally monitored, taxed and even controlled (all of which are directions of available technology). It envisages a totally new movement/communications concept for goods, people, social interaction and information.

For example, one group summarised its work as follows:

> *'We envision a transport system producing zero emissions and sparing the surface landscape, while people on average range hundreds of kilometers daily. We believe this prospect of 'green mobility' is consistent in general principles with historical evolution. We lay out these general principles, extracted from widespread observations of human behavior over long periods, and use them to explain past transport and to project the next 50 to 100 years. Our picture emphasizes the slow penetration of new technologies of transport adding speed in the course of substituting for the old ones in terms of time allocation.' (Ausubel et al 1998)*

A number of technologies are already bench-tested and could be candidates, e.g.:

- Personal Rapid Transit (PRT).
- Very fast long-distance mag-lev.
- Communications and Information Technology substitutes for movement and exchange.

The attraction of the technology option is that it allows the cake to be had and eaten too. It has its detractors, for whom catering for growing travel demands with much less resource impact and without highway congestion is not a desirable path. Here sustainability policies might part from social policies. Much of the pressure for a 'return' to group transport modes comes from implicit (and often explicit) social theories and agendas. These typically express concern about growing individualisation in lifestyle, home environment and movement, and the effects of technology on the human spirit. These are valid concerns and need to be discussed. Whether or not they (and the revived theories of induced community in local planning) should drive the sustainable development agenda is another matter. Suffice it to accept that technology-driven moves towards 'sustainable transport' are unlikely to satisfy all social or urban visions and programs.

CONCLUSION

In summary, these thoughts took as given that restraining the growth in vehicular travel, and reducing the impacts (including resource loss) of that travel, are important obligations on the transport planner and manager. But to focus on car use alone, and even on the land use-transport system in isolation, is to take a reductionist rather than holistic view, and confuses symptoms with causes. It distracts us from the hard task and the real opportunities for change.

Travel and location choices cannot be separated from the complex of other choices, activities and 'purchases' that a firm or household engages in, in order to function in a society. In that sense, most of us are not hooked on the 'car habit', nor are we helpless victims of life in the suburbs. Rather, we are locked into the personal and collective value systems that led us into these situations in the first place, and accept (one might say, are seduced by) the way our cars allow us to participate in the pleasures and demands of today's society.

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[4] Around 1970, Nicholas Clark famously described Melbourne's (then) proposed underground city rail loop as '19th century technology in a 20th century hole'.

'Dependence' has different shades of meaning according to the opportunities that each of us has. Those who choose to use a car when other choices are available and known are making a 'rational' (but not necessarily optimal) decision. These may be harder to shift than those who either have no alternative at present or who are unaware of alternatives that are available. Transport provision and travel behaviour change programs are important shorter-term strategies to make present urban areas work better for all these groups, and we could learn more from marketing theory about this.

But the challenge is to go beyond that to make real inroads into car use and its impacts. The perambulations around that topic in this paper have led to the following conclusions:

1. Physical planning is needed to ensure that adequate choices and good quality local accessibility are available—but will not bring about an end to car dependence. Neither will Travel Demand Management. Urban change may prove to be neither a necessary nor sufficient component of a car-independence policy.

2. There has to be a breakthrough, involving major changes in the way society operates. There are two paths to reduced (and perhaps elimination of) car dependence:

   - A major shift (spontaneous or induced) from present value systems and choice behaviour; or

   - A breakthrough to a new technological paradigm that provides new ways to satisfy mobility and access demands of the local and global complexes that we have woven for ourselves.

3. For the tools we now have to be able to create and cope with the bulk of future travel demands, we will need a radical shift in community expectations, a redefinition of what is meant by 'efficiency', and an acceptance of a different (not necessarily 'lesser quality') lifestyle.

4. The technological breakthrough will rewrite the rules, just as rail and the automobile did in their time. It could take the form of transport technology that matches the service offered by the car, without its disadvantages; or new forms of communication and virtual interaction that replace some physical movement.

So the solution to car dependence boils down to choice between disaster (if we stick to current policies), or a major shift in economic values and lifestyle ambitions, or pressing on to the mobility/communications breakthrough that is (like the next big San Francisco earthquake) just about due. Presuming that the first of these is unacceptable (even though probably most likely if left to the law of entropy), the toss up is between huge shifts in personal and corporate choices and expectations, or emergence of the technological means by which the cycle of wealth creation, acquisition and consumption can continue. On past performance, I have a suspicion which way the human race will try to go.

Is there a government unit somewhere that has these possibilities within its remit? It sounds like just the job for a 'Department of Sustainability'!

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