

Cycling at the Top of the Policy Agenda. Mayer Hillman, July 2000

Keynote address for MAKING CYCLING VIABLE, New Zealand Cycling Symposium 2000: 14-15 July 2000, 24/7/2000

CYCLING AT THE TOP OF THE POLICY AGENDA

Mayer Hillman, Senior Fellow Emeritus, Policy Studies Institute, London, UK

Keynote address for MAKING CYCLING VIABLE, New Zealand Cycling Symposium 2000: 14-15 July 2000

You may have noticed that the title of this paper is more ambitious than simply suggesting that cycling needs to be placed at the top of the transport policy agenda. That is deliberate. Uniquely, the successful promotion of cycling as a means of transport - not just a leisure activity - delivers practical solutions to a broad range of personal, community and global problems that go well beyond those in the transport sphere¹.

How has this come about? Much of the explanation stems from the myopia of transport politicians and practitioners all over the world who have been inclined to seek to accommodate the growing demand for car ownership and use that has come in the wake of material affluence. As the adverse effects of this process have been revealed - either by their physical manifestations (such as peak hour traffic congestion and injuries to pedestrians), or through the medium of research (such as trends in restrictions on children's independent travel and in greenhouse gas emissions from car travel) - they have sought to tackle the problems on a piecemeal basis. 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.

A few key domains of my research studies over the last 30 years can be briefly outlined to provide support for this apparently harsh indictment of current policies. Their findings all reinforce the case for the synoptic approach – one that is based on analysis on a level playing field of all costs and benefits in policy areas outside narrowly defined terms of reference, and is not limited by a framework dictated by the compartmentalisation of professional and political responsibilities.

Sharing mobility benefits

In the sphere of equity, we have shown that the increased mobility of people with the optional use of a car inevitably leads to a reduced mobility of those without - that is a majority of the population owing to the limitations of age, income and ability^{2,3,4,5,6}. Their travel is far more dependent on walking and bus use and, where relatively safe provision is made for it, on cycling. Yet, the attractions of these three modes is diminished by the use of the car: in the case of the non-motorised modes, owing to increased danger and pollution. In the case of the bus, reduced demand has resulted in land use planning changes extending distances that have to be covered, together with poorer services and, in most cases, higher fares. However, the same logic of increased use of bicycles affecting the mobility of other road users does not apply. Indeed, the bicycle, in these terms catering as it can for children (for whom it is the only mechanised form of independent travel) as well as adults, including older ones, can be seen to be a great leveller.

Public expenditure

In the sphere of economy in the use of public funds, our examination of the cost-effectiveness of providing alternatives to the car has revealed that a major transfer from urban journeys currently made by car is far more likely to be achieved by prioritising transport provision in favour of networks for cycling and walking, followed by improvements to bus services⁷. The solution does not lie in pouring large sums into high quality public

transport in the hope that that will attract people out of their cars. It is salutary to note that, compared with the cost of construction of a kilometre of cycleway, the cost for a bus priority route (including traffic calming and environmental works on adjacent junctions) is six times as high, for a light rail transit system 200 times, for a motorway 300 times, and for an underground metro system 8000 times as high!

Fossil fuel use

In the sphere of the use of resources, our studies have identified a crucial failure of governments to recognise that the most effective way of minimising energy-wasteful patterns of travel, especially to conserve finite fossil fuels, is so obviously by promoting the non-motorised - nil petroleum-dependent - modes^{8,9}. The conventional route of applying technology to deliver more kilometres to the litre should come after applying policies and practices on reducing the demand for motorised travel, not before. Otherwise it leads to more traffic generation by lowering the unit cost per car kilometre and leads to land use planning changes which entail longer distance, and therefore cycle-and walk-hostile journeys.

Road safety and road casualties

On the issue of safety, we have highlighted significant reasons for questioning the validity for policy of casualty rates by mode. These indicate the far higher level per kilometre travelled by cycle compared with that by car or public transport. What is overlooked is that the level of casualties is only a partial measure of road safety, particularly where cyclists and pedestrians are concerned. A fall in their number can so obviously be explained by the greater danger from the rising volume and speed of traffic leading to fewer journeys being made by the non-motorised modes^{10,11}. Moreover, we have shown how essential it is to differentiate casualties according to whether the injured were *inmates* (of vehicles) or *outmates* (pedestrians or cyclists). Given that nearly all the injuries of the *outmates* result from a motor vehicle (mainly a car) colliding with them, far from it being unsafe to cycle or walk, it is clearly unsafe to drive¹²! The policy implications of this clearly run counter to the self-interest logic of travelling by car, ideally one that promises its driver and passengers a high survival rate in the event of a collision.

Physical and mental health

In the sphere of health, we have revealed the damaging consequences of feeding the addiction to car travel both from a personal viewpoint in terms of that making it less likely that the exercise of walking or cycling on a daily basis occurs, but also from a community viewpoint in that the dangers posed by increased car use makes it less safe and therefore less likely that other people will make their journeys by cycle or on foot. Survey after survey reveals that the majority of the population – young and old alike – are getting insufficient exercise and are therefore at greater risk of heart disease and other debilitating illnesses. Yet in a recent study, we have shown that, even after only a few weeks, people who had not previously cycled improved their aerobic fitness and leg strength, reduced their body fat and significantly enhanced their mental wellbeing¹³.

The other major issue relevant to health is the perceived risk of injury when cycling. This must be seen in the context not only of the risk of fatality resulting from a vehicle colliding with the cyclist but also of the risk of fatality from heart disease resulting from lack of exercise. As road safety policy is almost invariably aimed at lowering road casualties without regard to this aspect of policy, it has been thought inadvisable to encourage the general public to take up cycling. As a consequence, the extent of the health benefits of this unique means of maintaining fitness as part of the daily routine has been poorly appreciated.

Analysis aimed at relating the danger of cycling to its health benefits shows that, even in the current traffic environment which in most countries is so hostile, the benefits gained from regular cycling in terms of life years gained outweigh the loss of life years in cycling fatalities¹⁴. I have calculated the ratio to be around 20 to 1, and there is obviously considerable scope for increasing this ratio through two interrelated means: the environment for cyclists can be made much safer and more user-friendly. In turn, that is very likely to release the considerable latent demand for cycling stemming from road users' fears about the risks of a vehicle collision.

Regular cycling can raise resistance to disease and can significantly decrease harmful stress, depression and anxiety. The biochemical changes which exercise induces can also improve confidence and self-esteem, especially that of children¹⁵. The benefits have been found advantageous for elderly people too as regular exercise can delay the onset of mental health problems, reduce the extent of clinical intervention and generally

improve their quality of life.

Climate change

Finally, and in my view most importantly, reference can be made to our work on the implications of climate change for our personal lifestyles and transport's role in this. We are indeed at a defining moment in history: we have shown that, in affluent countries, carbon emissions must be reduced by over 90% if the contribution of their populations is not to destabilise the planetary climate¹⁶. Every aspect of our fossil fuel-dependent activity must come under scrutiny, including transport and patterns of travel which are not local. We have an inescapable responsibility and obligation to future generations - if not the present one – to deliver dramatic reductions in our emissions, whether stemming from air travel, car travel or indeed regular longer distance public transport travel. If we do not do so, we will witness the awesome consequences of climate change and will be attempting to limit the escalating damage when it will be far more expensive to do so.

Here again, the scope of cycling is considerable: national travel surveys show that the majority of journeys currently made are over distances that can be covered by cycle without unacceptable costs in terms of time and effort - and indeed providing recommended levels of daily exercise.

So why the oversight of these relatively easily recognised outcomes of attempting to cater for as much car-based travel as possible and, conversely, the overlooking of the considerably larger and beneficial role for cycling? One of the main reasons is that cycling does not readily fit into the conventional *further and faster* culture which now must be seen to be totally inappropriate in face of the moral imperative of minimising climate change as well as deriving all the benefits of a synoptic approach.

Myths about cycling

Whenever the case for giving cycling this more prominent role is put forward, one or more of the following myths are wheeled out in a seemingly negative way to disparage the logic of recognising cycling to be the panacea for so many of society's ills.

1. Cycling is like walking: it only caters for short journeys.

A substantial majority of urban journeys in most countries is made within a radius of 8 kilometres – that is no more than half an hour's cycle ride. And the combination of cycle and rail can often be a convenient option for long journeys.

1. Cycling is not a realistic means of travel for much of the year because of rain or low temperatures.

The risk of rain on a typical journey is very low in most countries. Moreover, the exercise entailed in cycling raises body and skin temperature so that cyclists feel cold only in very low temperatures.

1. Cycling is not a realistic means of travel in hilly areas.

Most urban and many rural settlements around the world are flat, nearly all bikes have gears and hills don't only go up! In any case, cyclists are not glued to their saddle - they can dismount and push their bikes uphill.

1. Cycling entails so much physical effort that a shower is needed at the end of the journey.

This may be true in some regions of the world but that then should not be extrapolated to apply generally. It is the experience of few cyclists. Even where showers are available, they are rarely used.

1. Cycling in urban areas is damaging to health as it entails breathing polluted air.

Studies have shown that vehicle occupants are at significantly greater risk as they have to inhale fumes from the exhausts of vehicles immediately in front of them, especially at traffic lights.

1. Cycling is only for young fit people.

This is a chicken and egg situation: cycling is a unique way of building regular physical exercise into daily life. Adults who cycle regularly enjoy a level of fitness similar to other adults 10 years younger. In the Netherlands, 1 in 4 of the journeys of women pensioners are made by cycle!

1. Cycling is dangerous.

Statistics show that it is vehicle drivers who are 'dangerous': in the UK, 50% of cyclists are killed as a result of being hit by a car and a further 33% as a result of being hit by a lorry. Moreover, the risk of fatality and serious injury when cycling is in fact low. Where a cycle network exists, it is extremely low.

1. Cycling without a helmet runs the risk of head injury.

Helmets provide minimal protection: 85% of cyclists' serious head injuries result from being hit by a motor vehicle. Helmets are not designed for this. Few Dutch cyclists wear helmets, yet their cycle injury rate is seven times lower than in the UK because segregated cycle routes are widely provided.

1. Cycling is too slow.

On a door-to-door comparison over the same distance, cyclists take less time than public transport passengers on most journeys in urban areas.

1. Cycling is not as worthwhile as public transport for public investment.

In fact, per kilometre, bus priority schemes are six times as expensive as safe cycle routes and light rail systems 200 times as expensive.

Conclusions

At the heart of the matter in this domain of public policy lies the reluctance of too many decision makers to acknowledge that they may have been mistaken in the past. Their craven pandering to the public's addiction to the car rather than to be informed by objective evidence of the ultimately unsustainability of this approach needs to be challenged. We have a right to expect principles rather than politics to dictate their decisions.

The widespread – not token – adoption of practices, investment of resources and allocation of staff to promote use of the non-motorised modes, especially cycling, will not only deliver many of the objectives of transport policy – and at low cost – but also a wide range of social, health and local and global environmental objectives. Let's stop looking this gift horse in the mouth. One person who is certainly not doing so is the next speaker whose foresight, design skills, imagination and persuasive powers have resulted in the creation of 8000 kilometres so far of a national cycle network in the UK well within time and budget.

References to research publications by the author of this paper

1. 'Public policy on the green modes'; in *The Greening of Urban Transport* (ed. R. Tolley), John Wiley and Sons Ltd, 1997.
2. *Personal Mobility and Transport Policy* (with Irwin Henderson and Anne Whalley), Political and Economic Planning, 1973.
3. *Transport Realities and Planning Policy* (with Irwin Henderson and Anne Whalley), Political and Economic Planning, 1976
4. *Fair Play for All: a study of access for sport and informal recreation* (with Anne Whalley), Political and Economic Planning, 1977.
5. *Walking is Transport* (with Anne Whalley), Policy Studies Institute, 1979.
6. *One False Move ... a study of children's independent mobility* (with John Adams and John Whitelegg), Policy Studies Institute, 1991.
7. *Curbing Shorter Car Journeys: prioritising the alternatives*, Friends of the Earth Trust, 1998.
8. *Energy and Personal Travel: obstacles to conservation* (with Anne Whalley), Policy Studies Institute, 1983.

9. Conservation's Contribution to UK Self Sufficiency, Heinemann Educational Books, 1984.
10. Danger on the Road: the needless scourge (with Stephen Plowden), Policy Studies Institute, 1984.
10. Speed Control and Transport Policy (with Stephen Plowden), Policy Studies Institute, June 1996.
11. 'It's not safe to cycle or walk', in Proceedings of the Annual Conference of Road Danger Reduction Forum, Central Hall, Westminster, London, UK, May 2000 (in press).
12. The effects of regular cycling on a sample of previous non-exercisers (with H.N. Boyd, A. Nevill, A.D. Pearce, and W. Tuxworth). See DETR Cycling for Better Health, Traffic Advisory Leaflet, 12/99 and <http://www.allott.co.uk/>
13. Cycling: Towards Health and Safety, A report for the British Medical Association, Oxford University Press, 1992.
14. 'Curbing children's social and emotional development: an unrecognised outcome of parental fears', The Journal of Contemporary Health, Issue 8, Winter, 1999/2000.
15. Why climate change must top the agenda and Carbon Budget Watchers in Town and Country Planning (in special issue on Climate Change edited by Mayer Hillman), October 1998.

© Dr. Mayer Hillman, Policy Studies Institute, 2000.