

Transport & Health

THSG

Science Group

Administrative Address: - Land O' Cakes, 48, Middle Hillgate, Stockport, SK1 3DL

Please reply to: -
Dr. Stephen Watkins
Chair, THSG,
1, Parklands,
Shaw,
OLDHAM,
Lancs
OL2 8LW
(thsgchair@gmail.com)
Tel 01706.846017)

6.5.20

Dear Secretary of State,

Government Transport Policy – Congratulations and Some Helpful Ideas

THSG is one of two major organisations internationally concerned with the relationships between transport and health. In the UK we are the main such organisation and we also act as UK agent for the other (the North America-based International Professional Association for Transport and Health) and we manage the Transport Special Interest Group of the Faculty of Public Health of the Royal Colleges of Physicians of the UK.

We believe that a healthy transport policy will minimise transport use by having more local facilities and making more use of cyberspace. It will use walking and cycling for short journeys, and the rail/cycle combination for longer journeys, with the bulk of freight transport being by rail, electric delivery vehicles and a new generation of modern electrically-assisted sailing ships. Ultimately, we see only a limited role for the private car, e.g. in sparsely populated areas. We also see only a limited role for aviation – for flights across oceans and polar ice caps and for islands too far from the mainland to rely on ferries, and for local travel in very remote areas such as Alaska or Antarctica. These approaches to transport policy will reduce climate change, for which transport is the largest contributor in the UK, and yield even more health co-benefits.

We were delighted at the commitment to Government infrastructure spending in the budget, the clear commitment to promote walking and cycling, your unequivocal statement that we should move away from the private car, your launch of the “Reverse Beeching” policy, and the Prime Minister’s opposition (which we trust the Government will follow) to Heathrow Airport Expansion. We applaud these moves.

May we offer some helpful ideas: -

1. We have written to the Chancellor of the Exchequer suggesting a rebalancing of infrastructure spending to reflect the desired pattern of future transport and we attach that letter.
2. In the letter we also suggested a new approach to solving congestion, including tax incentives to encourage continued use of the experience many firms have recently gained of encouraging employees to work more from home.
3. We wrote recently to Andrew Stephenson MP about the Woodhead Rolling Motorway and the idea of rebuilding the Great Central Railway to provide a north-south rail freight route and a less environmentally damaging route for phase 2B of HS2.
4. Andrew Gwynne MP, who is a member of our Council, recently suggested that support for aviation during the current epidemic should be linked to a commitment to address climate change. We believe that airlines should diversify and see themselves as providers of international travel. They should therefore take the lead in developing a high-speed international sleeper train network and in exploring the potential of the hyperloop.
5. A few years ago, we suggested considering a hyperloop link between Gatwick, Heathrow, Stansted, Birmingham, and Manchester Airports as an alternative to airport expansion as it would allow these airports to function together as a hub. There are many issues about the hyperloop that need examination, but we do believe that this examination should be in progress.
6. During the pandemic many people will have experienced and enjoyed the benefits of less traffic (and noise and air pollution) in their local streets, and the importance of community. This is the time to increase dramatically the number of "living streets". We have suggested that except for motorways, A roads, B roads and other roads designated as throughways by local councils, most motor vehicular rights should be removed except for access. There should be exceptions for cycles (even if electrically assisted), emergency vehicles, invalid carriages, vehicles controlled by pedestrians, and buses. The term "except for access" would cover not only private cars and motor cycles but also delivery vehicles, street maintenance vehicles and the like.
7. This is a good time to make the default urban speed limit 20mph (or perhaps 30km/h to avoid having to change all the "30" signs, although that might be too confusing).

We would welcome the opportunity to discuss any of these ideas with you, or with your junior ministers, advisers or officials.

Congratulations again on your inspiring and refreshing approach.

Kind regards

STEPHEN J. WATKINS
Co-chair, Transport and Health Science Group

Transport & Health

THSG

Science Group

Administrative Address: - Land O' Cakes, 48, Middle Hillgate, Stockport, SK1 3DL

thsgchair@gmail.com

Tel 01706.846017

Please reply to: -

Dr. Stephen Watkins
Chair, THSG,
1, Parklands,
Shaw,
OLDHAM,
Lancs
OL2 8LW

6.5.20

Dear Chancellor

Road Schemes in Infrastructure Plans

Why the Supposed Benefits to Congestion Will Not Occur and Many Schemes are Therefore a Waste of Money

THSG is one of two major organisations internationally concerned with the relationships between transport and health. In the UK we are the main such organisation and we also act as UK agent for the other (the North America-based International Professional Association for Transport and Health) and we manage the Transport Special Interest Group of the Faculty of Public Health of the Royal Colleges of Physicians of the UK.

We write to express our support for investment in transport infrastructure and our appreciation of the Government's plans to increased such spending. We have long advocated this and we are delighted that you have responded so positively. We also welcome the Government's commitment to active travel and to partially reversing the Beeching cuts.

However, we must also express our concern at the large proportion of the Government's infrastructure programme consisting of schemes to build new roads or to increase the capacity of existing roads, especially as much of this spending seems to be based on the perception that it addresses congestion. As we pointed out in a letter to the Treasury in 2013, this perception is not correct.

There are arguments against roadbuilding from the standpoint of climate change and air quality, and we have ourselves made those arguments. However, that is not what this letter is about and it should not be simply added to the piles of protests about roadbuilding and climate change or air quality.

This letter is about the fact that roadbuilding as a solution to congestion doesn't work. This would be true even if the arguments about climate change and air quality did not exist.

It would be better to reallocate most of this money to rail schemes, to walking and cycling schemes promoting safe, healthy active travel, to road maintenance, to developing living streets, and to promoting alternatives to making journeys (for example, via broadband).

Why Road Spending Does Not Reduce Congestion

History provides lessons in managing transport. Mogridge demonstrated traffic speed in London was affected more by improvements in the *rail* system than by anything happening on the roads - even the replacement of horse drawn vehicles by motor cars. Subsequent studies have repeatedly shown that new roads generate more traffic, respite from congestion being only transient. It is the experience of all of us that the roads fill and that the respite from congestion is transient. In the period that infrastructure spending was dramatically reduced there has been the added observation that when road building slows down so does the growth of traffic.

It may seem counterintuitive that road building makes congestion worse not better, but if more road space is made available suppressed demand is released. Suppressed demand is not a demand for immediate travel but for relocation. Many people are prepared to commute for more than an hour. Given a 70mph technically potential speed it is only a combination of congestion and expense which prevents the outer suburbs of Manchester being located in Nuneaton or in the Lake District. This process can be exacerbated by creating more road space such as widening motorways. Traffic flows more freely (for a while), people are encouraged to commute further but become trapped in their new travel patterns when congestion (inevitably) reasserts itself.

Once it becomes possible for the outer suburbs of one city to be located in several other cities (and vice versa) the range of possible journeys becomes such that, if demand is allowed to express itself, it is impossible for the road system to accommodate it. Using Metcalfe's Law (a mathematical approximation to the behaviour of networks which is not precise but is good enough for the purpose) we have calculated that doubling the speed of traffic, as when A roads with a 35mph average speed were replaced by motorways with an 70mph technical potential, would necessitate on average a 16-fold increase in road capacity, increasing at certain points in the network to a 128-fold increase in road space - the replacement of a 2 lane A road with a 256-lane motorway. It is impossible to remove these pinch points - only displace them.

It may be different in sparsely populated lands, or where people choose to stay together in tight family communities bound to ancestral land, but urbanized communities, with freedom of movement, that are organized into cities close to each other, cannot accommodate the demand for relocation.

The appreciation that suppressed demand is a demand for relocation, not for immediate travel, explains why it does not occur with temporary release of road space, and why it does not occur immediately when new roads are built. However therein lies a danger. During the window when traffic flows freely, people will relocate and become trapped in the new situation when congestion reasserts itself. And

congestion will indeed reassert itself because congestion is the method by which the unmeetable demand is suppressed.

Therefore, we believe building new roads (or the improvement of existing roads) is a fruitless expensive exercise if the purpose is to reduce congestion. New road building must be justified on other grounds such as freeing road space for other purposes or providing access to new developments.

It is now reasonable for policy to be conducted on the basis that building roads will only transiently ease congestion. The figure for long term reduced congestion and long-term improved traffic flow in cost/benefit studies of road schemes should be either zero or negative, in which case the substantial majority of currently proposed road schemes would no longer be cost/beneficial.

At the same time, it is now well-recognised that the existing methods of assessing rail schemes and cycle schemes seriously underestimate their value.

It is also essential that we reduce car use, and promote active travel and public transport, if we are to have any meaningful chance to achieve climate change targets. The experiences of the coronavirus lockdown may also have generated renewed interest in working from home.

For all of these reasons we would urge you to reallocate the funding earmarked for new roads (to the extent that it is motivated by reducing congestion) towards other areas of transport spending which will be more likely to achieve the changes that are needed.

How to Address Congestion

This need not be a counsel of despair for reducing congestion. As shown by Mogridge the speed of traffic increases with improvements in the rail system and decreases with deterioration. This is because the quality of alternatives sets the standard against which the road must compete. These need to be overall improvements in the network, not just improvements on the line parallel to a particular road, because traffic on a particular road may be making many different journeys.

Improvements in walking and cycling infrastructure and bus systems are likely to have a similar effect. However, the rail system is currently the main competitor to the car so they would need to accompany rail improvement or to be integrated with it, as in the case of promotion of the rail/cycle combination or in using high quality bus services to fill gaps in the rail network.

Considerable peak hour traffic could be removed by reducing the number of days on which people travel to work both by a shorter working week and by more working from home. The recent epidemic will have forced many businesses to try new methods of working so this may be a good time to introduce such measures. One simple incentive would be to flex the employer's national insurance contribution so that it has a 25% surcharge for people travelling to work five days a week or more and a 25% discount for people travelling to work three days a week or less.

However, the road space released by this reduction would fill, in just the same way as roadspace released by road building, unless steps were taken to prevent this. The removal of roadspace from cars and lorries and its reallocation to walking, cycling, buses or rapid transit (be it light rail or bus-rapid-transit) would be one measure that should be taken. Another would be the introduction of road charges. These are often perceived as an anti-motorist measure, but these need not be the case. At any given target level of motoring taxation, the introduction of road charges permits lower levels of other motoring taxes.

One possibility would be for the Treasury to provide a third party, passenger liability, fire and theft insurance policy automatically to every car (with a higher excess for drivers with a poor record), fund that through roads charges and administer it through existing insurance companies. Insurers could compete to offer top-up insurance (such as insurance of excesses, overseas cover, breakdown cover or provision of comprehensive cover). This would also abolish the problem of uninsured drivers, as all drivers would be automatically insured and would pay for their basic insurance through road charges. Claims from those who do not take out top up insurance could be allocated to insurance companies in rotation, in proportion to their share of the top-up market, with the Treasury paying them an administration fee for administering the claim.

Flaws in Treasury Assessment Processes

The following flaws exist in Treasury assessment processes for prioritising transport Investment

- They attach a value to relief of congestion by road improvements when, as we have explained above, these are unlikely to materialise.
- They do not attach a road congestion value to rail improvements when, as we have explained above, these are very likely to materialise.
- They systematically underestimate the usage of new railway services and lines.
- One of the reasons for this is that they systematically underestimate feeder effects.
- They value the time of cyclists less than the time of motorists but the rationale for that (that cyclists have chosen a slower mode) is outdated in most cities.
- They place too low a value on the negative effects of community severance and poor air quality.
- They assume that many of the external benefits (including health and environmental benefits) will not contribute funding, but in many cases a mechanism of benefit-capture could be framed.
- They disbelieve very high cost/benefit ratios, which leads to failure to fund some cycling schemes that have very high cost/benefits.
- There is a strong tendency to favour individual large schemes over packages of smaller schemes creating widespread network benefits. This is unfortunate since network improvements in alternatives to the car are more likely to improve congestion than individual schemes.
- Schemes tend to be considered in isolation, in dedicated funding packages devoted to particular types of spend, which makes it difficult to consider the transport system as a whole. For example, the Woodhead Rolling Motorway

would deliver a vehicle-carrying rail service as a direct alternative to an expensive and damaging road scheme and would also deliver major improvements in rail services in and between Greater Manchester and South Yorkshire, but these two sets of benefits lie in different funding packages and it is very hard to find a way to add them together. We wrote recently about this to Andrew Stephenson MP, Minister for HS2 and Northern Powerhouse Rail. Our proposal for combined greenways and high-speed miniature railways is another example of an innovative proposal that falls between two stools.

Alternative Spending of the Money Currently Earmarked for Roads

If these flaws were addressed there would be a substantial shift in the balance of infrastructure spending.

Not all road spending would be cancelled. Some road schemes would meet cost/benefit criteria even if congestion was removed from the list of benefits. Spending on maintenance and pot holes is very welcome and would probably rise up the priority list.

However, we believe that there is a powerful need for spending in the following areas: -

Cycling and Walking

The experiences of cities like Copenhagen has been that considerable modal shift towards cycling and walking can be achieved with investment to make walking and cycling routes safe and attractive across a wide network.

1. Spending of £20 - £30 per annum per capita seems to be necessary to achieve this. In the UK this would equate to £1.3bn to £2bn a year or about £6bn to £10bn over a Parliament.

Rail Development

The rail system is the main competitor to the car, and the main driver of modal shift. Hence, research has shown that bus use is higher in European cities with rail based public transport systems than it is in cities with bus based public transport systems. There is some evidence that high quality bus rapid transit systems can have the same impact as trains, but the emphasis must be on the words "quality" and "rapid".

2. Increases in rail capacity on the existing network. If we are to make use of the existing rail network there is a need to improve the capacity of the network. A list of schemes to achieve this exists. It includes grade-separation of junctions which limit capacity, restoring double or quadruple tracks or passing loops that have been removed, widening some specific bottlenecks (such as quadruple tracking the Castlefield Corridor), additional platforms so more than one train can enter a station at the same time, and more efficient signalling (including moving block).
3. Some expansions of the network where it is heavily overloaded or subject to disruption. The Exeter-Tavistock-Plymouth line or the old Great Central Railway are examples. We wrote recently to Andrew Stephenson MP, Minister

for HS2 and Northern Powerhouse Rail, suggesting that a quadruple track line along the old Great Central Railway could provide both a new north-south freight route and a better alternative for phase 2B of HS2.

4. It is tragic that the Parry people-mover, a British invention, has not been developed despite its success when trialled on the Stourbridge Junction to Stourbridge line. Many short branch lines, linking towns to the network, could be reopened using this technology.
5. Railfutures has prepared a list of railway lines which would warrant reopening and are held up by the Treasury's flawed assessment processes. We believe most of these schemes should proceed.
6. A number of heritage railways have had ambitions to develop as serious community railways with the heritage trains serving as a major source of income rather than as their sole purpose. Most of these ambitions have been shelved due to the lack of supportive capital funding for development, the lack of revenue subsidies for services outside the hours the railway would be open for heritage purposes, and obstacles to linking with the main line. We believe they could easily, often eagerly, be revived.
7. We have suggested that the technology which makes it possible to operate standard gauge trains at 180mph could be used to operate 1' 2" gauge (like the Romney, Hythe and Dymchurch Railway) at 45mph, so many rural railway lines could be reopened as "railgreenways", combining cycling and walking routes with high speed miniature railways.

The Cycle/Public Transport Combination

We believe that spending on the linking of cycling to public transport, including cycle parking and cycle hire at stations, and also carriage of cycles on trains and some buses, should be considered not simply as a specific niche of rail passenger or as a part of local cycle schemes. There should be a national planned development to ensure the cycle/public transport combination is promoted as an alternative to the car. The aim should be that

8. there should be a national network of hubs at which cycles can be hired, parked and loaded onto cycle-carrying public transport, within 5 miles of any part of an urban area, 10 miles of any part of a rural area and 15 miles of any part of a remote area.
9. there should be cycle vans on all trains.

Rural Buses

People will not take a train if there is no train or bus to their ultimate destination. Unless public transport is available for most of their journeys they will feel the need to buy a car and will then find it simpler to use it. Large parts of the UK, especially rural areas, either have no buses or have buses only once a day or less. In the evening these bus-free zones extend to cover most of the rural UK and large parts of the urban area (about a third of the town of Darlington, for example). This is not an insignificant problem to be put on the backburner – it is a major obstacle to modal shift. Somebody who needs a car to get to the country once a week is not just somebody lost to the public transport system once a week. They are often lost to the public transport system completely.

10. The problem of bus-free zones must be resolved both by funding scheduled bus services as links to the rail system and by funding demand-responsive transport.

We hope the information and ideas in this letter will be of assistance to you in gaining maximum benefit from the money you are committing.

Yours sincerely

STEPHEN J. WATKINS
Co-chair, THSG