

## THSG POLICY ON CONGESTION AND ROAD CHARGING

### **Summary**

**Increasing road capacity by building or widening roads does not reduce congestion. It simply generates more traffic. No further money should be wasted on this unattainable goal. The money is wasted, and it has negative consequences for climate change, for air quality, and for quality of life in the neighbourhoods where the road is built or the traffic is generated.** An alternative approach is as follows: -

1. Congestion will be reduced only by improving alternatives to the car, particularly improved walkability, better cycling provision and better public transport. This raises the trade off point between choosing to travel by car and choosing not to travel. The evidence for this has been provided by Mogridge (and since supported by others) and the theoretical underpinning by Downs and Thompson.
2. However, these improvements must be on a network basis to compete effectively with the full range of car journeys available.
3. Traffic can also be reduced by increasing working from home, and reducing the number of days on which people travel to work. However, the road capacity released will fill (as with any other method of providing increased road capacity) unless this is deterred by road charging, or the capacity is reallocated instead to pedestrians, cyclists, public transport or non-transport use.
4. Road charging is important to fund a healthier transport system, reduce congestion, reduce emissions and shift the costs of motoring from car ownership to car use.
5. A road charging system should be introduced including charges per trip, charges per vehicle mile, enhanced charges in congested areas, an emissions surcharge on high emissions vehicles (enhanced in areas of poor air quality), enhanced charge per vehicle mile on specified free flowing tolled lanes, a supplementary charge for journeys ending in the city centre, rebates for journeys for which adequate active travel or public transport options are not available, and an enhanced charge for travel above the speed limit where this has not led to prosecution.
6. To enable road charges to be set at a level which is higher than the appetite to increase motoring taxes, there should be reductions in motoring taxes which are not related to use or to emissions and there should also be state funding of most basic motor insurance.
7. There should also be subsidies to car clubs, and taxes for traffic generation on employers, businesses and developers.
8. There should be benefit capture gain sharing arrangements to help finance public transport improvements by their reduction of road charge rebates and the taxes on employers, developers and businesses. Road charging should be used to help finance public transport (which is more efficient than private car use), and infrastructure for active travel.
9. We refer also to our policies on infrastructure, active travel and public transport.

## *Road Capacity and Congestion*

Increasing road capacity does not improve congestion, except temporarily.

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. Congestion will reassert itself because it is the mechanism by which this unsustainable situation is brought to an end.

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.

## *The Way to Reduce Congestion*

This need not be a counsel of despair for reducing congestion. As shown by Mogridge the speed of traffic in London 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, in Europe, 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. (In countries where transit is not primarily rail-based, the emphasis should be on whatever is locally the main rival to the car).

We have separate policy documents on the measures necessary to improve cycling and walking infrastructure, encourage active travel and improve public transport.

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.

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, rapid transit (be it light rail or bus-rapid-transit) or non-transport uses would be one measure that should be taken. Another would be the introduction of road charges.

### *Road Charging*

Road charging has an important role in reducing congestion. Road charges applied at an enhanced rate to high emissions vehicles have an important role in reducing emissions and improving air quality.

Road charges are also important for ensuring that the costs of using cars are focussed more on using them rather than on owning them. At present most of the costs of car use fall on owning the car so that, once the car has been purchased, the marginal cost of using it is less than the cost of alternatives. If that balance can be shifted towards the cost of using a car people may make a more balanced choice.

A road charging system should be introduced which could include

- A charge per trip to discourage short trips which would be better made on foot or by cycle
- A charge per vehicle mile
- An enhanced charge per vehicle mile in congested areas, or alternatively a charge per vehicle hour (which has the effect of enhancing charges in congested areas and adds a price cost to the time cost of congestion)
- An emissions surcharge on high emissions vehicles which could be enhanced in areas of poor air quality
- An enhanced charge per vehicle mile for vehicles using specified tolled lanes which would be tolled at a rate that kept them flowing freely past the congestion in other lanes. These lanes could also be limited to (or tolled less heavily for) high occupancy vehicles – so called hot lanes (high occupancy toll lanes)
- A supplementary charge for journeys ending in the centre of a city which has good radial public transport and park and ride facilities. This would make it more expensive to drive into the city than to drive through it.
- Rebates for journeys for which adequate active travel or public transport options are not available. Where there is a Movement as a Service provider the rebate could be issued if it advises that it cannot provide a satisfactory service for the journey in question. Where MaaS is not in place it might be necessary for administrative reasons to limit these rebates to regular journeys. Public transport providers should be able to enter into gain-sharing

agreements with road charging authorities to help finance improved services which diminish these rebates.

- An enhanced charge for travel above the speed limit where this has not led to prosecution.

### *Fiscal Measures to Shift Costs from Car Ownership to Car Use*

The introduction of a universal road charging system should be accompanied by reductions in fixed costs of car ownership. If there is no appetite to increase motoring taxation these could completely offset the cost of road charges. If there is an appetite to increase motoring taxation they could be used to justify higher (and therefore more effective) charges. These reductions in fixed charges could include

- The elimination of all taxes and public charges on motoring which are not mileage, fuel or emissions related, such as vehicle excise duty, driving test fees, fees for driving licenses, vehicle inspection fees, VAT on cars and car accessories, car club membership etc.
- State provision of basic car insurance to all cars. To avoid encouraging use of high performance vehicles or subsidising drivers with a poor record, there would be excesses for such vehicles and drivers. The scheme would be funded through road charges but administered through existing insurance companies. Insurers would compete to offer top-up insurance (such as insurance of excesses, overseas cover, breakdown cover or provision of comprehensive cover) and would administer claims from those to whom they provide such insurance. 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 state paying them an administration fee for administering the claim. This arrangement 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.
- The partial state reimbursement, up to a fixed limit, of charges for essential safety-related car maintenance (including allowances for work done by the owner personally subject to certification that the work was necessary and was done satisfactorily) and a proportion of breakdown service membership.

### *Other Fiscal Measures to Address Congestion*

The following measures would also assist in addressing congestion

- Subsidies to the administrative costs of car clubs.
- Developers should be required to pay for the public transport, walking and cycling infrastructure necessary to serve their development and to compensate for the motor vehicle traffic likely to be generated
- There should be a tax on all free or low cost private non-residential car parking provision
- There should be a tax on employers for the road traffic generated by their workers travelling to work by car.
- There should be a tax on businesses for the road traffic generated by their customers travelling to their business by car, unless the business takes all reasonable steps to make itself accessible by active travel or public transport and encourage such access

- There should be provision for public transport authorities to enter into gain-sharing with developers, businesses and employers where new services facilitate travel planning which reduces the burden of the above taxes.
- There should be a cessation of all roadbuilding which is predicated on increasing road capacity to accommodate traffic levels. There may still be a need to build new roads for access.
- There should be a cessation of all road widening which is predicated on increasing road capacity to accommodate traffic levels. There may still be a need to widen roads to provide additional space for pedestrians, cyclists and buses (although making the additional space available by narrowing lanes should be considered first, especially as vehicle automation increases)