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# **Economic Instruments and Traffic Restraint**

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## ***Tax and Transport Policy***

In recent years there have been increasingly strong linkages between national fiscal systems and environmental/transport objectives. Within the European Union, European Commission (EC) policy has been outlined in documents such as *'Towards Fair and Efficient Pricing'* (1), and *'Fair Payment for Infrastructure Use'* (2). In summary these well-researched documents advocate that transport infrastructure charges should normally reflect the marginal social costs at the point of use. These marginal social costs should include not only marginal wear and tear costs on infrastructure, but also 'external' costs imposed on society, the environment and the wider economy through accidents, pollution, emission of climate change gases, congestion etc.. While regulatory and physical design mechanisms are also recognised as having an important role to play, it is tax and charging instruments that the European Commission and national states see as being most effective at encouraging efficient and sustainable transport systems in the longer term.

In practice, moving towards such a strategic policy aim has proved problematic. In the first place, transport taxation is an increasingly political sensitive subject, as the autumn 2000 'fuel price' protests in several European countries showed. Furthermore, it seems unlikely that marginal changes in the fiscal framework would provide sufficient encouragement to make a real difference in consumer behaviour. It requires a major restructuring to address the issue of environmental performance. This chapter therefore explores the potential to move towards more radical actions in a way that might succeed in overcoming the shortcomings experienced by more short term strategies.

## ***Structure of the Chapter***

This chapter first considers the purposes of taxation and the implications of this for the use of fiscal policies in the new transport agenda of managing transport demand. It then considers the fiscal policies that can be used to influence consumer behaviour in acquiring and using different forms of transport, before going on to explain how these policies have – or have not – been used in the recent past in the UK.

The chapter then argues that the use of fiscal policies has been quite limited, particularly in comparison to other countries. It therefore advocates and examines the implications of the adoption of a wider range of fiscal policies, as part of a wider package of economic instruments and regulations to achieve transport demand management in an effective manner that also recognises the political sensitivities involved.

## *The Purposes of Taxation*

Before considering the specific role of taxation and transport policy (and traffic restraint in particular), it is important to set this within the context of the purpose and function of taxation in a modern economy. Broadly, tax is used for four purposes:

- A) To raise general government revenue
- B) To pay specifically for collective goods and services
- C) As an instrument of economic policy
- D) As an instrument of other policy areas

Road transport taxation was initially introduced for (B) as individual payment for road networks was impractical. This principle was behind the original Road Fund Duty in the UK and is the rationale for hypothecated transport taxes in many countries. However, in the UK this rationale soon merged into (A), which is the longest-established rationale for taxation. Revenues from transport taxes are general and are allocated according to government priorities of the day.

The third rationale (C) emerged in the wake of Keynesian economics after the Second World War and, informed by various economic philosophies, it has been with us ever since. The fourth rationale (D), that the design and implementation of taxation measures should serve other policy aims is a recent and only tentatively established purpose of taxation. This includes using fiscal instruments to achieve environmental policy goals.

The interplay and differing importance of these four functions of taxation has a number of implications. Lobbyists have used the different purposes as rationales for their own purposes. For example purpose (B) was used during the autumn 2000 fuel protests in the UK to argue that road taxation was in excess of road expenditure, totally denying the issue of external costs (purpose D) or core purpose A – contributing to general government revenue. However, even when a more rounded view is taken there can be problems of interactions between the four purposes. In particular, taxation measures for general income raising and economic policy may counteract fiscal instruments for environmental policy, since the former act generally, while the latter must be targeted to influence specific behaviour whose marginal external cost is greater than its internal cost. Secondly, measures designed to fulfil general income raising and economic policy may be difficult to adapt to address environmental policy concerns. There is a design issue here in that traditional measures such as taxation on income, expenditure and wealth are not the sort of thing that can effectively influence environmental performance. The tax needs to be on environmental impacts. This key design issue is behind the concept of *Ecological Taxation Reform* – that tax should be on environmental impact and not wealth or income.

In addition, there is the crucial point that the way in which central (and also local) government revenue is collected can only exert a certain influence. How that revenue is spent is crucial. For example, if reducing taxation on cleaner vehicles is insufficient to influence car purchasers, then using revenue to provide grants would be needed – as indeed has featured in the UK with grants from the Energy Savings Trust via the *Powershift* programme.

Recognising the limits of fiscal measures is as important as identifying their potential. How they fit in and support other policies (regulations, standards, procurement and subsidy) is thus a crucial issue (Potter, 1992). The process of raising taxation alone cannot be an effective instrument of transport policy.

### ***Fiscal Measures to restrain traffic***

The above context needs to be understood as we examine how transport taxation measures have been adapted in an attempt to restrain traffic. The first point to consider is that taxation has an effect at several points on the traffic generating system. There is:

- Tax on the initial purchase of a vehicle;
- Annual registration tax;
- Tax on the use of vehicles (fuel, roadspace and company cars);
- Tax on the use of alternatives to the motor vehicle.

## Tax on vehicle purchase

In the UK, the use of tax to 'green' the purchase of vehicles has been all but ignored. VAT is imposed at the standard rate of 17.5 per cent on new cars. Until, 1991, there was a special Car Purchase Tax of 10 per cent on five-sixths of the list price of a new car. Following lobbying by the motor industry, which at the time was experiencing a slump in the level of new car sales, this was reduced to 5% in 1991 and abolished altogether in 1992 (at an overall cost to the Treasury of £750m per annum). Some countries already vary VAT according to vehicle size; for example, in Italy VAT is charged at 19% on cars with an engine capacity of less than 2,000cc (2,500cc for diesels), and at 38% above this threshold.

The European Commission is tentatively looking at the idea of whether goods with an Ecolabel could qualify for a lower level of VAT. A more viable proposition might be to adapt the Italian system by retaining the existing UK VAT rate for cleaner cars and raise the VAT level for non-clean cars. However, the effectiveness of such a measure would be reduced because so many new cars in the UK (over 50%) are purchased by companies who can reclaim VAT. A reintroduced, perhaps CO<sub>2</sub> emission-based, purchase tax would be a more appropriate step in the UK.

## Ownership and registration

The UK Government has recently altered policy on annual registration (or 'circulation') tax such that this is now related to engine size, and, for new cars, to CO<sub>2</sub> emissions. A flat rate annual fee has been replaced by a four band system for new cars (those registered after 1<sup>st</sup> March 2001) and two band system for older cars. This is shown in Table 1, below:

**Table 1: Vehicle Excise Duty, UK**

<b>Cars Registered since March 1<sup>st</sup> 2001</b>				
	<b>CO<sub>2</sub> (g/km)</b>	<b>Diesel car</b>	<b>Petrol car</b>	<b>Alternative fuel car</b>
Band A	< 150	£110	£100	£90
Band B	151 - 165	£130	£120	£110
Band C	166 - 185	£150	£140	£130
Band D	> 185	£160	£155	£150
<b>Cars Registered</b>				

<b>before March 1<sup>st</sup> 2001</b>	
Engine size	Annual charge
< 1549 cc	£105
> 1549 cc	£160

The range, from £90 - £160 is relatively narrow compared with longstanding engine size-related ownership taxes elsewhere in Europe. It is unlikely that such a small tax penalty will, of itself, have a significant impact on the size of vehicles purchased, but if combined with a complementary CO<sub>2</sub> purchase and use taxation measures, this reformed VED could have a much greater synergistic impact.

### **Taxes on vehicle use**

Tax on fuel is the main fiscal measure on use, although the tax treatment of company cars (which is on both availability and use) is significant. Motor fuels are subject to the standard rate of VAT of 17.5%, which currently raises £5 billion per annum, but the main tax, raising £22 billion per annum, is Excise Duty on road fuels. The Fuel Duty Escalator (FDE) policy was introduced under the Conservative government's 1993 Budget and was justified at the time as a major contribution by the government towards the reduction of carbon dioxide emissions. It was also linked to the abolition of car purchase tax, with the argument that there would be a shift from taxation on car ownership to car use. The £750m loss (1992 prices) from abolishing car purchase tax would eventually be transferred to fuel duty.

The fuel duty escalator was set as an increase of 5% in real terms each year. It was then increased when the 1997 Labour Government came to power, but halted in 2000 and, in the wake of the autumn 2000 fuel price protests, effectively reversed in 2001.

The extent to which the price of fuel is an effective tool to influence modal choice has been the subject of some contention. But the UK experience does suggest that, just as it was abandoned, the FDE was starting to have a cumulative impact. Potter, Enoch and Fergusson (2001) draw upon the study by Glaister and Graham, AA/UKPIA (2000). They note that fuel duty increases have not stopped the increase in car use and this, it is asserted, makes them ineffective (or indeed a "green" smokescreen for raising government revenue). However, traffic growth has *slowed*, and has been running under growth in income (GDP) since the early 1990s, when the fuel duty escalator was introduced. This contrasts to the period before the escalator, when traffic growth was running above GDP, sometimes (as in the late 1980s) substantially. In 1998-9, in spite of a continuing period of steady economic growth, traffic growth (in vehicle miles) was around 1 per cent, and non-motorway traffic growth was nil. In the same year, passenger rail use rose 8 per cent, rail freight grew by 6 per cent, bicycle use grew by 5 per cent

and motorcycle use grew by 17 per cent (DETR, 2000b). Urban bus use has also increased in many areas.

Overall it is felt that, as well as fuel prices, capacity constraints are also playing a role in slowing traffic growth, but – as Glaister and Graham point out – the literature suggests that fuel prices do have an impact on demand and on motorists' behaviour over the longer term. However, no single policy measure will be effective in reducing emissions and promoting modal shift or other behavioural change; a more comprehensive approach, involving packages of measures, is required.

It should be noted that within this general policy of raising fuel tax measures to favour cleaner road transport fuels have also been introduced. However these have little impact on traffic restraint. Indeed, as the effect of any measure is to reduce the cost of such fuels, such policies will be likely to increase car use. This includes the lower tax rate on low-sulphur petrol and ultra low-sulphur diesel introduced in 2001 and the duty differential between gaseous fuels (CNG and LPG) and petrol and diesel. The 2001 Budget also contained a pledge to introduce a new duty rate for biodiesel in the 2002 Budget, at 20 pence per litre below the ULSD duty rate.

Such tax measures to encourage cleaner-fuel cars have been complemented by a subsidy programme. Launched in 1996 the *TransportAction PowerShift* programme offers grant support for the purchase of



low-emission vehicles. PowerShift has a budget of £30m from 2001-4.

Thus, while the Fuel Duty Escalator policy (designed to reduce the overall volume of car use) has been abandoned, the tax differential for cleaner fuels has been maintained and new measures are emerging – which may have the effect of increasing car use, by reducing the cost of more environmentally-friendly cars.

Clearly there is a complex relationship between taxation on purchase, ownership and use of cars, and in recent debates arguments have tended to concentrate on one form of taxation, rather than the

cumulative effect of them all. In the UK, fuel duty has attracted a disproportionate attention, with the oft-made claim that our fuel taxes are the highest in Europe. Recent research for the Scottish Executive (Colin Buchanan and Partners, 2000) shows that in terms of all taxes on car ownership, the UK lies around the median of EU Member States and Norway (see Table 2, below), although it is second only to Italy in its taxes on car use (which includes fuel taxation).

**Table 2: Taxes on car ownership and use,  
EU Member States and Norway, 2000 (£)**

	<b>Country</b>	<b>Tax on ownership</b>	<b>Country</b>	<b>Tax on use</b>
1	NL	621	I	705
2	EI	566	UK	694
3	DK	526	F	693
4	SU	482	NL	674
5	GR	391	B	588
6	B	318	D	567
7	UK	282	N	563
8	I	263	SU	550
9	F	262	S	520
10	N	246	E	516
11	S	223	DK	498
12	E	193	EI	440
13	D	180	GR	432
14	L	145	L	379

This evidence does suggest that the policy began under the Conservative administration in 1992/3, to shift motoring taxation away from ownership to use, is what has been achieved. The overall level of taxation is not high by European standards – but the UK does gather proportionately more from taxes on use rather than purchase and ownership. It does seem that this long-term policy has now stalled and,



apart from fiscal incentives for cleaner transport technologies, there does not seem to be an overall strategic rationale for future policy directions.

### **An Integrated Approach to Economic Instruments for Traffic Restraint**

The above analysis indicated that there has been a retreat from using the tax system to manage the volume of car traffic. This can be linked to the widespread perception that the motorist is simply a convenient source of revenue and that the environmental justification of taxation is little more than a matter of presentation. This led to the autumn 2000 ‘fuel protests’ in the UK and elsewhere in Europe, with the UK alone reducing annual automobile and truck taxation by £1.5 billion. Well before they have reached a ‘fair and efficient’ level, vehicle and fuel taxation have hit serious barriers, which politicians do not appear to have the stomach to tackle.

At the same time as the retreat from tax measures for traffic restraint, there has been an increasing emphasis on its use, together with public grants, to clean up vehicles. Thus we appear to be moving to a tax regime that seeks not to influence the volume of traffic, but to clean up whatever amount of traffic there is.

If economic instruments are to be used effectively as part of a traffic restraint policy, recent experience also shows that a single policy measure (such as the fuel duty escalator, or measures to influence the fuels used in vehicles) can be ineffective. The effects of the taxation system upon modal choice requires a more comprehensive approach of synergistic, integrated policy measures. A full range of possible fiscal measures to influence travel demand is shown in Table 3. Neither the UK nor any other country has used this full range to date.

**TABLE 3 Vehicle, Fuel and Traffic Market-Based Incentives**

	<b>Direct</b>	<b>Indirect</b>
<b>Vehicle</b>	Emission Fees	Tradable permits  Differential vehicle taxation  Tax allowance for new vehicle
<b>Fuel</b>		Differential fuel taxation
<b>Traffic</b>	Mileage-related vehicle tax (as used for freight in New Zealand)	Fuel taxes  Congestion charges  Parking charges

## Subsidies for less polluting modes

### Tax allowance on mileage-related insurance

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The issue of developing a complementary package of economic instruments is discussed in detail in the European Council of Ministers of Transport report '*Internalising the Social Costs of Transport*' (ECMT, 1999). This advocates a synergistic mix of taxation and charging instruments, including a number of local targeted mechanisms, such as road pricing. Broadly the view is taken that a carefully designed mix of various economic instruments and regulations is needed to achieve political acceptance and practicality.

This brings us into considering the other elements of such a synergistic package, and to fiscal measures that are less widespread, and about which there is less experience and knowledge of their policy effectiveness. The first group of these can be categorised as taxes on road space and parking; the second, hypothecated local taxes; and the third, nationwide changes to the personal taxation regime to stimulate new transport behaviour.

### **Taxes on Roadspace and Parking**

Road user charging, area pricing, congestion charging, parking charges and development levies have recently emerged on to the traffic policy agenda. However, the legislation to provide UK local authorities with powers to introduce workplace parking levies and congestion charges had hardly reached the statute book, before signs of very cold feet emerged in most town halls, and in government itself. In England, only 25 Local Authorities have expressed an interest to Central Government in implementing either policy. Additionally, in Scotland, workplace charging was removed from the Transport Bill before it became the Transport (Scotland) Act 2001. This reflects the general political retreat from the use of economic instruments for traffic restraint.

A number of local charges upon road users, such as road tolls and parking charges have existed for decades (if not centuries). These have evolved for pragmatic financing reasons totally unconnected with transport demand management issues. In the USA and elsewhere in Europe, there is longstanding use local earmarked (or 'hypothecated') funding for transport developments. The role that local charging mechanisms could play in this was recently researched for the European Commission (Van den Branden 2000).

### **Hypothecated Local Taxes**

Several minor examples already exist in Britain where money raised is hypothecated to transport. For example, any excess money raised from parking fines in either Special Parking Areas or Permitted Parking Areas - whereby parking offences are decriminalised and become the responsibility of local authorities - are retained by the highway authority, and could therefore be used to pay for public

transport improvements. In most cases, this is treated as a general source of income to a local authority, but there is no legal barrier to a policy of local hypothecation.

Significantly, hypothecation of charges also features in some private sector schemes. For example, airport operator BAA already operates a private sector equivalent of the workplace parking levy. £10 from each annual staff car parking pass goes to a public transport budget at Heathrow, Gatwick and Stansted Airports. In addition, 25p of each public parking charge goes to the fund as well.

Outside the UK, the use of local hypothecated funding mechanisms is more common and, in many countries, is an accepted and important funding source. Altogether, the CEC project identified eight major types of funding source where monies were hypothecated to public transport. In summary, these were:

- Employer/employee taxes
- Property-related taxes
- Developer levies
- Levies from parking charges and fines
- Road user charges,
- Local motor taxes
- Consumption taxes
- Cross utility financing

Perhaps the most well-known case of where money is hypothecated to pay for public transport, is '*le Versement Transports*', in Paris. This came about in circumstances not dissimilar to those faced by London and other UK cities today. In the late 1960s local politicians began to realise that traffic congestion was becoming a serious problem, and that the financial needs of public transport had been neglected for too long. The answer was a local tax levied on employers with ten or more employees. Starting with Paris, powers to raise *le Versement* have gradually been extended across France, and three-quarters of the authorities set VT at its maximum allowable rate. As a percentage of the wages bill, for Paris and the Ile-de-Franc the it is 2.2% in central areas, 1.6% in the inner ring and 1.3% in the outer ring. In provincial cities of over 100,000 population and with a fixed track public transport system it is 1.75%, for those with buses it is 1.0%. For smaller provincial cities of under 100,000 population, the maximum rate is 0.55%.

In the United States the existence of powers to levy local charges has led to a variety of hypothecated measures to fund public transport. The most commonly applied dedicated public transport funding

mechanism is a local sales tax, either general or on specific products (e.g. on beer in Birmingham, Alabama!). Other local taxes to support public transport are on gambling and cigarettes.

In order to become a useful economic instrument, such local mechanisms need to confront users with consistent and appropriate prices reflecting the true costs of transport use. Sadly, given the ad hoc nature of many of these local taxes and charges this is not often the case in the USA at least. This is an important point. In the UK context, the current image conscious Government may be tempted to allow local authorities to raise their own local charges simply as a means of ridding itself of a hot political potato. Care needs to be taken to ensure that the necessary support and complementary national action is in place.

At a national level, there have been useful changes to the taxation regime, including the maintenance of high levels of fuel duty, plus the new ten-year spending programme for transport. Developing national measures and agreements to ease the introduction of local charging mechanisms could be very important. These might include, for example, temporary measures to lower some business taxation where congestion charges and workplace parking levies are introduced (as happened with Enterprise Zones in the 1980s).

Local funding mechanisms for transport can work and be an effective transport policy tool, but lessons need to be learnt quickly about their best use. There have been mistakes, but there have been many successes. We should not stumble into the mistakes of others, or fail to join in their successes.

### **The Personal Taxation Regime**

The personal taxation regime is a potentially very powerful tool for influencing travel demand, given that it affects all those receiving an income greater than the annual personal tax allowance. The UK is beginning to consider ways to use this tool in to influence travel behaviour, but change is slow, for three main reasons:

- In the UK, any such changes would constitute a major departure from precedent;
- There are political risks attached to any changes; and
- Any changes should ideally have minimal effect on overall tax revenue.

In general, in the UK the cost of travelling between home and work is not an allowable deduction for the purposes of assessing employees Income Tax or National Insurance contributions. Thus the personal taxation regime has not featured in any serious way as an economic instrument for transport policy purposes. The main exception has been successive attempts to correct the unintended negative impact of company car taxation. The tax treatment of company cars has a long and complex history, stemming from the low taxation upon them in the 1970s leading to a company car 'culture'. This has stimulated the purchase of more powerful and less fuel-efficient cars, which has a major effect upon

the fuel economy of the whole of the UK car stock. Furthermore the design of the tax system has also stimulated additional car travel that would not have otherwise taken place (TEST 1984, Potter, 1992). Gradually reforms have cut down these negative effects, but they are still present.

The most recent reform in company car taxation is due to take effect from 6 April 2002 by linking the tax charge on company cars to their emissions. Like many recent changes in transport taxation, this is designed to influence the choice of car and not the level of use. However, as part of this, business mileage discounts are to be abolished when the new system starts. At present, a tax discount of one-third applies to company car users who drive over 2,500 miles a year on business and there is a discount of two-thirds for those whose annual business mileage exceeds 18,000. These have been widely acknowledged as stimulating company car users to drive over mileage thresholds so as to reduce their personal tax liability. In order to achieve these high mileages, they must drive to work, so commuting mileage is also affected.

For income tax purposes the provision of fuel by the employer to the employee is also taxed as a lump sum, whatever the private mileage involved, and so stimulates drivers to 'use up' their allowance, and any further petrol use above this is tax free.

The tax treatment of company cars has thus begun to be a transport policy economic instrument, although the predominant effect is to clean up company cars rather than traffic restraint. Outside of this, the personal taxation regime has only come on to the transport policy agenda because of its adverse effect upon the recent policy of encouraging employers to develop Travel Plans.

### **Travel plans and personal taxation**

Travel Plans (which confusingly go under a variety of names) are implemented by organisations to 'green' the travel of staff and customers (Rye, 1999). When, in the mid 1990s, Travel Plans first started to be used in the UK, there was some confusion as to whether or not certain measures were (or were not) liable to Income Tax or National Insurance Contributions. (NICs). Historically, there have been a few clearly defined statutory exemptions to this general rule. The main examples were that car parking for commuters and the benefit of interest-free loans (up to £5,000 per tax year) for buying season tickets, cars or any other personal vehicle.

The situation was further complicated because some Travel Plan measures suffered from the problem that, although they were not the subject of a statutory or extra-statutory exemption, by common practice they had largely been ignored by local Tax Inspectors. The most obvious example of this 'grey area' was works buses, which many employers had provided for decades. By the mid 1990s, although most of these 'grey area' benefits continued to be ignored, a number of local Tax Inspectors were turning their attention to the private benefit of works buses. In one example, Johnson and Johnson Medical, the taxation of works buses set in motion a series of events resulting in the proportion of staff

commuting by bus to this rural site collapsing from an impressive 20% to only 5% (Potter, Rye and Smith 1998).

All this was coming to the fore at the time that the Government adopted Travel Plans (then called Green Transport Plans) as part of its Integrated Transport Policy. Companies were being exhorted to develop Travel Plans, while the taxation system treated many Travel Plan in a inconsistent, uncertain and often complex manner. Not surprisingly, the overall reaction of companies, and particularly their accountants, was to avoid tax liable measures. This basically reduced Travel Plans to marginally effective facilitating and informational measures only.

In the last three years important progress has been made to remove or reduce the various tax barriers to Travel Plan measures. The 'grey area' problem was substantially addressed in the March 1999 Budget. In detail these reforms, taking effect from 6 April 1999, were that no tax or NICs would be liable on:

- Works buses of 12 or more seats<sup>1</sup> used mainly to bring employees to and from work;
- General subsidies to public bus services used substantially for commuting, provided that the employees pay the same fare as other members of the public;
- Bicycles and cycling safety equipment.
- Workplace parking for bicycles and motorcycles.
- Alternative transport for car sharers to get home in exceptional circumstances, such as working late, domestic emergencies etc.

In addition, a cycling business mileage allowance of up to 12p per mile was introduced, which rises to 20p from April 2002. The 2001 Budget also introduced a new car passenger rate of 5 pence per mile per passenger from April 2002 to encourage car-sharing on business trips.

These concessions leave within the tax net a number of direct incentives and possible disincentives that feature in some Travel Plans. Key amongst these are two of the most effective measures: the subsidy of bus fares by the employer; and charging employees for car parking. At present, if an employer charges an employee £1 to park their car at work, only 57 pence of this can be used to fund subsidies for bus fares, since the rest must be used to pay tax on the subsidy and VAT on the parking charge.

While the British Government did consider altering the tax system to accommodate these issues prior to the 2001 Budget, it chose not to proceed beyond a few cosmetic changes, while at the same time cutting motoring taxes by £1.5 billion. This stands in contrast to a number of other countries that have

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<sup>1</sup> reduced to 9 or more seats from 2002

recognised that Travel Plans require serious support from the personal tax system for them to become an effective policy mechanism.

The Netherlands, for example, started with a tax regime different to that of the UK in that commuting was tax deductible, with the system particularly favouring commuting by car and by public transport, but not by bicycle. (Essentially all commuting costs incurred above a 10km minimum limit were deductible). Their initial reforms involved incremental changes to favour more sustainable forms of travel while not eroding car commuting allowances. Allowances for public transport were increased and conditions relaxed or abolished. In 1998 tax concessions for formal carpools were also introduced. This incremental approach created a very complicated system of allowances. The Dutch are therefore embarking upon a more substantial change, implemented from January 2001. The key to this is that the transport/environmental issue is not treated in isolation from the general economic and equity basis of taxation. As in the UK, there is a long-term policy to reduce personal taxation and the opportunity is being taken to target these reductions to support environmentally policies. In summary, these are:

- The benefits for public transport and carpool commuters will remain as now.
- For car drivers, the allowance for travel costs paid by the employer to employees that they can offset against tax and the right to write off commuting costs will be completely abolished. It is estimated that this will net the Dutch Treasury some 500m Guilders (£150m).
- For cyclists, the distance-related tax allowance (for trips over 10 km) will be replaced by a flat allowance of 750 Guilders per year, irrespective of distance travelled.

The key to the political acceptance of this change in commuting benefits (particularly the abolition of car allowances) is that it is part of a wider reform to the tax system involving a reduction of personal taxation by 6 billion Guilders per year. The loss of 0.5 billion Guilders in car commuting allowances is more than swallowed up by the general tax cuts. Thus everybody gains, but those travelling by more sustainable transport modes gain more than most.

Overall, the Dutch having moved through a stage of incremental 'add-on' reforms to address transport and environmental objectives, and have now progressed to these objectives becoming structurally part of the design of long-term personal tax reduction policies.

The USA has started from the same position as the UK, in that commuting costs are not tax deductible, and that employer transport benefits-in-kind are taxed. In general, as in the UK, the concessions that exist favour car commuting (e.g. workplace parking is untaxed, and up to \$60 dollars per month of any charges that are paid by an employee for workplace parking may be written off).

The USA has targeted tax concessions on employer-provided measures, since the mid-1980s. Further enhancements and developments have then been added over time to produce a raft of targeted exemptions on public transport (up to \$65 a month, to be raised to \$100 in January 2002), vanpools and

parking for van and carpool vehicles. Public transport tax benefits were available only through voucher schemes – the employee received \$65 of their pre-tax income as a voucher that they could then exchange for a public transport ticket. However, in 2001 this was supplemented by the ability to pay pre-tax income in cash where such voucher schemes are not in operation. In 1999, Ireland introduced a measure that is similar in principle to the USA transit provisions. This is that employer-provided monthly or annual public transport passes up to I£696 a year (£580) are exempt from personal taxation.

In the USA and the Netherlands, the ability to write the costs off against tax of public transport to work is an important benefit that is often provided irrespective of whether the employer in question has a Travel Plan or not; the benefit goes wider than this. It has also been shown to have a significant effect on how employees choose to get to work.

Overall, a summary of US and Canadian evidence reported in IBI Group (2000), indicated that *on average* the number of employees using public transport to get to work would increase by 37% if they are offered the benefit of a tax concession on their public transport costs. To give an example: if, from a total workforce of 1000, 200 (20%) currently commuting by public transport, then the introduction of the tax free benefit on all or part of their public transport costs would increase that number by 37% to 274. The number by car would drop from 800 to 726 – a 10% drop in car use. The total modal share of public transport for the whole workforce would therefore increase from 20% to 27.4%.

In principle, the USA has, like the Dutch, sought to provide a series of tax concessions for more sustainable commuting modes. However, they have started out from a different position and have targeted their measures more precisely and have also limited the tax concession to a maximum ceiling.

This review of the tax regimes of other countries raises some important issues. The Dutch have accepted that, initially, they would need to forgo tax revenues to incrementally improve their tax regime. Instead, environmental and transport policy considerations have been incorporated into the core criteria of tax policy design. Thus, within an overall tax cutting budget, they can shift the tax balance in an equitable way, including increase taxation on motoring while retaining the tax concessions for sustainable commuting. The USA is in the process of incrementally developing personal tax concessions, but these are very targeted upon measures that have been identified as having most transport and environmental policy impact. The view is that it is good to cut tax, but it should be done in such a way as to achieve the best results.

For the UK, two courses of action on the personal taxation regime now appear to be appropriate. The first, is to remove the tax liability on employer-provided subsidies for the use of public bus services to work. This would have minor impacts in terms of behaviour and tax loss, since few organisations are currently doing this, but considerably more cite it as a barrier to the success of their Travel Plan. As of autumn 2001, UK Government ministers are considering on the possibility of this change.



A second and much more significant action would be to permit deduction of commuting expenses by public transport, but to set a limit on this of about £500 per annum (index linked). The limit would be to ensure that the reform would not be regressive, since wealthy rail commuters into London would benefit most from an un-capped concession. According to research for the Inland Revenue and DETR (Potter, Rye, Black and Enoch, 2001), this reform would cost a modest £290m per annum in lost tax revenue; raise public transport use by about 5%; and cut car use for journeys to work by about 2%. The social benefits of a reduction of this magnitude would far outweigh the revenue loss. Thus far, however, the UK Government shows no signs of wishing to adopt such a measure.

## **Conclusions**

This brief review of the use of personal taxation and sales and other taxes to influence consumers' travel behaviour has shown that there have been some useful and positive measures developed and reforms implemented. However measures have tended to be designed and implemented in isolation, leading to reduced impact and cost effectiveness. The overall strategy not been entirely consistent. Some measures discourage car use, some encourage it, while others seek to 'green' vehicles and avoid the knotty issue of traffic restraint altogether. Others appear intent on 'passing the buck' to others (local authorities, employers etc.) The measures to reform the personal taxation regime and to remove the tax complications of Travel Plans are minor in cost and effect when compared to the Government's willingness to put £1.5 billion into a reduction in Fuel Duty. If used in an integrated and radical manner – and at some cost –, the taxation system has the potential to be an extremely effective tool in managing transport demand.

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