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Unfare solutions: Taxing vices to solve the transport crisis

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Abstract

A key element in all national and local transport policies addressing environmental goals is the development of attractive and popular public transport systems as an alternative to car travel. This often requires major investment, at a time when already stretched traditional public spending levels are also needed to fund improvements to other sectors, and when electorates are reacting against paying higher taxes.

One approach has been for Governments to cut costs through privatisation, and/or efficiency savings, and this path has become increasingly trodden on over recent years. Less common are examples of local transport authorities raising money specifically to pay for improvements to public transport through dedicated local charges and/or taxes. As well as raising money for public transport development, such new sources of financing can themselves be urban transport tools (e.g. road tolls and parking charges). The issue of new sources of finance for public transport investment and operations is one that exists whatever form of ownership or regulation model is adopted, and the links between these financing mechanisms and transport policy are increasingly important.

The use of such instruments has moved up the transport policy agenda in recent years, but actual experience appears limited. The paper reports the results of a CEC study [1], to which the authors contributed, that identified numerous cases of local earmarked finance from across the world that have been used to fund public transport services. These range from fairly prosaic measures such as taxing property, to taxing oft-frowned upon activities (which may even be labelled vices) such as drinking, gambling, smoking, driving, flying, and shopping. A common framework was also developed to allow policy makers to evaluate each case's appropriateness for their own needs.

Funding public transport

Traditionally, financial support for public transport has been obtained through general taxation revenues. In many countries, this is becoming less viable for a number of reasons. In general, there has been a trend towards deregulation and a desire to reduce overall levels of taxation, while at the same time long term demographic and social trends have led to increasing demands from a number of public services, such as education and health. There is thus increasing competition for public funds with a transport tending to be squeezed. Added to this is the difficulty that public transport does not cope well with stop-go or variable levels of funding support. Subsidies for public transport revenue support produce an ongoing commitment and capital investment requires large sums of money committed in advance, often over long periods of time.

This combination of circumstances has led to a search for new sources of funding, which have included the private sector (via privatisation or contracting agreements) and earmarked charges or taxes. The idea of collecting a tax or charge for a dedicated transport purpose is far from new. Indeed in many countries this is how taxation or charges from transport began. For hundreds of years local parishes and communes charged tolls for bridges and roads. In the twentieth century a number of countries shifted this collection to the state or national level. In the early 20th century nations introduced fuel and vehicle taxation to improve the quality and maintain roads in response to the needs of motor vehicles. However, before long, most of these earmarked taxes became incorporated within general taxation on goods and services. National earmarked transport taxes are now relatively rare in modern economies, but at the local level this funding mechanism is increasingly re-emerging and, in some cases, is an integrated part of local transport policies.

There are a variety of terms to describe what this paper calls *Local Earmarked Taxes* (LETs). The idea of the revenue being dedicated to a particular purpose is sometimes referred to as ‘earmarked ’, ‘ring fenced’ or ‘hypothecated’, the latter being the technical term used by finance ministries. Whatever it is called, the mechanism by which the dedicated money is raised may be a tax, a charge or a levy, depending on its legal status.

Advantages and disadvantages of earmarking taxes and charges

The dedication of revenue streams is something that finance ministries have long disliked and there is considerable institutional opposition to it. Deran [2], in a classic text on the issue of earmarking revenue streams, summarised the criticisms and justifications for earmarking as follows:

Criticisms

1. Earmarking hampers effective budgetary control;
2. Earmarking leads to a misallocation of funds, giving excess revenues to some functions while others are under supported;

3. Earmarking impacts inflexibility to the revenue structure, with the result that legislatures are hard put to make suitable adjustments when conditions change;
4. Earmarking provisions often remain in force long after the need for which they have been established has vanished;
5. By removing a portion of fiscal action from periodic review and control, earmarking infringes on the policy-making powers of state executives and legislatures.

Justifications

1. Earmarking can apply the benefit theory of taxation;
2. Earmarking assures a minimum level of expenditure for desirable governmental functions, avoiding the need for wasteful repeated pressures on the legislature;
3. Earmarking, by assuring continuity for specific projects, can reduce the cost of these projects through lowered bond interest rates and advantages of long term planning;
4. Earmarking can help overcome resistance to new taxes or increased rates.
5. Earmarking is a proven way to influence citizens' acceptance of measures.

Earmarking and public transport

The justifications clearly strike a chord in relation to the funding needs of public transport, particularly when capital projects are involved. In a more recent commentary on the public finance principles of earmarking, Teja and Bracewell-Milnes [3] conclude that "the objections to earmarking are weak and invalid because they assume a Utopian system of public finance and democratic decision-taking that bears little or no relation to reality". They continue "earmarking creates wealth in two separate ways: by improving the allocation of resources and by giving scope to the voluntary principle. In each of these ways wealth is created through the replacement of compulsion by choice". Overall it appears that public transport is one area of public expenditure where revenue earmarking is particularly appropriate, although earmarking should not be taken to an extent that it causes problems of inflexibility in public finance.

Dedicated Taxes and Charges and Principles of Taxation

Once the concept of earmarked taxes and charges to subsidise public transport has been accepted, the next issue concerns the source of this revenue. This concerns the principles behind how this money is raised, and these principles need to be considered whether the mechanism is labelled a 'tax' a 'charge' or a 'levy'. Essentially, taxation can serve four major purposes [4]:

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

As noted above, road transport taxation was initially introduced for (B) – to pay for improved roads as motor vehicle numbers (and traffic casualties) increased. However it soon merged into (A), which is the longest-established rationale for taxation. The third rationale (C) emerged in the wake of Keynesian macro-economic theory after the Second World War and, informed by various subsequent economic philosophies, 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, which includes the use of fiscal instruments for environmental policy. LETs, at their own level, may have an element of all of these purposes.

Approaches to Implementing LETs

Local earmarked taxes and charges have emerged over a number of years and in different specific situations. It is therefore not surprising that the design of these various LETs measures has placed different emphasis on the principles and purposes of taxation considered above. There appear to be three main groupings, depending upon who pays. These are:

- Beneficiary Pays (To pay for collective goods and services)
- Polluter Pays (as an instrument of environmental/transport policy in order to discourage social harm)
- Spreading the Burden (to achieve a broad base of taxation)

Beneficiary pays

As noted previously, one of the oldest rationales for taxation is for services that cannot be provided on a market exchange basis. Defence, police, ambulance and fire services are obvious examples as are most roads (although it is possible for motorways to be provided on a market basis using tolls). Certain aspects of public transport also have a collective consumption benefit. These include the economic benefits to towns and cities and labour force benefits to employers.

The Beneficiary Pays principle seeks to use LETs to charge people and organisations for these collective benefits. This could involve a local charge to the area where public transport investment takes place. A number of examples of LETs have developed from this approach. These include LETs on employment, on property, on land values and on developers. Of these, the last is most common, with payments from developers being required to compensate for the transport impacts generated.

While perhaps the best known example of an employer tax to fund public transport is the '*Versement Transport*' in France, this was actually preceded by the '*Dienstgeberabgabe*' in Vienna, introduced in 1970 to pay for the construction of the city's underground railway. Employers in Vienna with ten or more people must pay €1.1 per week per employee, although there are number of exemptions. Overall, this tax raises about €21.5m a year, which covers 10% of the overall construction budget of the metro [5]. The most extensive employer tax is France's '*Versement Transport*', first introduced in Paris 1971, and

gradually extended such that it is levied in all urban areas with more than 100,000 population, and in 80% of cities with populations between 20,000-100,000 [6]. The maximum allowable rate varies with area, varying from 2.2% of the wages bill for central Paris to 1.75% provincial cities with over 100,000 population and that have fixed track system, 1.0% if they only have buses and 0.55% in smaller provincial cities.

The VT has provided significant sums for public transport investment. It has, for example, enabled the modernisation of the Paris metro and the construction of metros in Lille, Lyon and Marseille, along with several new tram systems. In Paris in 1998, VT raised €710m, 24% of income. Of this, one third is allocated to support depreciation costs while the remainder subsidises fares [7].

Employment taxes are also used in the USA. The Tri-County Metropolitan Transportation Authority (Tri-Met), and in Eugene by the Lane County Mass Transit District impose a payroll tax of up to 0.6%. They are a significant income source. In the 2001 financial year, the payroll tax generated a net of $US151.6m (€170m), some 56% of Tri-Met's operating budget [8]. Employee taxes are also levied in Kentucky, Ohio, Indiana and Washington.

Earmarked property taxes are also a common method to finance public transport systems in the USA, used in Anchorage, Minneapolis/St Paul, New York, Denver, Detroit, Milwaukee and Miami. In addition a mortgage tax, effectively a form of property tax, is used to fund public transport in several parts of New York State, including Albany and Buffalo. One fairly typical example is in Minneapolis, Minnesota. In 1999, the dedicated property tax raised $US62.5m (€68.7m), covering just over 40% of Metro-Transit's $US156.2m (€175m) operating budget [9].

Polluter pays

By way of contrast, there are LETs that are specifically designed so that the beneficiaries are *not* the ones who are charged. Instead, the idea is that the cost to users of public transport is reduced while those travelling by more polluting modes of transport provide the funding. This alters prices and so promotes modal shift from transport vices to more environmentally virtuous methods of transport. Such LETs are an application of the 'polluter pays principle' (PPP), which is a more recent, and less well established, approach to both national and local taxation. Not only is it a different perspective but it is advocated by a different set of actors. Transport and environment ministries have seen LETs as a tool of transport demand management. As a result, a new group of LETs has emerged from a transport/environmental policy perspective, and these relate to a different set of public finance and economic theory issues. This centres upon the aim of 'discouraging social harm' by using the tax system to address environmental externalities.

The issue of external costs and benefits is long-established in economics. Transport activities are a prime example, with the costs not entirely borne by individuals involved in undertaking their travel. The costs associated with air and noise pollution, congestion and accidents for instance are not taken into account

in deciding how many journeys to make, either because the travellers are unaware of them, or they are unwilling to do so. Economic theory suggests regulation to rectify this position, or measures to internalise the external costs. The most efficient solution is the imposition of a Pigouvian tax (equal to the marginal external cost), although imposing such an ideal tax is still not politically realistic in practice.

In practice, taxes and charges on fuels and vehicles are the most commonly used measures. Historically, such taxation has existed for many years as a reliable source of general government revenue. Many may have started, as already noted above, as dedicated taxes to fund road building, but then became incorporated into general government finance. Now, with the rise of environmental concerns, transport taxation has come to be justified in terms of environmental policy. The use of market-oriented instruments such as levies and tradable emission rights within environmental policy is the clearest and most direct way of interpreting the 'polluter pays' principle. This is the concept behind the European Commission's green paper on *Fair and Efficient Pricing for Transport* [10] and a variety of national measures that have seen taxation varied according to environmental impact, for example, favouring lead-free petrol, more fuel-efficient vehicles, and encourage commuting by 'greener' travel modes.

A number of polluter pay LETs are simply adaptations of existing charges or taxes. For example parking charges are a normal fact of life and are used by local authorities and businesses as an income flow to fund their activities. Some have adapted them to specifically pay for public transport. For example, at the London airports of Heathrow, Gatwick and Stansted, car parking by passengers contributes an average £0.25 (€0.35) for every parking transaction. This is credited to a budget that goes towards improving public transport within and around each airport. In addition, £10 (€13.9) of the annual staff car parking pass at is earmarked to improve public transport access [11]. In the city of Aspen, Colorado parking levies are paid into an Enterprise Fund, from which funds are earmarked to pay for transport alternatives, including free buses, and contributes to the costs of a new 71km light rail system [12].

Charges for using roads is not new, but earmarking revenues from road or bridge tolls to public transport is a more recent development, and today more comprehensive road user charging is attracting growing interest. In some cases this has been a adaptation of existing toll arrangements. For example the tolls on San Francisco's Golden Gate Bridge were originally to repay the construction costs. However, since the bridges, ferries and buses are unified, and the authority, the Golden Gate Bridge District does not have the authority to levy taxes, it was decided to use surplus Bridge toll revenue to subsidise the District's bus and ferry services. As of 2001, nearly half of bus and ferry operation is funded by Bridge tolls. This is not so much a planned polluter pays arrangement, but one that emerged out of existing administrative arrangements [13].

The urban road tolls in Norway are more of a planned polluter pays mechanism. These were introduced in Bergen (1986), Oslo (1990) and Trondheim (1991). Tolling is based here on a cordon system, in which vehicles must pay for entry to the city centre, and the revenues are intended to fund a

mixture of road and public transport investments, including safety and environmental improvements. Interestingly, the well known Singapore road user charging system, is not a LET, as the income is just treated as general revenue.

Taking the case of Oslo, the toll charge is NOK14 (€1.9) per car passing the cordon and a levy of NOK0.75 (€0.1) on public transport journeys. Overall the revenue raised from the toll ring for Oslo amounted to NOK1012m (€135m) in 2002. The successful implementation of the scheme has depended on a number of factors. Firstly, the road tolls were introduced 14 days after the major 'benefit' of the first phase of the charging package – the Oslo Tunnel (the Festningstunnelen) was opened. Secondly, the State agreed to match fund the revenues raised by the tolls. Third, it should be noted that these schemes form part of a 60-year tradition in Norway of roads being paid for by road tolls. And finally, the strongest opponents of the road building element were placated by the promise of 20% of any revenues raised going to pay for improved public transport infrastructure. Specifically, this has been spent on metro lines, metro stations and public transport interchanges [14].

Motoring taxation is usually seen as a national measure, but in some countries, local motor taxes are possible. This particularly applies in the USA. For example, Florida is one state in the USA that extensively hypothecates fuel tax revenues to fund public transport programmes. In addition to federal fuel tax of 18.4 cents per gallon (€0.05 per litre) the state levies 20.6 cents a gallon (€0.052 per litre) of which around one cent a gallon is dedicated to public transport. This generates about $US75m (€84.3m) a year through the State Transportation Trust Fund's Transit Block [15]. Local fuel taxes are also used in Canada, where Montreal has a 1.5 cent (€0.01) per litre gasoline tax, which in 2000, contributed $C44.5m (€31.8m) to an overall public transport budget of $C192m (€137m) [16]. Vancouver too has a fuel tax earmarked to the regional transport authority.

Spreading the Burden

One general principle of taxation is that its cost should be spread equitably across those able to pay. For a number of LET mechanisms, the source of income to support public transport is entirely unrelated to its use. Costs are not concentrated upon beneficiaries or polluters, but can be from any group able to pay. Indeed, for many LETs across the United States, the major principle behind adopting particular revenue sources has been to raise as much money in as low profile and uncontroversial a way as possible. The guiding principle is that of 'spreading the burden'. In terms of the principles of taxation, these measures are essentially designed to provide a broad tax base. Beyond that, questions of whether such taxes are fair or contribute to meeting environmental goals do not feature. For example, the general sales tax, the most widely used earmarked charge in the USA for funding public transport, is regressive. It falls disproportionately on the poorer in society and does not discourage social harm.

However, although many of these measures may not tax transport vices, they do frequently target what may be viewed as activities that should not be

taken to excess. So, for example, in Birmingham, Alabama there is a beer tax of 1.625 cents for each four fluid ounces of beer (€0.0014 per litre), one third of which goes to the Transit Authority. This yields $US2m (€2.2m) annually, and 17.8% of the Transit Authority's budget [17]. Oregon has a 3.45% cigarette tax that supports local transit [18] and in Atlantic City, New Jersey, a casino tax yields $US24.5m (€27.4m) to help fund local para-transit services [19]. In the USA, vices have proven to be a good and reliable source of funding public transport!

Discussion and Conclusions

It is clear that most local earmarked taxes and charges have evolved variable relationships to principles of public finance and the growing issue that the taxation system should be used to not only raise revenue, but steer the economy in the direction of sustainability and ecological efficiency. This means that many measures, even though they may successfully raise funds for public transport, embody contradictions or provide opposing signals. For example, the *Versement Transport* employer tax in France, where benefiting companies pay taxes towards new public transport infrastructure, may have the effect of persuading companies to relocate to areas less well served by public transport where the tax burden is reduced. Obviously as a result of this, one could expect an increase in car use among such employees, and a decline in public transport use - a very negative signal if the overall objective is to encourage people to use public transport.

By contrast, with the polluter pays mechanism, the signal operates the other way. For example, a parking charge hypothecated to public transport improvements both discourages car use and incentivises public transport use - a double dividend. Overall, the vast majority of LETs appear to have come about for reasons of pragmatism and through social policy drivers. They have not generally resulted from a transport or environmental policy agenda. However, this wealth of experience should not be ignored as policymakers develop modern polluter pays LETs integrated into transport and environmental objectives. Unfortunately, it is the polluter pays LETs that tend to be the least tried and the most controversial. They are therefore also the most difficult to introduce. On a more positive note, it is also possible to reform other mechanisms. For example, employer and employee taxes which at present are neutral or counterproductive, could reward companies locating in areas of good public transport provision (or who develop effective Mobility Plans) by exemptions or a reduced tax rate. Such a principle could also apply to property taxes and development levies.

Overall, from our research, the following lessons have been drawn for the design of future LET mechanisms. These include:

1. Paying in small and dispersed amounts is more politically acceptable than large sums.
2. Taxing polluting transport behaviour to pay for a less polluting alternative is acceptable, but the whole finance package should provide a viable alternative as early as possible. Alternatives need to be in place (or at least

underway) before the tax is in position. This means that funding needs to be raised that is then paid for from the income flow from the unconventional mechanisms.

3. A consequence of (2) is that the evaluation of LET mechanisms has to be viewed together with arrangements to raise the capital funds that they will finance. There is a major issue of whether this should be public bonds or that the income flow funds private investment in a public transport system (which could include full privatisation).
4. Using LETs to fund a popular and specific project is likely to increase acceptance. Transparency is a key issue.
5. The schemes need to be as simple as possible. Complexity tends to increase costs and reduce transparency.
6. It may be necessary to reduce other taxes to compensate the biggest 'losers' from the introduction of LETs. A reduction in fuel duty compensated by more targeted LET mechanisms or a cut in other employee taxes might be examples.
7. There is value in the phased introduction of LETs, with the flexibility to fine tune and adapt the mechanisms over time. It is presently impossible to model the impacts and success of demand management transport policy measures, so flexibility in mechanisms is very important.
8. There is a danger of adopting a LET when revenue raising is not the core problem. This seems to particularly apply in the USA where, rather than face up to an issue of efficiency in public transport operations, a LET has provided 'easy money' to avoid a hard decision.

Overall though, it should be recognised that earmarked taxes and charging can only partly contribute to changing travel behaviour. Ideally, what is needed is a blend of a reformed national tax system - to remove the distortions in pricing that currently promote car use at the expense of 'greener' modes - and local charging structures that work in harmony to deliver strong pricing signals and dependable revenue streams. At the national level it may be necessary to review the current general transport taxation regime to provide the appropriate platform for applying LETs. This may require the removal or reduction of current, inappropriate pricing signals and readjustments to ensure that overall tax take is not increased. Importantly this type of structure reinforces the principle of subsidiarity, whereby decisions on the direction and scale of local charges are made at the local level thus helping ensure that they are properly targeted and that they fulfil specific local sustainable objectives.

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