



Rationing roadspace: Is pricing really better than congestion?

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Abstract:

Congestion is regarded by most transport planners as the principal "externality" created by automobile usage, and road pricing as the optimum response to this and other externalities. This paper critically examines both propositions and suggests that they suffer from a series of flaws that are rarely acknowledged. Specifically:

1. The cost of congestion is an invalid concept in an urban area, or at least so vague in its meaning as to be of little practical application.
2. The existence of latent, or suppressed, demand for travel creates difficulties not only for the "cost" of congestion, but for road pricing itself.
3. Charging road users for environmental externalities is fraught with difficulty, because such externalities cannot meaningfully be costed.
4. It is not practical for public authorities to set charges for road use in a way that will minimise externalities.

The analysis draws on two radically different streams of thought, both of which cast doubt on traditional analyses of congestion and road pricing. The first is the "Austrian" critique of the neoclassical welfare economics which underlies most analyses of road pricing; the second is the new paradigm of environmental justice.

The paper concludes that congestion is at least as appropriate a method of rationing roadspace as pricing, and that transport planning should aim to achieve an optimal level of congestion, rather than to minimise or eliminate it

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Introduction

Congestion is regarded by most transport planners as the principal "externality" created by automobile usage, and road pricing as the optimum response to this and other externalities. Most commentators accept the need to "ration" roadspace for environmental and efficiency reasons, and support for road pricing as the mechanism for doing so is almost universal. The result is that most academic work is directed at quantifying the benefits of road pricing (e.g. BTCE 1996) or examining barriers to its implementation (e.g. Sapotka 1997). There has, however, been surprisingly little intellectual critique of the fundamental assumptions underlying the road pricing concept. This paper attempts that task and suggests that both the cost of congestion and road pricing as the answer to externalities are concepts which suffer from a series of flaws that are rarely acknowledged. The objective is to establish a basis for further, quantitative research into the theoretical issues raised.

The cost of congestion

Congestion on the roads and in central city car parks was the core of the urban transport problem as perceived in the 1950s and 1960s. While it has rightly been eclipsed in public consciousness by environmental issues, congestion remains the focus of most professional transport planners. This focus is reflected in the cost-benefit analyses used to justify new transport infrastructure projects, which assess benefits almost exclusively in terms of travel time reductions. Even when transport planners attempt to consider other factors, their traditional training often constrains the results. The Environment Protection Authority in Victoria commissioned a study of "Transport Externalities" in 1994. The consultant road engineers who conducted the study estimated the annual cost of congestion in Melbourne as \$2031 million, compared with \$86 million for road noise and \$45 million for cancers caused by vehicle emissions! (EPA 1994, Vol. 4, 10-16.)

While dire estimates of congestion costs are frequently used to justify investment in roads, costing congestion is a task fraught with logical difficulties. The first problem is that congestion is not an 'externality' in the same sense as, for example, exhaust emissions. Air pollution from a factory is an externality, since it affects the factory's neighbours, while the factory owner may be able to avoid its effects altogether by living somewhere else. Pollution from motor vehicles is an externality, since it affects non-motorists as well as motorists. But congestion primarily affects the same group of people who produce it, namely road users themselves. It may actually improve the lot of some residents, since slow-moving traffic makes less noise and is less intimidating for pedestrians and cyclists. And although there may be more accidents on congested roads, they will be less severe, owing to lower speeds. Congestion is only an externality in the sense that it is an effect each motorist imposes on other motorists. The major external effect of traffic congestion occurs when automobiles hold up street public transport (or vice-versa), but even this can be avoided if public transport is segregated from traffic, as occurs in Zurich for example.

A more serious weakness with the concept of the cost of congestion is the way this cost is typically calculated. The Victorian Transport Externalities Study defines congestion as:

the difference in resource costs between the road network operating under current traffic conditions, and the road network operating under ideal conditions where delays have been eliminated and traffic is able to proceed at the maximum safe speed (Miles 1994, 1)

Mogridge (1990, 281) describes these 'ideal' conditions as "patently absurd conditions", since in large cities they apply only in the dead of night. Delays due to other traffic are unavoidable in an urban area: congestion-free motoring is possible at all times on the Nullarbor Plain or Death Valley, but only because almost nobody lives there. Mogridge concludes that "the cost of congestion is therefore an invalid concept in an urban area."

Mogridge's criticism gains force from the fact that congestion is usually at its worst only on part of the road system and for only part of each day. People accept congestion at theatres, holiday resorts and supermarket checkouts at times of peak demand, because they know it is wasteful to build capacity that sits underutilised most of the time. A simple example is provided by a sandwich bar, which is quiet most of the day but crowded at lunch time. Lunch time patrons queue to be served: they do not expect simply to arrive at the busiest time of the day and be attended to without delay. Why should roads be different?

The Downs-Thomson paradox

The congestion issue is further complicated by what has come to be called the 'Downs-Thomson paradox', named after the two transport economists who first expounded the idea. While the calculation of congestion costs in the Victorian study referred to earlier "does *not* include possible changes in the distribution of trips, the mode of travel, or the change in routing that might occur if such a theoretical situation [i.e. no congestion] might occur" (Miles 1994, 1: emphasis in original), Downs and Thomson argue that changes of this kind must be considered. Anthony Downs proposed in 1962 a "law of highway congestion" which argues that providing increased road-capacity is a partially self-defeating solution, because it encourages "triple convergence" in the form of transfers from public transport, shifts from off-peak to peak periods and shifts from unimproved to improved roads (Small 1992, 112-5). Downs omits completely new trips that would not have been made at all, and the tendency for longer trips to be made, but these should also be included.

The elementary economic principle that reductions in the cost of a commodity (travel time) will increase demand for it has, however, been strenuously resisted by generations of road planners in countries like Australia and the United States. In Britain, the commonsense view finally prevailed in the 1994 report *Trunk Roads and the Generation of Traffic* by the Standing Advisory Committee on Trunk Road Assessment. "Is induced traffic a real phenomenon? - our answer is "yes". Any other response

defies credibility." (SACTRA 1994, 165) Induced traffic arises from transfers from public transport, walking and cycling; the undertaking of more, or longer, trips in response to shorter travel times; and long-term increases in traffic due to land-use changes brought about by new roads (such as drive-in shopping malls, described in Britain as 'out of town' centres). Induced traffic was likely to be most important in congested situations, the Committee concluded, particularly in the case of new roads in urban areas. A recent paper from the Australian Road Research Board concludes that these findings are also likely to be valid in Australia (Luk & Chung, 1997)

New roads in urban areas will not reduce traffic congestion proportionately to the increase in roadspace, and may not reduce congestion much at all, because the additional traffic they unleash will partly or even largely cancel out the benefits gained. When road improvements compete with public transport, the effect can be still more perverse, as Thomson argues in a development of Downs' law of highway congestion. While the attractiveness of car travel decreases as the number of travellers increases, due to increased congestion and difficulties with parking, the situation is the reverse for public transport. Except in those few cities where overcrowding is a serious problem (e.g. Tokyo with its "crush hour"), service improves as patronage rises, thanks to higher frequencies, express running and a greater feeling of personal safety for passengers.¹ Where a road and a rail system compete for patrons, Thomson argues that there will be an 'equilibrium' between the two travel modes which ensures that they are of roughly equal quality. An increase in traffic on the road would raise travel times, encouraging some motorists to shift to public transport; a reduction in traffic would attract passengers from public transport until congestion rises to re-establish equilibrium. This equilibrium can be upset by changes to the quality of either mode. Improving the road system will produce a decline in patronage of the rail service. This will cause a reduction in service levels, leading to a further decline in patronage. If sufficient rail passengers shift to the road on account of this decline in service a new equilibrium will be reached in which, paradoxically, both road users and public transport patrons experience a worse level of service than before. Investing in road improvements has actually made everyone worse off (Thomson 1977, 279)

Thomson identified this paradox in the context of travel to the centre of a strong-centred city like London, in which public transport accounts for a majority of travel. In such a case, the transfer of even a small share of public transport passengers would swamp any increase in road capacity. The paradox may be less applicable in car-dominated cities or other situations where public transport carries few passengers, and most of these do not have the choice of shifting to the car. Nevertheless, evidence for the effect can be found in other cities: Mogridge (1995) found that the Downs-Thomson paradox applied across a series of British cities he surveyed. In Melbourne, the opening of the final stage of the South-Eastern Freeway in 1988, which linked two discontinuous sections constructed earlier, was followed by an immediate sharp fall in patronage on the Glen Waverley rail line, which runs adjacent to the new section of freeway. The rail operator responded by reducing service levels, leading to a further fall

¹ This is not strictly the case for bus systems in which fares are collected manually by drivers, since passenger boardings slow vehicles down

in patronage. By 1992, the number of express trains in peak period had fallen from seven to two. Meanwhile, congestion on the freeway, which led to it being popularly christened the "South-Eastern Car Park", had risen to such a point that traffic levels on roads supposedly relieved by the new freeway had returned to their previous levels.

Mogridge argues that the Downs-Thomson paradox can also work in reverse, with improvements to public transport triggering a new equilibrium in which conditions for both motorists and public transport users are better than before:

We cannot reduce congestion by building more roads since immediately we get more traffic to fill them up to the same speed as before. The only way to reduce congestion is to introduce better public transport facilities which reduce the number of people who travel by car on the roads (Mogridge 1995, 281).

Downs, however, takes the opposite view, although this appears to be based partly on differences between conditions in United States cities and London. Because public transport patronage is so low in the US, Downs argues, impossibly large increases would be needed to significantly reduce road congestion (Downs 1992, 41-5). Removing traffic from the roads by improving public transport can also, like new road-building, unleash suppressed demand. Hall (1980, 119) suggests that the opening of the trans-bay tunnel of San Francisco's Bay Area Rapid Transit system did not reduce traffic on trans-bay road bridges, because traffic which had been hitherto suppressed by congestion replaced the motorists who transferred to rail. A 1975 study found that the diversion of 8,750 trans-bay car trips to BART was rapidly followed by the appearance of 7,000 new car trips (Small 1992, 113). This phenomenon is not new: when the original lines of the Paris Metro opened in the early years of this century, Parisians were surprised to discover that traffic in the congested streets under which the lines passed did not decline appreciably. "A government report of 1910 suggested that the availability of rapid, cheap transport seemed to have set off a demand for more transport, and that since the construction of the Metro Parisians had become accustomed to moving around with much more frequency" (Everson 1979, 109).

The limitations of relying solely on improved public transport can also be seen from the experience of Zurich, which probably has the world's most successful public transport system. Despite having the highest patronage rate in the world, and one rapidly increasing at that, Zurich has not seen a reduction in traffic levels. Traffic has, however, remained constant within city boundaries since the early 1980s, which deserves to be counted as an achievement in itself. Planners in Zurich now realise that excellent public transport needs to be backed up by direct measures designed to restrain traffic levels (Pharoah & Apel 1995, Chapter 4).

It may well be that the best approach to congestion is to relax. There will always be congestion in large cities, but at least in cities with well-developed alternative transport modes, people will be able to choose whether or not to endure it. Downs advises Americans to "learn to enjoy congestion", while the transport policy component of Vancouver's *Liveable Region Strategy* notes:

Congestion is usually considered an evil; however, allowing congestion to deteriorate for single-occupant vehicles is a practical method of promoting transit and carpools. More congestion for single-occupant vehicles would magnify the impact of some travel demand management. For instance, buses/carpools in high occupancy vehicle lanes will gain an edge since the relative time saved by escaping lineups will be greater (GVRD 1993, 26).

Some level of congestion, together with restricted car parking, is probably desirable in urban areas. A complete absence of congestion at all times would reflect over-investment in roads, and some degree of congestion, together with limited parking, appears necessary if people in urban areas with high car ownership are to use travel modes other than the car. Small towns in Australia and North America usually have uncongested roads, abundant parking and minimal or non-existent public transport. Paris has more congested streets than Los Angeles, but there is no evidence that Parisians have access to fewer of the good things that urban life provides than Los Angelenos. Slower traffic is balanced by shorter distances, more local facilities and easier travel by public transport and on foot.

As well as talking about the costs of congestion, transport planners should be discussing its benefits. The challenge for planners is not to eliminate congestion, but to plan for an optimal level of congestion, bearing in mind environmental, economic and social goals.

A market for mobility on the roads

Although road pricing is supported by many environmentalists and supporters of government planning (e.g. Neutze 1997; Troy 1996), it dovetails particularly neatly with the views of those who prefer market-based solutions to urban problems (e.g. Industry Commission, 1994). Pricing roads will provide the signals to ensure that spontaneous, market-induced adjustments to travel patterns and land uses create optimal outcomes. Some more adventurous souls have proposed that pricing roads could produce a completely privatised main road system, avoiding the need for planning by the public sector.

The idea that the use of roads should be priced, like any other commodity, is not a new one. Toll gates at the entrances to towns were a feature of European life until the nineteenth century, and tolls were the most common method of financing new roads until early this century. Toll gates were cumbersome and inconvenient, and when it became possible to levy other taxes on road users, such as registration fees and petrol excise, they largely disappeared from urban areas, except for some bridges and tunnels. A major disadvantage of this change was that it gave the impression that driving was free, in contrast with public transport, where a fare must be paid for each trip.

The modern concept of road pricing is the child of economics and technology. As early as 1920, the economist A.C. Pigou suggested that "differential taxation" of roads could create more efficient outcomes, but added that "the measure of differentiation must be rightly chosen" (Pigou 1920, 194). In 1962, the British Ministry of Transport appointed a committee of engineers and economists chaired by Professor Reuben Smeed to

examine the proposition that "considerable net benefits could accrue to the nation if vehicle owners had to pay higher charges or taxes when they used congested roads than when they used uncongested ones, without there necessarily being any change in the total motor taxation paid by them." (Smeed 1964, iii) The Smeed Committee's report concluded that it was technologically possible to price roads, and that it was desirable to do so, not just to finance the building and maintenance of roads, but also to encourage economy in their use. Road pricing, Smeed argued, is superior to petrol taxes and even parking meters, and should partly or wholly replace them, because it offers the ability to vary charges depending on the level of congestion. This is the crucial difference between road pricing and toll roads, in which charges are set to make a return for the toll road company, rather than to reduce congestion

The Smeed report proposed redistributing traffic to reduce, or at least spread, congestion, but since the overall level of charges was expected to remain the same, there would not be an overall reduction in traffic (except as far as road pricing replaced fixed charges like registration and accident insurance, but in this case, the same effect can be obtained by replacing these charges with taxes on fuel). With road pricing in place, some traffic could be expected to move from busy areas (e.g. central business districts) to less busy areas, and from busy (e.g. peak periods) to less busy times of the day. Some peak period traffic would also shift to public transport, but, although the Smeed report fails to state this explicitly, some off-peak traffic would shift from public transport to cars, because the costs of car travel would have to fall at these times to keep overall costs constant. The result would be to worsen the 'peaking' of public transport demand, exacerbating financial problems caused by the necessity to employ vehicles and crews for only a short part of the day. If public transport responds to this problem by raising its fares in peak period, many travellers will be 'priced' back onto the roads. If successful in reducing congestion, road pricing might speed public transport services in peak periods, but much less effectively than priority treatments like reserved lanes and queue jumping at traffic lights, measures which have the added advantage of giving public transport a competitive edge over cars.

Since the Smeed report appeared, potential electronic road pricing technology has improved and has been practically demonstrated on real roads. The road pricing concept has also evolved in a number of directions. Some commentators still argue that the main objective should be to reduce congestion; others that road space should be priced to reflect other external costs of travel, including pollution, noise and destruction of greenery for roads; still others have argued that road pricing should be used as a mechanism to privatise roads.

The idea of pricing travel to reflect environmental externalities is currently popular with economists. If the current 'underpricing' of road travel is eliminated, the market will reduce traffic levels to a level consistent with sustainable automobility without the need for targets or formal government plans, with their alleged inefficiency and inflexibility (Industry Commission, 1994). And reduced congestion will lead to free-flowing traffic, reducing fuel consumption and pollution. Naturally, this idea is most attractive to those with a 'small government' bent, since it reduces the need for planning that would otherwise be implied by the environmental crisis.

Privatised roads?

It even opens up the possibility of privatising whole arterial road networks, a measure which should be distinguished from the selective introduction of private urban tollways, a measure most economists regard as inefficient due to the tendency for traffic to divert to other, free roads. Gabriel Roth, a member of the Smeed Committee, wrote a book in 1996 advocating this course. Roth (1996, 71) proposes that roads be privatised, using as a model the US telecommunication system, which provides an interconnected network despite the existence of numerous competing operators.

The environmental efficacy of privatised roads remains untested, but is justified by analogy with airlines and telephone companies, which offer discounts at quiet times like weekends. The analogy is not a good one. Airlines do not use pricing to reduce the volume of travel or encourage use of ships, buses and trains. Like most private firms they want more customers, not less: airlines use pricing to shift discretionary trips to times when spare capacity exists, as well as to attract passengers away from more environmentally friendly modes like rail and bus. Telephone companies do the same: they do not vary their prices to encourage people to send letters or e-mail instead of phoning!

Therefore, prices must be regulated by a government agency, as advocates of the planned approach to road pricing contend, since someone will need to calculate the value of externalities. This is not an alternative to government planning at all, simply another form of it. And it is by no means clear how things like pollution, loss of wildlife habitat or the greenhouse effect could be valued for the purpose of price-setting, since there is no market for them. Roth's response to the greenhouse problem is to wish it away by disputing its reality. Despite conceding that "it is difficult for those of us who are not scientists to judge", Roth feels qualified to overrule the British Royal Commission on Environmental Pollution (which was chaired by an atmospheric physicist and composed largely of scientists) and pronounce that "this author is not convinced that a case has been made for any charges to be payable on this score. If and when the reality of global damage from vehicle emissions is established and quantified, appropriate charges would have to be worked out" (Roth 1996, 89, 96). Roth does not tell us how this could be done, nor does he acknowledge that by the time it has occurred, it may be too late. The problem of putting a cost on environmental externalities remains unresolved at present, and is probably incapable of resolution.

An 'Austrian' critique

For the last two decades, politics has been dominated by economics, in English-speaking countries at least. And it is not just economics that dominates, but a particular form of the dismal science. Called variously Thatcherism, the new right, neo-liberalism, public choice theory and, derisively by its critics in Australia, economic rationalism, the currently dominant kind of "political economy" is reshaping nations. This is not the place for a full history, exposition or critique of these doctrines: excellent accounts of this can be found elsewhere (e.g. Self, 1993).

The guiding principle, laid down by the acknowledged father of the new right, the Austrian economist Friedrich von Hayek, is that competition and markets are the best basis for organising economic life. Because human societies are complex and constantly changing, and knowledge is limited, Hayek argues that the "organic" process of trial-and-error provided by the market system will provide a better outcome than government planning and regulation. The role of government is not to intervene in the market, but to remove the obstacles to its unfettered operation. In the United States, this kind of thinking has come to be called "public choice theory". To the limitations of government action identified by Hayek are added criticisms of the way democracy works in practice, notably the notion of "rent seeking", in which powerful lobby groups "capture" parts of the public sector for their own benefit (for example, public employees obtaining high wages and easy working conditions). The theory of rent-seeking received its most eloquent exposition in the television series *Yes, Minister*, which depicts bureaucrats jealously guarding their own and their colleagues' interests without regard to the public good.

Public choice theory is the new right's answer to market failure, the traditional welfare economist's justification for government intervention, such as the differential taxation advocated by Pigou. Conventional "neoclassical" economics agrees with the new right that the market is generally the best mechanism for ordering economic life, but holds that markets are imperfect and sometimes fail, necessitating government intervention. It further holds that economists can specify with reasonable accuracy what the results of such intervention will be, a view Hayek derides as "scientism". Urban transport has traditionally been seen as such an area. But government failure, say public choice theorists, will almost always be worse than market failure. Just as Adam Smith's "invisible hand" supposedly ensures that individuals acting selfishly in the marketplace will produce outcomes that benefit society, a converse principle ensures that political actors motivated by altruism tend to produce socially harmful results. Public choice theory answers Pigou's requirement that the measure of differential taxation be rightly chosen with the suggestion that it is not possible to ensure that the right choice will be made.

Environmental "externalities", can be addressed by expanding common-law property rights (e.g. Hensher 1993; Littlechild 1978). In practice, this amounts to the characteristically American solution of more litigation. 'Austrians' like Roth argue for this approach, rather than imposing taxes on polluters, as suggested by Pigou in the 1920s. So road pricing is not an answer to environmental problems, and possibly not even to congestion.

Most pro-market economists do not accept the full 'Austrian' position, of course. But they are faced with a logical dilemma: if governments cannot be trusted with tasks like planning efficient public transport, how can they possibly perform the far more difficult job of setting prices for roads that accurately reflect environmental externalities and congestion?

Some other practical difficulties

Transport economists argue, correctly, that making public transport free would do little to reduce road traffic, because travel demand in urban areas is less elastic with respect to price than to travel time. For the same reason, road pricing is unlikely to significantly affect traffic levels in highly congested areas unless rates are set at punishingly high levels. If congestion is reduced by road pricing, the first result will be to unleash suppressed demand, an issue largely ignored in economists' discussions of road pricing, which generally acknowledge that reducing travel times through new roads or improved public transport will release suppressed demand without explaining why reducing travel times through road pricing will not do the same (at least among the well-off), by reducing the generalised cost of travel. Traffic previously deterred by congestion will partly or even wholly replace traffic deterred by price. So there will need to be still further rises in price. The result will be less improvement in congestion than anticipated and, in the worst case scenario, little or no improvement at all. And when the Downs-Thomson paradox (see above) is brought into the equation, the potential arises for road pricing to create net disbenefits.

Rationing road usage by price, rather than by congestion as happens now, should be less effective at encouraging people to change the way they travel, given that travel demand is more sensitive to trip times than to price. Congestion is already encouraging people to shift the time, destination and mode of travel, as advocates of road pricing wish them to do. In cities with congested roads, peak periods spread over a longer time, and public transport patronage is higher (where viable public transport exists; Bangkok is an obvious contrary example), than in cities with less congested roads. Higher-status, better paid workers generally have more freedom to vary work times to avoid congestion: reduce congestion through road pricing and these workers will flood back into peak period, even if they now have to pay for the privilege.

Road pricing is not an inherently more efficient method of rationing roadspace than congestion; nor is it a more equitable one. Hugh Stretton (1994) argues that if rationing of car use for environmental reasons is to occur, fairness requires that it should be done as in wartime, by quotas. By contrast, Roth argued the case for pricing in 1966 as follows:

[I]f a commodity or service is scarce, its allocation by means of a high price is likely to be less harmful than allocation by permits or congestion. This is because the high price, with all its disadvantages, is the most efficient method known of allocating the scarce resource to those whose demands are most urgent. Another important effect of 'rationing by price' is the encouragement of users who place a high money valuation on their time. [This] class includes the more vigorous elements - the impatient, the 'pushers', the young men with 'ants in their pants'... (Roth 1966, 71)

Roth carefully avoids the word "wealthy", but equity is at the heart of the issue. Lower income people spend a higher percentage of income on travel – and have less ability to vary the starting and finishing times of their jobs – than those better off. Road pricing

rationing roadspace basically by pricing those with lower disposable incomes off congested roads. This is how the rationing by high prices of other scarce commodities – from caviar to Van Gogh paintings – works in practice. The winners are not “young men with ants in their pants”, but rich people of any age and either sex; the losers are those with lower incomes. Road pricing would be a retreat from the notion of access for all.

Environmental justice

Given the difficulties with relatively inelastic demand, price setting, costing of the intangible and equity – problems for which advocates have few answers, and those generally risible – free-market road pricing is unlikely to be the answer to urban travel problems. The ‘planned’ version may, however, together with other economic instruments like fuel taxes and parking charges, form a useful ingredient in a package of measures aimed at achieving sustainable, equitable transport, but its efficacy has almost certainly been overstated, and equity concerns underemphasised. Anthony Downs’ realistic assessment is that until a city actually tests it, road pricing “will remain what it has historically been: a theoretically interesting device invented by academics but implemented only in their imaginations.” (Downs 1992, 60) The conclusion of the Royal Commission on Environmental Pollution regarding road pricing is perhaps more realistic still:

If road use has been underpriced, road pricing is not the only possible instrument for remedying that situation. Other methods of ensuring that road users are faced with the costs of their journeys may be preferable, or at least easier to implement ... in view of [the difficulties with road pricing] it seems preferable to adopt a pragmatic approach to transport policy. Rather than attempting to balance costs and benefits at the margin, this approach is based on setting targets for environmental improvement, and the reduction of environmental damage. (RCEP 1994, 95, 107)

Rather than relying on pricing signals and markets to achieve the desired outcome, the Commission proposes that the preferred future should be specified in advance through targets. The targets would be achieved through plans relying on a range of measures, including economic instruments as well as measures frowned on by free marketeers like land-use planning and subsidies to public transport.

The Royal Commission’s view is consistent with the emerging paradigm of “environmental justice” (Low & Gleeson 1998), which argues for collective action on a number of levels, from the local to the global, to deal with economic and environmental problems. Environmental justice rejects both conventional welfare economics and the more radical ‘Austrian’ position. Supporters argue that collective action is imperative, and that no particular form of intervention (e.g. pricing) should be privileged over another (e.g. planning). The challenge is to find democratic forms of collective action that actually work.

Under such a scenario, congestion is at least as appropriate a method of rationing roadspace as pricing. Transport planning should aim to achieve an optimal level of congestion, rather than to minimise or eliminate it. It is possible to have too little congestion, just as it is possible to have too much.

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