

On the Buses in Canberra: Public Transport in a Spacious City

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Abstract:

Canberra is a spacious, sparsely populated, suburban city of nearly 300,000 people. Public transport is almost entirely limited to licensed private taxis and ACTION, an extensive but little used and heavily subsidised government bus service. ACTION's poor performance is not surprising as Canberra is, like so many cities, unsuited to a conventional, government-run transport network and suited to an open, competitive transport market. Canberra's urban transport is both a unique problem requiring a solution and a case study of relevance to a number of other cities in Australia and overseas.

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The transport problem

While Canberra has much in common with other Australian cities, it has some unique features, in particular, its urban plan and place as the nation's capital, which have a material bearing on its urban transport system. The resulting differences are, however, a matter of degree only, giving Canberra a transport problem which is similar to that faced by many cities around the world.

The spacious city

In broad figures, Canberra is a city of 300,000 people occupying an area of 300 square kilometres. It is 30 kilometres from top to bottom and 15 kilometres across at its widest point. Canberra is the result of extensive, detailed planning by agencies such as the Commonwealth Government's National Capital Planning Authority, the ACT Planning Authority and, previously, the National Capital Development Commission. Under this planning, Canberra has become a large, spacious city of detached houses in leafy suburbs clustered around Inner Canberra and four large town centres. These five foci of the city are arranged in what is known as the 'Y-plan': Inner Canberra at the junction; Woden to the south; Tuggeranong, further south; Belconnen to the north-west; and Gungahlin, now under construction, to the north. All of Canberra is characterized by considerable amounts of 'green space' between town centres, between suburbs and between parts of suburbs. Canberra is best described as a fragmented urban sprawl. Its population density, at 10 people per hectare, is much the same as for Perth and Brisbane but lower than for Adelaide (13), Melbourne (16) and Sydney (18) (Newman and Kenworthy, 1991, p. ii).

Life in Canberra is conducted over long distances. Most people live a long way from where they work, and once at work, are a long way from the people with whom they wish to do business. Public service departments are located across Canberra. The effects of urban sprawl apply equally or with greater force to that greater part of passenger travel in the ACT which is for purposes other than work and school. Canberra's plan is based on the private car as the chief form of transport, and, owing in part to Canberra's status as the nation's capital, the planning has provided for a particularly good road system.

The dominance of car travel arising from Canberra's urban plan is heightened by a combination of demographic features which equally are influenced by Canberra's place as the nation's capital. Canberra's population in 1990 was 284,000, of which 203,000 were between 14 and 65 years of age. As with the rest of Australia, the proportion of the ACT population over 64 is rising. The relative size and high rate of growth of the working age population, however, is of most significance in determining the demand for transport services. The absolute increase in the work-age population in Canberra has been over 50,000 in the 1980s. In 1990, the workforce numbered 156,100, giving an adult participation rate in the paid workforce of 73.9%. Two income families in Canberra are common. A high proportion of the population in the workforce, together with a lower unemployment rate and higher average earnings compared to the rest of Australia, add up to an average household income in Canberra that is well above the Australian average. While average weekly earnings are 11% higher in Canberra than in the rest of Australia,

average household income per household member is 25% higher (Australian Bureau of Statistics, 1992). Not only can many Canberra households afford two cars but they find having two cars to be a considerable convenience in running two careers and a home.

High average incomes, a high workforce participation rate, the prevalence of two-income families, the urban plan and the high standard of roads lead one to expect that car ownership and use will be high. The level of car ownership in Canberra, at over 1.5 cars per household in 1986, is the highest of any capital city in Australia (ACT Priorities Review Board, 1990, p. 9). Car use compared to other forms of transport is extremely high. Roughly speaking, 95 per cent of all passenger trips in Canberra are by private car.

Public transport

Given the importance of the private car, public transport is necessarily limited in the ACT. It is dominated by the government bus system, ACTION (ACT Internal Omnibus Network), which accounts for perhaps 4 of the 5 per cent of passenger traffic moved by public transport. Private buses are limited to specified services such as that between Canberra and Queanbeyan. Private taxis are restricted in number (at present, about 180) by a licence plate system. They provide approximately 2.6 million taxi journeys a year. The other forms of public transport such as chauffeured hire cars and coaches are smaller still (Interim Territory Planning Authority, 1990, p. 46).

Obviously, these are very difficult figures to arrive at. An idea of how small is ACTION's share of total traffic can be gained from the 1986 Census figures for travel to work, which showed that less than 9% of car and bus trips to work were by bus (reported in ACT Priorities Review Board, 1990, p. 10). ACTION's share of commuter traffic is much higher than its share of other passenger travel. The figure of 5.3% of total passenger traffic is reported in Newman and Kenworthy (1991, p. iii) for 1981. That the percentage of total traffic has fallen since 1981 is clear from figures in Newman and Kenworthy (1991, p. 8) which show that while the figure for bus trips per head of population has remained between 87 and 93, the figure for car occupant kilometres has increased 25%, which suggests the current figure of 4% given here.

Despite its insignificance, ACTION is the focus for reforming passenger transport in Canberra. It is the main form of public transport, the chief expression of government transport philosophy and presented by many individuals and groups outside of government as an essential element in Canberra's future urban transport and planning arrangements. As the need for, and desirability of, a government public transport system is such a strong belief for so many people in Canberra, it is a first stage in any programme of reform to disabuse these people of this belief by exposing the enormous costs and limited achievements of the government bus system. An understanding of the problems of ACTION is the basis for a comprehensive transport policy for Canberra which embraces not only the buses but other forms of public transport such as taxis as well as the private car. The reforms of the transport system as a whole follow naturally from the reform of the buses.

ACTION's finances and performance

At 30 June, 1991, ACTION had 1,091 staff and modern facilities and equipment including depots, bus interchanges (that is, stations) in Inner Canberra and the town centres, and 463 buses (35 of them, articulated) with an average age of 7 years (ACTION, 1992). Aside from its school and charter operations, its timetabled services are essentially of two types: very frequent and fast express services between interchanges, often using larger articulated buses, and less frequent, more meandering feeder services to the interchanges. In terms of equipment, the extent of services, and technical efficiency, that is, arriving and departing on time, it is a first class service. Its fares, recently increased, range from 50 cents for pensioners and the unemployed to \$1.80 for full fare passengers.

ACTION's total income for 1990-91, excluding borrowings and revenue from charter operations, was \$88.7 million, made up from these sources:

	\$m
total recurrent grant from government	54.4
total capital grant from government	13.3
other expenses carried by ACT government	2.8
operating loss	3.0
fares	13.9
other income from the public	1.3

As always, care must be taken with these figures. First, annual reports, budget papers and other official sources differ, sometimes considerably, on ACTION's finances. Second, fluctuations in the figures from one year to the next can be considerable given changes in the internal affairs of ACTION and in the external circumstances of the ACT to which ACTION responds. Capital works in Canberra rise with peak periods of expenditure associated with the development of new towns. In 1989-90, the capital works grant for ACTION was \$19.1 million, nearly \$6 million more than for 1990-91, due to the development of interchange and depot facilities for the new town of Tuggeranong. This item stands to rise with the establishment of ACTION services to the new town of Gungahlin. The figure for the capital item for 1990-91 is therefore from a relatively low period of capital expenditure. The income figure of \$88.7 used here is therefore a conservative estimate of the cost of ACTION.

ACTION's income of \$88.7 million was required for it to provide 25.4 million passenger boardings. A boarding is not a trip. Many users take two or even three buses to reach their destination so that the number of trips is far less than the number of boardings. The average cost per boarding is \$3.49. To transport a couple of adults from one of the more central suburbs, such as Weston, to the Civic Centre and return costs \$27.92, which covers a taxi fare for the same journey. If the cost per passenger kilometre of bus transport were typical of car travel in Canberra, the people of Canberra would be spending \$2.2 billion, or an average of \$22,500 per household, a year on urban transport, directly through expenditure on car ownership and running costs and indirectly through each household's contribution to roads and other government provision for passenger transport. This would be more than half of household income.

The first four items listed above make up the government subsidy to ACTION, equal to \$73.5 million, which is more than four fifths of its total income. Of the average

cost per boarding, of \$3.49, \$2.89 is covered by government subsidy. While ACTION's finances and performance are a familiar story for government-run transport systems around the world, this in no way reduces the size of the ACTION subsidy or the considerable personal cost it imposes on Canberrans. By comparison, the subsidy for the entire New Zealand public bus, rail and ferry system in 1990-91 was \$NZ106 million (Wallis, 1991, p. 74). Converting this to Australian currency gives about the same level of subsidy for a country of 3.4 million people as for a territory of 300,000. For Canberrans, the ACTION subsidy works out to be around \$750 per household per year or 2.5% of after-tax household income. The budgetary and so political significance of the amount is very great. A Liberal Alliance government found itself in a protracted dispute over school closures aimed at saving a couple of million dollars. The Labor government, after the 1991-92 budget, similarly found itself in dispute with the police over funding cuts of \$1.2 million. The potential for sorting out the ACT's finances by reorganizing this one area of government activity is obvious.

As a starting point, then, there is a *prima facie* case against ACTION. First, it costs the public approximately \$74 million a year in subsidy. Second, its service is as costly per passenger as for taxis. Third, despite the large subsidy, very few people use it. The failure of ACTION as a cheap, widely used mass transport system forces defenders of ACTION to fall back on two conventional defences of large losses by government-run public transport: social welfare and the environment. In the government's *Transport Policies and Strategies* paper (ACT City Services, 1991, p. 2), one of the six 'key elements in the transport strategy' is 'To take account of environmental and social equity concerns in the planning, construction and operation of the transport system'. It is taken as axiomatic by defenders of ACTION that these objectives can only be, and are in fact, met by ACTION. This is a profoundly wrong-headed view.

Welfare

It is frequently pointed out that buses are used by pensioners, the unemployed and others on low incomes or with no or limited access to a private car. For many people, a government bus system such as ACTION is therefore a useful, even, necessary, tool against social inequity. Both the total subsidy and the fare structure are seen as means to this end. In regard to the latter, ACTION provides half fares for pensioners, seniors, children, students and the unemployed, and lower fares still for some of these groups in off-peak hours. Part of ACTION's income is an amount of \$1.86 million from government funds, estimated to cover the cost of pensioner discounts.

The available figures on ACTION, however, suggest that the chief groups to benefit from ACTION's subsidy are employed commuters and their children. Shares of total bus travel for work and school are 36% and 29% respectively (Interim Territory Planning Authority, 1990, pp. 41-2; ACT Government, 1991b, p. 147). Roughly speaking, then, two thirds of all users are commuters and schoolchildren. The economic circumstances of the remaining third of users cannot be known with any certainty. The pensioner concession payment to ACTION may well be an underestimate of the cost of providing discounts to pensioners. Nevertheless, it indicates that the number of bus boardings made by pensioners is around 2.5 million a year, or 10% of total boardings.

This suggests that patronage per head by pensioners is some 50% more than by the population as a whole.

It might be drawn from this final figure that ACTION does achieve some measure of redistribution of income to the needy. But some deeper reflection shows that ACTION is really a very clumsy means of redistributing income to the needy and a very clumsy and inequitable way of dealing with the different needs of the needy. Subsidizing the use of buses only benefits those who use buses. Those pensioners or unemployed who drive a car, or walk or ride a bike or who are bedridden get nothing from the system. It is proper to ask why the ACT government believes that pensioners who travel by bus to the pictures are more deserving of assistance than pensioners who walk to the newsagent for a newspaper. There are other identifiable groups, such as people in wheelchairs, for which ACTION is irrelevant. And in all of this, welfare assistance is going to many people who do not need it. Well-paid commuters are an obvious example, but the point also applies to many retirees and students. Equally, some of those people outside the welfare provisions of ACTION, such as the employed on low incomes and with large families, may be more in need. In the same way, the subsidy of children's travel to school is indiscriminate both in who gets it and as against other needs. The bus travel of many children from well off families is subsidized. School buses are subsidized, but not school shoes, and yet who would argue that the former are more important than the latter?

There are two general, though not infallible, rules which apply to all government welfare policies. The first is that welfare payments should be made in response to poverty and not on the basis of falling into a particular classification such as the aged, which may be only imperfectly related to poverty. The second is that we most directly and fairly target the needy by paying them money rather than by subsidizing their use of services. Subsidies are indiscriminate. Many in need do not receive them while many of those who take advantage of them are not in need. If the reason for running the ACTION buses at a \$74 million loss is to provide access to transport for pensioners and the unemployed, then this objective can be better met by scrapping ACTION and putting the savings to raising the income of the members of these groups while leaving a healthy bonus for the rest of the population. Such a conclusion, by the way, does not deny that there may be a commercial rationale for ACTION's pricing policy. The huge excess capacity of ACTION may make differential pricing to encourage low income users outside peak periods a sensible idea. Private providers might do the same. But as a means of social welfare policy, subsidizing selected services such as transport is clumsy and unfair.

The environment

Just as with social welfare, it is assumed without question by its defenders that ACTION is an essential part of an environmentally sound transport policy, where the chief objectives are 'sustainable development', in particular, achieving a lower level of energy use, and 'the quality of life', lowering such things as traffic congestion and pollution. This environmental perspective does raise significant issues, but most economists would stress that such considerations as energy use, congestion and pollution are part of the broader economic question of maintaining the highest standard of living given our circumstances. It is easy to imagine a system which would use very little energy and

produce very little pollution per person but which would lead to such a considerable fall in income that standards of living would fall. It might reasonably be decided that a higher level of pollution and of income provides a better standard of living. Some environmentalists seem to suggest that such trade-offs are not acceptable, but they are the very stuff of economics and the way that most people look at life. Recalling that ACTION's share of total passenger traffic is about 4%, it necessarily provides, at best, a very small environmental benefit, and it might reasonably be asked whether a slight fall in energy use, pollution and congestion is worth a \$750 a year decrease in the post-tax income of every Canberra household.

There is no need, however, to consider further this contentious division between economists and environmentalists, or to undertake the difficult task of putting a value to all of the determinants of the standard of living including fresh air and open spaces. This is because the evidence suggests that ACTION, far from providing a small environmental benefit, is actually environmentally harmful. Government figures for liquid fuel consumption by type of transport show that ACTION accounts for about 6% of total fuel use by buses and cars, which is greater than its share of total passengers carried. (Reported in Interim Territory Planning Authority, 1990, p. 25, referring to a 1980 National Capital Development Commission report, *Energy in the ACT - Submission to the Parliamentary Joint Committee on the ACT Enquiry*.) This fuel consumption figure for buses includes other public transport. Even with a generous allowance for this, and recognizing that bus use relative to car use was higher in 1980, the fuel consumption per passenger of buses is still the same as, or slightly higher than, for cars. ACTION's record on fuel conservation is further suggested by a reported doubling of energy use per kilometre and per passenger kilometre for Canberra's buses for 1961 to 1989-90 (Newman and Kenworthy, 1991, p. 14). Over the same time, of course, energy use per kilometre and per passenger kilometre for cars have fallen significantly. While the data are poor, they do support the observation that ACTION buses are very often close to empty. It seems that not only is ACTION as expensive as if we all took a taxi, but that it uses just as much fuel per person carried as private cars, perhaps more.

Just as with the welfare argument, there is a larger lesson to be drawn from dismissing the environmental defence of transport subsidies. It is that financial and environmental considerations are not necessarily at odds. Rather, in the case of ACTION, the problems which contribute to its substantial losses are the problems which contribute to its, at best, environmentally neutral effects. The system is not attractive to users and inappropriate to Canberra's circumstances. People do not use ACTION. Buses are too big for the level of use.

ACTION's record

Table 1 summarizes some of the facts of ACTION's performance for the last five years. As it uses figures from ACTION's annual reports, it contains data based on a limited definition of government subsidy. The real operating cost and real deficit figures given in Table 1 are, therefore, well below the figures for total cost and total government subsidy reported above. Nevertheless, it does highlight ACTION's poor record. In the last five years, the real deficit and real deficit per head of population have doubled while other

Table 1 ACTION's performance over the last five years

Indicator	1986-87	1987-88	1988-89	1989-90	1990-91
Passenger boardings ('000)	24,152	25,127	24,093	25,087	25,362
Passengers/kilometre	1.49	1.49	1.34	1.31	1.27
Passengers/bus	60,380	57,896	53,659	52,374	54,778
Real operating cost (\$'000 90-91)	44,444	49,539	56,573	59,460	73,234
Real deficit (\$'000 90-91)	23,799	26,503	31,857	35,484	48,628
Real operating cost/passenger (\$ 90-91)	1.84	1.97	2.35	2.37	2.89
Real deficit/head (\$ 90-91)	90.63	98.16	116.10	126.74	172.74
Staff	844	924	993	1,016	1,091

Source: ACTION 1991 and 1992

major indicators of performance have gone dramatically in the wrong direction. These figures of course require interpretation and the usual caution. The employment figures, for example, overstate the increase in staff. Some of the growth is from the inclusion of staff, such as the personnel section, who were previously classified as employed elsewhere in the ACT bureaucracy. Still, the earlier figures are understated at most by 40, suggesting that the expansion of staff beyond the corresponding increase in passengers has been considerable. Roughly speaking, staff numbers have increased by 23% over five years while passenger numbers have increased by 5%.

A market alternative

Both the financial burdens imposed by ACTION and its failure to achieve its more specific welfare and environmental objectives raise the question of whether there is a better way. Given that the ACT public transport system is so comprehensively a matter of government provision and regulation, the obvious alternative to examine is an open, largely private market. Four changes are proposed. First, government completely changes the licensing system for public transport, so that private firms may operate any form of vehicle for the purpose, from taxis, through mini-buses and medium-sized buses, to large buses, without attracting any specific licence fees or any other form of government regulation other than normal controls over standards of vehicles and drivers. Second, ACTION is placed on a commercial footing, maintaining the bus interchanges in the major town centres and Civic, the existing core services between these stations, and any

other services which are profitable. The government would not have a monopoly on the core services. Third, the \$74 million a year saved is returned to Canberrans, through reduced taxes and charges, making provision for income redistribution as thought fit. Fourth, all private transport is placed on a commercial basis. This means setting commercial rates for car parking, road construction and maintenance, and related expenses such as policing. This would change the way that motorists are charged rather than the total level of charges. A very rough estimate for the increase in parking fees under commercial conditions is a doubling from \$4 to \$8. Estimated revenue from parking fees for 1991-92 is \$6.5 million. By contrast, drivers already pay taxes and fines worth an estimated \$82.1 million for 1991-92 (ACT Government, 1991a, pp. 13, 19-22 and 1992c, p. 9), which is more than even the broadest estimate of the costs of road construction and maintenance and related activities.

Imagining the system

Under these conditions, how will the public transport system work? What levels and types of transport services will be provided? What will be the effects on fares, patronage and traffic flows? While these questions cannot be given precise answers, they are not beyond a reasoned and informed judgement. We do know some important facts. There is a demand for commuter, school and local bus services and for taxi services. There is free entry into the market and scope for firms to experiment in how best to meet existing demands and to extend the passenger transport market. Government will be providing a core service between the interchanges. There is a saving of \$74 million of public money. A number of features of the new system are, therefore, reasonably certain.

The core services between interchanges will continue to operate and in something like the present form. There might be some change in the frequency of departures, most obviously in off-peak periods. The chief change would, however, be in pricing. These services, though the most heavily patronized of all ACTION's regular services, do not cover operating costs. A figure of \$800,000 has been suggested as the rough size of the deficit by some ACTION officials. Moreover, as the core services shift most of their passengers in relatively short periods (peak hour lasts, literally, for about an hour in Canberra), private firms or a profit making ACTION would set higher fares because providing for the peak hour creates a capacity which is not required for the rest of the day. Even with the beneficial effects of the competition which would be expected on these highest volume routes, fares would rise. ACTION's operations now would suggest that fares would increase by less than 50%.

The effect on patronage of such a rise in fares will not be great. The price elasticity of demand for commuting and school travel is reckoned to be low. A figure of 0.1 has been suggested. That is, a doubling of price would effect only a 10% decrease in patronage. Certainly, the characteristics of present passengers support the expectation that the response to fare rises will be limited. The 1986 survey of passengers showed that 61% of peak period passengers did not own a car or have a car for that day (reported in Interim Territory Planning Authority, 1990, p. 42).

It also can be expected that some peak period, non-core services would continue to run. These services might include larger volume feeder services and direct commuter runs.

that bypass the interchanges. The effect on the provision of other services is less easy to predict, but some reasonable deductions can be made. Passenger profiles suggest that the demand for off-peak travel may be even more inelastic than for peak travel. Passengers without a car were 50% of off-peak users, as opposed to 37% of peak users (Interim Territory Planning Authority, 1990, p 42). On the other hand, off-peak users may well have more discretion in whether to travel or not and, in the case of the young, especially, may have clear alternatives in walking or riding a bicycle. Whatever the exact response to change by consumers, clearly there remains a part of the transport market which, though very small compared to total passenger travel, is nevertheless as large as the existing taxi market. Moreover, the \$74 million returned to Canberrans, as suggested, provides a \$750 increase in average household income. Distributing this saving in favour of poor households would provide for a rise in income which more than compensates for the loss of the subsidy and which would allow these households to maintain previous levels of transport use if they wish to.

How businesses respond to this market when the great majority of ACTION's present services are withdrawn due to their low passenger numbers is the question. Companies operating the peak and core services may not concern themselves with non-core and off-peak services. Low volume routes would be unprofitable for operators of large buses, leading them to rely solely on high volume routes with fares set at a level sufficient to justify fleets which are used only for a short period each day. At most, we would expect only a small number of off-peak routes to justify large buses. This would not be the case for the operators of small and medium-sized buses. In particular, the conditions would be perfect for some version of a demand-responsive system which combines some of the features of buses and taxis. For example, a medium-sized bus, operating within a small group of suburbs, leaving every hour, could pick up passengers at their door, in response to a telephone call. It could drop the passengers at an interchange, or at spots on the way, and then return. From the interchange, passengers could take other, similar regional services or an interurban service to the other town centres. The standard of service and the fare would be between buses and taxis. Such services can incorporate a set of regular stops which are passed through, together with pick-up and delivery at the door, as in the Invictabus service in Melbourne. A company operating such a service could well be expected to enter into the profitable peak hour trade, offering simple feeder services to the interchanges or, perhaps, something more innovative. It could, for example, take permanent bookings from customers and pick them up at their homes and set them down at their offices in, say, Civic. It may bypass the interchanges, removing the need for changing buses which is the case now and providing a far more attractive and comfortable service.

The exact response to all areas of the market is of course up to individual firms taking account of experience elsewhere but also considering the peculiar circumstances of the Canberra market. We might expect some firms to be much closer to taxis in their style of operation. While many in the industry consider medium-sized buses to be better, because of their greater mechanical reliability and comfort, this would not stop the possibility of the operation of smaller vans of the sort which have proven so popular with large families in this country. Such vans taking only six or so passengers may offer exactly the service required by commuters: faster pick-up and delivery times than larger vehicles, door to door service and a personal touch which is lacking with larger buses.

They would also be suited to a quicker and more frequent demand-responsive service, or indeed could operate as a multiple hire taxi during the off-peak periods. Taxi services in general are unchanged other than to see a reduction in fares, partly through competition from small buses and more taxi operators, and partly because in allowing this entry to the market to occur, the present licensing system has been scrapped. The licences, which in the most recent auction fetched nearly \$180,000 each, necessarily add to the cost of provision.

In the blurring of the distinction between taxis and buses allowed by the proposal, a considerable expansion of the range of taxi and bus services offered could be expected. Price is only one, and perhaps a relatively unimportant, determinant of travel demand, compared to a range of quality considerations, such as comfort, speed, pick-up at and delivery to the door and so on. Given the small patronage relative to cars on all types of services other than school buses, the actual types of markets where alternatives may develop are not definite. At first sight, long distance intertown travel may be the preserve of the interchange services, but then, if taking a bus from Tuggeranong to Civic is felt to be unpleasant both because of the use of interchanges at Tuggeranong and Civic and a changeover at Woden interchange, this may not be the case.

Prospects of the market

There are two remaining conventional criticisms of the market to be considered. The first is that the period of transition to a fully functioning market will be unacceptably long and painful. The second is that individuals and firms may not respond to reform in the innovative ways suggested above. Neither argument is convincing in this case.

If the size and nature of the public transport task and the details of the market proposal given in this paper are recalled, then the length and pain of change are shown to be limited. While Canberra is a large city, its population and existing public transport usage are very small. The scale of response required is hardly daunting. Indeed, given existing patterns of bus use in Canberra, the larger part of the proposed system is already in place. At the very least, core services and interchanges will be retained, taxis will be cheaper and more numerous, and existing private bus companies or ACTION will operate on higher volume routes. The proposal does not mean enormous change because the present bus system is so unimportant and such a large part of present use is on peak hour and core services which are largely unaltered by the reform. Further, there are no substantial costs in infrastructure, either for bus stations; or for parking, because the relative shares of public and private travel remain much the same. The proposal given here substantially reduces the total cost of public transport provision and not the size of the public transport system.

Change will mean little disruption for most public transport users, and this disruption will be relatively minor compared to the large benefits to the community from more efficient provision of public transport services. The people most significantly affected by change will be public transport businesses and workers operating under the existing system. In particular, this means taxi licence plate holders and ACTION employees. The former would be alarmed at an open system which would make the expensive licences they have bought worth nothing. Equally, the over one thousand

employees of ACTION would be concerned at the prospect of losing their jobs. It is here that the greatest political opposition to change could be expected.

But these concerns are not insurmountable. Generally speaking, the existing taxi company and individual operators are best placed to expand their business under the new regulations. Specifically, the huge, annual savings to the community and the relatively small number of people affected make compensation to licence holders a realistic possibility rather than merely a theoretical notion. The same points apply equally to ACTION employees. Some will be required for the new ACTION, many have skills which will allow them to be employed elsewhere, including in the new private bus sector, and all could be sensibly and plausibly covered by an agreement which would include compensation where appropriate.

There will be little disruption for most passengers during the period of change as the larger part of the existing system will be maintained. Even with the response to the market limited to existing government and private bus firms and an expansion of taxis, there will be a large improvement in the performance of the system. Indeed, this is where the larger part of the benefits from reform are to be gained. Innovation in the system is the icing on the cake and not a necessary ingredient for success. But it is hard to accept that this more innovative response will be limited. For new entrants the costs and complexity of setting up would be no larger than for any of a number of small and medium-sized businesses. The example of home delivered pizza would seem particularly apposite. It is an occupation which has grown in Canberra. There are more than half a dozen such operators. One is hard pressed to imagine why people will and can operate a home delivery pizza service with advertised and distributed menus, telephone operators, cooks on commercial premises and delivery drivers but will not or cannot operate a mini-bus service with advertised and distributed timetables, telephone operators and drivers. And the nature of Canberra's urban plan and the characteristics of the Canberra population give rise to specific demands to which innovative operators can respond. Most ACTION bus services are unattractive to all but a tiny minority of travellers because Canberra is suburban rather than urban. A city built for the car favours public transport services which more closely match the benefits provided by a private car. Taxi-buses, for example, can provide a safer door to door service at night, when bus use now is negligible. Equally, the market is affluent so that more personal, higher quality commuter services stand a good chance of success.

Government can perform a useful role in promoting a varied market response. The core services provide structure and continuity in the initial period of change, and are a means of facilitating competition by allowing smaller operators to provide specialized services. Running the major bus stations at the five commercial centres does the same thing. The stations would rent bays to the various private firms and provide information on timetables, service offered and fares charged. So that customers could plan trips, a comprehensive directory, just like the existing ACTION timetable, could be produced. In preparation for change, the government might also produce a book of detailed statistical and technical information for prospective entrants.

Conclusion

To stick with ACTION as a comprehensive urban transport network is foolish. This is a spacious, sparsely populated city which is peculiarly unsuited to traditional mass transit networks such as ACTION, the truth of which is glaringly revealed in the low use of ACTION, the low occupancy rates of its buses and in its enormous government subsidy per passenger carried and per head of population.

The only responses which defenders of the present system can make to its huge cost and conspicuous failure are exhortation and coercion. As an example of exhortation, environmentalists write to *The Canberra Times* urging others to follow their lead in using the bus. The response is shown in a slight fall in patronage per head of population over the last five years. In the 1986 survey of passengers, only 1% of all users cited a concern for the environment as their reason for taking ACTION (Interim Territory Planning Authority, 1990, p. 42). An example of coercion is the idea that car users, if they will not respond to the carrots of massive subsidy and moral exhortation, should be taken to with a stick to force them onto the buses. So, proposals have been made for restrictions on parking below commercial levels of provision, for consciously building narrow roads that will create bottlenecks, and for punitive charges on motorists. Just as exhortation is futile, such coercion is usually futile, and to the extent that it is not, it is undesirable. Against this pious hand wringing and would-be authoritarianism, the market alternative lies before us as a clear and purposeful road to reform. Would that we would take it

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