

PRIVATE BUS OPERATIONS IN URBAN AREAS - THEIR
ECONOMICS AND ROLE

IAN P. WALLIS
Senior Transport Planner
R Travers Morgan Pty Ltd

ABSTRACT: This paper is concerned with the role that privately-operated bus services might play in urban areas of Australia, vis-à-vis services provided by public operators. It shows that a given level of bus service can be provided substantially more cheaply by private than public operators, and that the majority of the cost savings arise from better utilisation of staff and lower wage rates and associated on-costs. Expansion of the role of private services is therefore a possible means of reducing the levels of urban public transport subsidies. The principles which should underlie subsidy schemes for private operators are discussed.

Background Paper for Session 12,
also background for Sessions
4 and 11

PRIVATE BUS OPERATIONS IN URBAN AREAS

- THEIR ECONOMICS AND ROLE

INTRODUCTION

The main focus of this forum is urban transport policy. One of the main issues now facing Governments (both in Australia and overseas) when examining policies for urban transport is whether subsidies to public transport should continue to increase rapidly as in recent years, or whether they should be cut to more modest levels. For example, Government subsidies to NSW PTC urban bus and rail passenger services in Sydney and Newcastle increased from some \$25m in 1972/73 (20-25% of costs) to some \$150m in 1976/77 (55-60% of costs) - a very rapid increase even in real terms.

If cuts are to be required in urban transport subsidies in future years, or even if subsidies are to be kept to present levels in real terms, then difficult decisions will be needed about how the savings will be achieved - by increases in fares, reductions in services, improvements in efficiency of the present services or changes in the whole provision and organisation of services. Against this background, this paper examines the present and possible future role for privately-owned bus services in urban areas of Australia.

In particular, the paper concentrates on the following aspects of private bus operations:

- i) The costs and economics of private services in comparison with the costs of public bus operations, and the major reasons for these cost differences.
- ii) The broad financial implications for Governments of replacement of private bus services by public operations.
- iii) The case for an expanded role for private bus services in urban areas, with selective subsidies as appropriate.
- iv) The principles to be followed in determining and controlling subsidies for private operators without impairing efficiency of operation.

Privately-owned bus services play a major role within the overall public transport task in Australian urban areas. To date, relatively little effort has been devoted to studying their role, their costs, their effectiveness, their relationship with the publicly-owned services, or their likely future. In part this neglect has arisen through the fragmentation of the industry, its lack of research resources and its concern with confidentiality of information.

One recent study that did examine the private bus industry was very pessimistic about its viability in the medium term (Rendel and Partners, 1975). In many situations, private bus operations have been cut back over the last five years or so, particularly in the case of evening

WALLIS

and weekend services. In both Adelaide and Perth the majority of the private urban area services have been taken over by public operators in recent years - in each case with substantial increases in overall Government subsidies being required. In other States, policy is for Government to pay selective subsidies to private operators.

The next section of the paper gives background information on the present private bus industry in the urban areas of Australia. The succeeding sections discuss the aspects of private bus operations outlined above.

THE PRIVATE BUS INDUSTRY

Table 1 sets out key statistics indicating the size and composition of the private bus industry in Australia (Rendel and Partners, 1975).

TABLE 1: PRIVATE BUS STATISTICS, AUSTRALIAN URBAN AREAS (1975)⁽¹⁾

State	Number of Private Route Operators in Urban Areas	Number of Buses in Urban Service		
		Private	Public	% Private
NSW	295	2238	2061	52
VIC	105	1240	251	83
QLD	62	529	610	46
SA	8	87	686	11
WA	3	17	793	2
TAS	5	57	281	17
ACT	0	0	251	0
NT	0	0	15	0
Total	478	4168	4948	46

(1) Urban areas defined as centres of over 10,000 populations.

There were 855 route bus operators in Australia in 1975, of which 478 (56%) served urban centres of more than 10,000 population. The private sector represents a significant proportion of urban fleets, accounting for 46% of the buses on urban route services. In NSW and Victoria, the private sector was larger than the public, and in Victoria accounted for 83% of buses in urban service - reflecting the strength and importance of the private bus sector in Melbourne. In other States, the private sector accounted for a minority of services, reflecting the size of the public sectors in Brisbane, Adelaide, Perth, Hobart, Canberra and Darwin. In Queensland, Western Australia and Tasmania the private sector has traditionally been smaller than the public one; while in S. Australia this situation has evolved recently as the Adelaide private sector has progressively been taken over by the public operator.

Of the 68 urban areas with populations over 10,000, 55 (with a combined population of 1.5 million) were solely dependent on private services. Six areas with a population of 6.4 million were dependent on both sectors and seven cities with a population of 1.8 million were almost completely dependent on the public sector.

PRIVATE BUS OPERATIONS

Over half the urban area private buses are in NSW and a further 30% are in Victoria. Thus, in these two States in particular, the private bus industry plays a very major role in the provision of urban public transport services.

Since the early 1970's, the evidence suggests that private bus operators have found it difficult to maintain services and profit levels. In this period of high inflation, particularly as regards labour costs, private bus operators have often had difficulty in securing fare increases from Government and have had to compete with heavily-subsidised public bus services with low fare levels. As a result, many operators have resorted to cut-backs in services, particularly at evenings and weekends. In States where Government policy is against subsidy to private urban area services, some operators have been taken over by the public sector (e.g. Adelaide); in other States Governments have introduced subsidy schemes to enable private operators to continue in business despite the restrictions on fare increases (e.g. Queensland, Victoria). Any overall deterioration in bus services available to users appears to have been slight.

COSTS OF PRIVATE AND PUBLIC BUS OPERATIONS

This section draws together evidence on the costs of private bus operations in Australian urban areas and compares them with the costs of the major public bus operators. The following section then attempts some explanation of the main causes of the differences in costs between the two sectors of the industry.

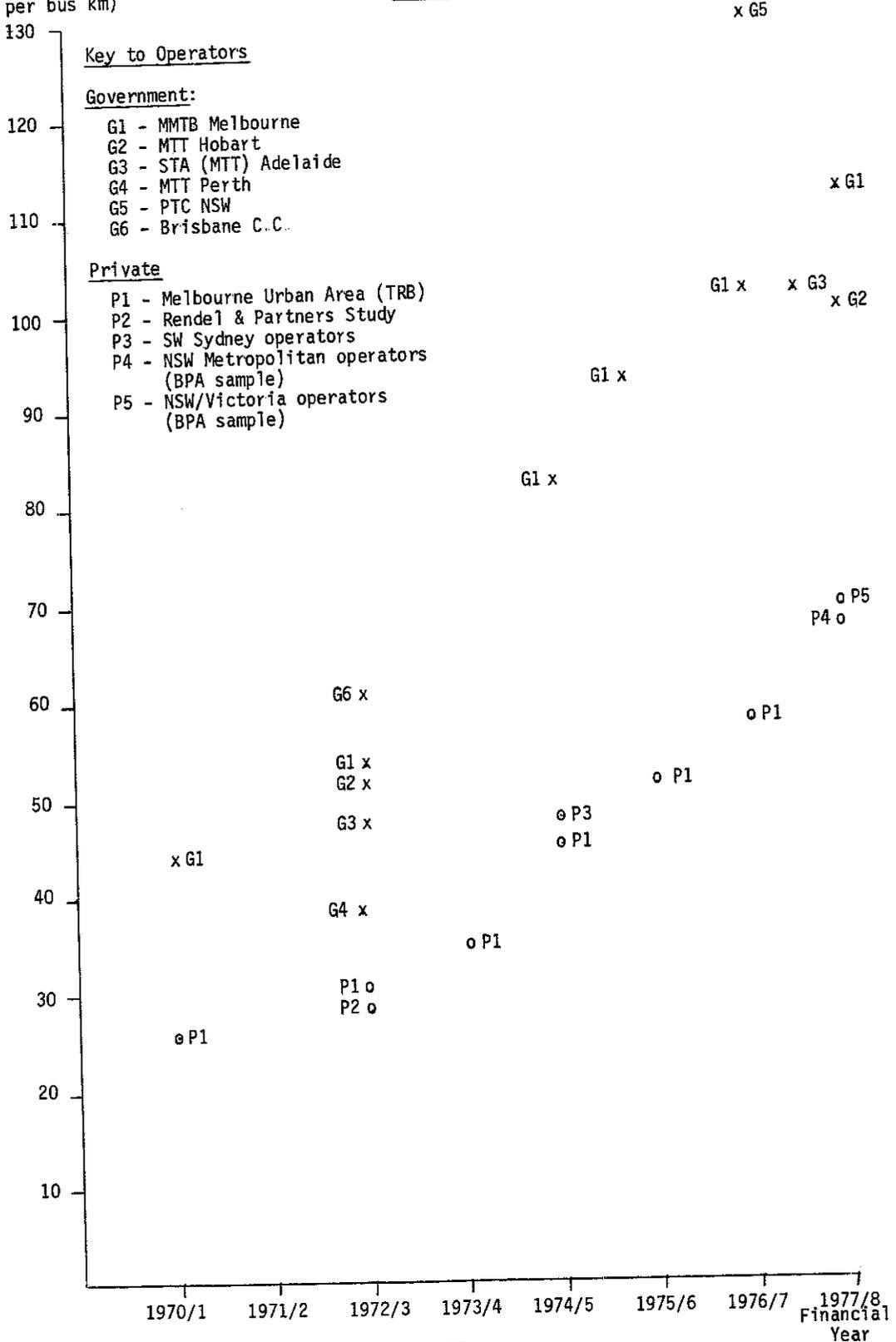
Costs used have been drawn from a variety of sources, described below, and for a variety of recent years. In all cases, costs assessed are financial costs to the operator, rather than resource costs (net of taxation elements).

Fig. 1 gives a graphic summary of the costs analysed, and also indicates the operators and sources concerned. For simplification of presentation all costs have been shown as average operating costs per bus kilometer run. 'Operating costs' in this context refer to the total costs appearing in bus operators' annual operating accounts. Costs for public (Government) operators, shown by references G1-G6 on Fig. 1 have generally been derived from published sources, such as the annual reports of individual operators, supplemented by our own work on bus costing during various studies (Travers Morgan 1978, 1979). Costs for private operators have been derived in some cases from published sources (in particular the annual statistics published by the Victorian Transport Regulation Board); in other cases, unpublished data have been used. Private operator costs generally relate to groups of operators, rather than individual companies, so as to indicate costs for 'typical' operators.

The results presented indicate that the average unit costs for the private operators examined were, in general, substantially lower than those for the public operators. Table 2 gives the results available for 1972/73 in numerical form, and expresses average costs in both ¢ per kilometer and as a proportion of the figure for MTT in Hobart (a fairly typical public operator in terms of its average costs). Table 2 and Fig. 1 show a considerable spread in costs between different public operators. These differences are explicable in general terms by the different style of operations, e.g. unit costs of NSW PTC services (1976/77) are higher than the

Average
Operating Cost
(¢ per bus km)

FIGURE 1: AVERAGE OPERATING COSTS PER KM FOR
PUBLIC AND PRIVATE BUS OPERATORS



general figures for public operators because of the extent of two-man operations; MTT Perth figures (1972/73) are on the low side because of the large proportion of relatively high-speed operation in outer urban areas. Despite the spread of costs, the results show substantially lower average costs for private operators than public. Table 2 shows that, for the 1972/73 data, average costs of public operators were in the range 70%-120% of those of MTT Hobart, whereas the two samples of private operators shows costs 55% and 58% of the MTT Hobart average. These results are typical of the remaining data shown in Figure 1. On average, unit private bus costs are between 50% and 65% of those of the typical public operator.

TABLE 2: AVERAGE COSTS FOR VARIOUS BUS OPERATORS, 1972/73

Operator	Operating Costs (\$000 pa)	Bus kms pa (million)	Average Cost	
			¢/km	% of MTT Hobart
MMTB Melbourne (G1)	6,394	11.9	53.7	104
MTT Hobart (G2)	3,184	6.2	51.4	100
MTT Adelaide (G3)	8,270	17.5	47.3	92
MTT Perth (G4)	13,777	37.7	36.5	71
Brisbane CC (G6)	12,048	20.1	60.2	117
Victorian private (P1)	13,754	45.9	30.0	58
Various private (P2)	4,899	17.3	28.3	55

It is reasonable to claim that simplified comparisons of the type given above, on an average cost per kilometer basis, would not give a reliable guide to the relative costs for different operators to run the same service. The different operators provide differing types of services in differing conditions: in general private operators provide services predominantly in the outer parts of urban areas, with less severe traffic conditions and higher speeds, and thus lower costs per kilometer, than generally experienced by public operators.

However, the results quoted here are a summary of more complex analyses in which, wherever possible, costs of the various operators were subdivided into several components and in particular into components which would be expected to vary with the hours operated, the distance run and the numbers of buses in the fleet (by the method described in Travers Morgan 1978). Unit costs for each component were then used to synthesise the costs for various operators to run a typical public bus operation (actually MTT Hobart). The relative costs obtained were very similar to those already presented. Other analysis on this subject (Gilmour 1974) reached the same conclusion when using similar methods to compare the Melbourne public and private bus operations.

Thus it is safe to conclude that, on average, the unit costs for private operators in Australian urban areas are only between one-half and two-thirds of those of public operators in providing a similar service. The next section investigates reasons for the cost differences.

PRIVATE BUS OPERATIONS

ANALYSIS OF COST DIFFERENCES

To analyse how and why private operators would be able to provide similar services to public operators at lower costs is a complex exercise: the factors affecting costs are many and inter-related. This section attempts to isolate the main factors behind the lower costs and where possible quantify the cost differences. The differences are discussed under the following main headings:

- i) Crew wage rates.
- ii) Labour utilisation and flexibility.
- iii) Maintenance and administration.
- iv) Labour on-costs.
- v) Capital facilities.

In a paper of this length it is inevitable some of the explanation given in this section is rather abbreviated.

Crew Wage Rates

Crew wages (including conductors in the case of two-man operation) form the largest single element in bus company costs, usually accounting for over 40% of total operating costs. Basic wage rates for public operators' crew only differ marginally between operators in different states, averaging about \$4.50 per hour (July 1978) for a 40 hour week. The comparable basic rate for private operator drivers also varies across the country, depending on the Award concerned, but was on average near \$4.00 per hour, some 11% lower. This difference alone would account for private operators having about 5% lower costs.

Eligibility for overtime and penalty payments, and the rates for such payments, also differ between operators and between Awards, although not necessarily to the benefit of private operators. Any differences will not in general result in any substantial differences to the overall costs.

Labour Utilisation and Flexibility

Private operators benefit from greater flexibility of staff, particularly in the following respects:

- i) Many staff combine driving with other duties, thus minimising the extra staff required to cover peak periods, sickness etc. Almost all the staff of many private operators (except perhaps female clerical staff) are able to and do drive buses as required. In particular, personnel employed primarily as mechanics often carry out driving duties in peak periods, and drivers carry out much of the bus cleaning and routine maintenance work.
- ii) Some private operators employ a few part-time staff, although only a very small proportion of the total employees in the industry are part-time.
- iii) Private operator staff tend to work longer hours than those of public operators, and in particular are more likely to work extra hours to cover for sickness, emergencies etc. Up to a point this will tend to reduce unit costs.

WALLIS

Private operators also tend to secure more efficient utilisation of drivers, i.e. the proportion of total crew hours worked which are productive is higher:

- i) They allow less time for crew signing-on and signing-off, or require the crew to perform more duties in these periods, e.g. fueling, cleaning.
- ii) Private bus schedules are generally arranged to have less unutilised periods than those of public operators - this is helped by the use of drivers on other duties.

The utilisation and flexibility of crew is reflected in the ratio of crew worked hours (time between signing-on and signing-off) to bus hours (hours spent operating the bus). For public operators this ratio is typically in the range 1.35-1.40, whereas for NSW private operators it is in the range 1.05-1.15. Thus private operators may achieve 20%-30% higher utilisation of crew.

Not reflected in this worked hours: bus hours ratio is the unproductive time spent positioning buses between depot and operating services. In general private operators probably compare favourably with public operators in this respect: their routes are oriented more closely to their depot location and drivers on outlying routes may keep their buses at home overnight to minimise positioning. In some cases these factors can result in substantial cost savings.

The more effective crew utilisation of private operators, together with their lower basic wage rates are likely to result in crew costs for private operators being 30-40% lower than those of public operators. As crew costs and their direct on-costs typically account for some 50% of the total operating costs of public operators, private operator total costs will be some 15-20% lower on account of crew cost differences alone.

Some element of the more efficient crew utilisation may be due to the different patterns of services provided by private operators: often they achieve a mix of route, school and charter services which gives more even utilisation of buses throughout the day than public operators achieve. Thus this whole 30%-40% saving in crew costs could not necessarily be achieved if a private operator were to take over a public operator service. However it appears probable that, with limited reorganisation of services, the majority of this saving could be achieved.

Maintenance and Administration

Private operators generally have relatively smaller numbers of maintenance and administration staff than public operators. This is particularly true of maintenance staff. A typical private operator will have one specialised mechanic for perhaps each 10 buses, together with some drivers who do some mechanical work when not required for driving; whereas a typical public operator will have one maintenance staff member for 2-3 buses.

The ratio total employees to buses owned is typically in the range 1.0-1.5 for private operators, but 2.0-2.5 for public operators. Although public operators will often average a greater mileage per bus, the lower proportion of non-driver staff employed by private operators makes a

PRIVATE BUS OPERATIONS

substantial contribution towards their lower costs. This factor alone probably results in total staff requirements being roughly 20-25% lower for private operators: as labour costs are typically 70% of total bus company costs, this explains a 15-20% total cost saving for private operators.

The evidence also suggests that management staff costs for private operators are substantially lower than for public operators. The proprietors/managers of many private companies work long hours for relatively low salaries, and frequently also employ relatives to assist at either low or zero rates of pay - a situation typical of small businesses. In addition, because of the incentives to save costs, private operators often introduce ticketing and revenue collection methods which enable them to minimise the office staff time required in connection with revenue collection, etc.

Labour On-Costs

The staff on-costs of private operators (payroll tax, pension and retirement payments etc) tend to be lower than those of public operators. All operators are liable for payroll tax (5% on gross salaries and wages), and all pay holiday loading additional to basic pay. However, private operators generally make very little provision for superannuation and pension funds, whereas public operators have made increasingly generous provision of this sort over the last few years: for instance, for one typical public operator the proportion of the total operating costs attributed to the pension/retirement category has recently doubled from 5% to 10% within 2 years. Typically public operators may now pay 15%-20% additional to direct labour costs under this category, whereas private operators pay perhaps 1% additional. This difference will represent about 10% of total operating costs.

Capital Facilities

In general, although there are many exceptions, private operators tend to have older bus fleets than the public operators now possess, particularly as they have not shared in the bus-buying boom enjoyed by public operators in recent years. Also, private operators tend to buy new buses more cheaply than the public operators and frequently buy second-hand rather than new buses. These different purchasing patterns arise partly from the difficulties many private operators have in finding funds for capital investment, and they are reflected in the lower depreciation provisions made by private operators.

Private operators generally have considerably less elaborate and costly depot facilities than public operators, even allowing for their relative sizes, thus resulting in lower depreciation and building maintenance costs. Many private operators have maintenance facilities in the open air rather than under cover, and by comparison with public operators provide very limited recreational facilities for staff - perhaps a reflection of the lesser time their staff have to make use of such facilities!

Summary of Cost Differences

The main respects in which private operators' financial costs are lower than those of public operators may be summarised as:

WALLIS

- i) Greater flexibility and efficiency in use of labour.
- ii) Relatively small proportions of maintenance and administration staff.
- iii) Lower basic rates of pay.
- iv) Lower wage/salary on-costs.

There are other respects, connected with non-labour costs, in which private operators may make savings over public operators, but these generally have smaller contributions to overall cost savings.

In one major respect, private operators have higher costs than do public operators. Although new buses purchased by both the private and public sectors are exempt from sales tax, private operators are required to pay 15% sales tax on all spare parts and tyres. This tax, which is not payable by public operators, adds about 1% to the total operating costs of private operators (Rendel and Partners, 1975). Private buses are the only transport mode in Australia required to pay this tax, and this has been and remains a continuing grievance of the industry.

Table 3 has been drawn up to summarise the impact of the cost differences described in this section. It shows a breakdown of the annual operating costs of a typical Australian public operator, and under the same headings gives broad estimates of the costs a typical private operator would incur in providing the same service. These comparisons should be treated as no more than broad estimates, but in conjunction with the text, they do illustrate the major respects in which private operators make savings.

It might be claimed that the prime reason that private operators have lower unit costs is because they are smaller organisations, and that there are in fact diseconomies of scale in the bus industry. However, all the evidence suggests that there are neither marked economies nor diseconomies of scale in the industry among different size firms of similar type (Lee and Steedman 1970, Kosha 1970, Travers Morgan & Partners, 1976).

Thus the major part of the unit cost differences arises, in my view, not from the differing sizes of the organisations, but from their different natures. On the one hand is a private concern, often owned and managed by a sole proprietor, trying to operate its business in a commercial manner within all the constraints imposed; on the other hand is the public operator, financially supported by Government with subsidies of a somewhat open-ended nature, with lesser incentives to efficiency, and with a high degree of union representation of its labour force.

PRIVATE BUS OPERATIONS

TABLE 3: TYPICAL OPERATING COSTS - PUBLIC AND PRIVATE OPERATORS

Cost Item	Public Operator (% of operating costs)	Private Operator (% of public operator costs)
Wage/salary and related costs:		
1. Driver wages	43.1 ⁽²⁾	30.2 ⁽²⁾⁽³⁾
2. Traffic staff salaries	3.8	1.9 ⁽⁴⁾
3. Vehicle repairs/maintenance wages/salaries ⁽¹⁾	11.7	4.0 ⁽⁵⁾
4. Admin and general salaries	<u>3.9</u>	<u>2.5</u> ⁽⁶⁾
	62.5	38.6
5. Driver on-costs ⁽⁷⁾	9.3	2.1 ⁽⁸⁾
6. Other staff on-costs ⁽⁷⁾	<u>3.7</u>	<u>1.0</u> ⁽⁹⁾
	13.0	3.1
Non-wage/salary costs:		
7. Direct operating costs - fuel, tyres etc.	6.4	6.4 ⁽⁶⁾
8. Vehicle repairs/maintenance, materials etc. ⁽¹⁾	3.7	2.7 ⁽⁶⁾
9. Depreciation	6.0	5.0 ⁽¹⁰⁾
10. Interest	3.2	3.5 ⁽¹¹⁾
11. Insurances, Licences and registration	3.5	4.5 ⁽¹⁰⁾
12. Miscellaneous general	<u>1.7</u>	<u>1.0</u> ⁽¹²⁾
	24.5	23.1
TOTALS	100.0	64.8

- (1) Includes workshop and stores costs.
- (2) Includes leave provisions.
- (3) Assumed 70% of public operator (see text).
- (4) Assumed 50% of public operator - in practice traffic staff also probably carry out other functions.
- (5) Assumed - from analysis of various private operators by comparison with public operators. In practice much of the maintenance carried out by drivers.
- (6) Assumed - based on inspection of various operators' accounts.
- (7) Includes payroll tax, superannuation and pension payments.
- (8) Assumed at 7% of private driver wages.
- (9) Assumed - represents 12% of private non-driver wages/salaries.
- (10) Assumed - see text.
- (11) Assumed - grants for new buses not generally available to private operators.
- (12) Assumed - allows for higher registration and licence fees for private operators.

A LARGER OR SMALLER PRIVATE BUS SECTOR - THE FINANCIAL IMPLICATIONS

As mentioned earlier, in both Adelaide and Perth the majority of private urban area services have been taken over by the public operators in recent years. In some other areas State policy is to adopt the alternative course of subsidising private operators in cases of financial difficulty. In several States policies are under review and in at least one case consideration has been given to transferring some services from the public back to the private sector. Thus the choice of the respective roles for the two types of operator is a live issue, and the financial consequences in terms of subsidy requirements (and therefore in terms of rate and tax levels) are of considerable importance. This section summarises the broad financial effects of changing, at the margin, the allocation of services between public and private operators.

The public bus operators in the major Australian cities have broadly similar unit costs (Fig 1) and work to broadly similar fare levels and structures. The direct fare revenue received by these operators typically covers only about 40% of their total operating costs. Thus on average 60% of the costs are paid by Government under one form or another of subsidy: this level of subsidy would cover almost the entire costs of these services if provided by a typical private operator.

As a result of the public operator fare structures (fare scales taper for longer distances) and the distribution of population in relation to bus routes, the subsidy to public routes in the outer parts of urban areas will tend to be greater than the average 60% of costs, whereas the subsidy in inner areas will be a lower proportion. Thus, as a generalisation, it is likely that private operators in outer urban areas, receiving little or no subsidy, are providing services in similar situations to public operators who are being subsidised by at least 60% of their costs.

For example, in Melbourne in 1976/77:

- i) MMTB bus services had an average operating cost of 102¢ per bus km with an average subsidy of 58¢ per km (57% of costs).
- ii) Private route bus services in the Melbourne metropolitan area had an average operating cost of 57¢ per km with an average subsidy of 13¢ per km.

The private operator survives in these circumstances for two reasons:

- i) his costs are lower - as analysed in the previous section; and
- ii) his fares are generally higher, and may be up to twice the level of a public operator in such an area.

For a typical outer urban route now run by a public operator and subsidised at the 60% level, transfer to a private operator might be expected to reduce the subsidy required by some two-thirds, assuming no changes in fare levels. Increasing fares to more typical private operator levels would be necessary to eliminate all need for subsidy. These broad results are given in Table 4. Conversely, if private route services were to be taken over by the public operator at normal public fare levels, the subsidy then required might be expected to be some 60% of the total costs for the public operator.

PRIVATE BUS OPERATIONS

TABLE 4: TYPICAL COSTS, REVENUES, SUBSIDIES FOR URBAN AREA BUS SERVICES

Operator	Fare Levels (1)	% of Public Operator Costs		
		Operating Costs	Passenger Revenue	Subsidy
Public	'Public'	100	40	60
Private	'Public'	60	40	20
Private	'Private'	60	60	-

(1) 'Public' represents typical public operator fare levels and structures (see text). Similarly for 'private' fare levels.

These results are of course broad generalisations over a wide range of circumstances. Any individual case would warrant detailed analysis. However, the general results given are deduced from a number of such analyses and are sufficient to enable first estimates to be made of the financial effects of substantial transfer of services from one sector of the industry to the other.

For instance, in the Sydney area about 45% of buses are privately operated. Take-over of half of these, say, by the public sector would be expected to result in a subsidy increase of the order of 40%, representing \$20m-\$25m in 1976/77 and considerably more now.

THE ROLE AND FINANCING OF PRIVATE SERVICES

The preceding sections have sketched out the present scope of the private bus industry, analysed its cost advantages over the public sector and examined the broad implications on subsidy requirements of expansion of one sector at the expense of the other. This section draws on these results to discuss the most appropriate future role of private bus operations in urban areas.

The paper has highlighted the cost advantages of private operators. These advantages are, to a substantial extent, achieved by more efficient utilisation of labour: private operators can provide a given service with fewer staff than a public operator is likely to employ. In addition, staff employed by a private operator are, as a generalisation, likely to be rather less well paid than the corresponding staff with a public operator. Private operators achieve other economies by more cautious capital expenditure policies.

Leaving aside fares and frequency aspects, there is no strong evidence that private operators in general provide either a better or worse service to users than do the public operators. Private operators are often thought highly of by users on account of their more personalised approach, the more positive attitudes of their drivers etc; on the other hand they are sometimes criticised for failure to run services as timetabled, for uncomfortable or outdated buses etc.

Considered from an economic viewpoint only, there would seem good reason for Governments to encourage the provision of services by private operators in urban areas as a means of promoting more efficient use of resources. Privately-owned companies should certainly be regarded as legitimate suppliers of public transport services. Every service provided by a private operator in place of a public operator results in lesser use of resources, and hence to provide a specified service at specified fare levels lower subsidies would be required. This would seem a substantial advantage to society as a whole and to Governments in particular, especially in the current situation of concern about mounting public transport subsidies. It is not possible for me to comment on whether any 'political' disadvantages of encouraging private bus services might outweigh the cost advantages.

If the general principle of encouraging private services is accepted, how should it be applied in practice? There appear to be two major difficulties:

- i) How, in principle and in practice, should urban area services be divided between the public and private sectors of the industry?
- ii) On what basis should subsidies be allocated to private operators?

Neither of these questions are the prime topics of this paper, but I comment briefly on each in the following paragraphs.

As described earlier (Table 1 etc.), private buses currently play a major role in the provision of urban area services, although in most of the major cities their role is smaller than that of the public operator. Private services operate predominantly in the outer areas of these cities, providing longer-distance services, services in semi-rural and developing areas, and feeder services to railway stations and local centres. There is no hard and fast division between the two sectors of the industry. In theory, the community would save resources if all services currently provided by public operators were transferred to the private sector. In practice, any changes in favour of the private sector seem likely to take place very much at the margin:

- by the retention, at a minimum, of the existing private sector services;
- by encouragement of the private sector to expand services in areas of new development or in other areas now poorly served;
- by transfer of certain services in outlying parts of urban areas from the public to the private operator.

Such expansion of the private sector will only occur if operators are given reasonable encouragement by Government policies - to be confident that it will be worthwhile them investing in new equipment for maintaining and expanding services, and that they will be permitted either to raise fares or to secure financial support from Government if not. State Governments specify the services to be provided by private operators and control the fare levels chargeable, and by these means have the major influence on the profitability of private operators. In some situations, permitted fare levels are adequate for a private operator to run the specified services without subsidy: in an increasing number of cases subsidy would be necessary to enable private services to be maintained. Thus Government policy on subsidies to private operators is crucial to the encouragement of their services.

PRIVATE BUS OPERATIONS

One of the major reasons for the greater efficiency of the private sector is the commercial incentive. It seems essential, under any subsidy scheme, that the incentive to efficiency be maintained - otherwise in the long run the cost advantages of private operators are likely to be considerably reduced, if not to disappear entirely. Open-ended subsidy schemes of the type paid to public operators, which virtually automatically make up the difference between costs and revenues at the end of each year, are inappropriate in this context. An effective subsidy scheme for private operators needs to:

- i) Retain incentives to efficiency of operation for both management and employees.
- ii) Give fair and consistent treatment between the operators involved.
- iii) Maintain a balance between a fair return to operators and a reasonable cost to the public.
- iv) Be capable of being monitored easily and effectively.

At present, Queensland and Victoria could be described as the two leading States in terms of subsidy schemes for private operators. I believe it is fair to say that in neither case are the schemes operating entirely successfully and the private operators, at least, consider they could be revised with advantage. In summary:

- i) In Queensland, subsidies to urban area operators are based on the costs and revenues of each operator for route services so as to ensure a 12 $\frac{1}{2}$ % return on funds employed. The scheme reduces incentives to efficiency and, partly for this reason, many of the operators concerned would welcome amendments.
- ii) In Victoria, subsidies to urban area operations are currently based on the principle of meeting cost increases on route services (calculated according to an industry-wide cost index), after adjusting for any fare increases. The scheme has been changed several times since its inception in 1974 and is currently under review. Operators concerned are unhappy with the scheme because its effect is to reduce profit margins (due to an underlying downwards trend in patronage) and to discourage long term planning and investment because of the uncertainties about continuation of the scheme.

Neither of these State schemes fully meets the desirable criteria given above.

I suggest that the type of subsidy schemes to be adopted should involve a contract between Government and the operator to provide a specified service at a specified fare level for an agreed annual subsidy. The choice of operator and the initial subsidy level should be determined as a result of competitive tendering between operators for the initial contract (this is sometimes known as negative tendering). There would be no reason why public operators could not compete in the tendering procedure. The contract would need to last for several years - at least 5 and preferably 7-10 - so as to give the chosen operator sufficient security to invest in new buses and other equipment. During this period the contract price would need to be revised annually to compensate for inflation; to retain incentives the revisions would need to be based on cost changes in the industry

as a whole, rather than on changes for the individual operator.

Ideally the contract would be agreed on the basis that the operator would retain the revenue earned, so as to maintain incentives to provide attractive services and maximise patronage. However, in some situations where through ticketing between public and private services is adopted (as in many cities worldwide), revenue would be controlled by a central authority and the contracts would need to be based on gross costs.

It has not been possible in this paper to develop in detail the desirable mechanisms for determining and paying subsidies to private operators. This is a subject which, once the general principles are accepted, needs further careful thought and experimentation, within the above guidelines.

CONCLUSIONS

The paper has sought to show that on economic grounds there is a prima facie case for privately-owned bus companies being encouraged to play an increasing role in the provision of bus services in urban areas of Australia.

Private operators have a major advantage over the public operators in that their operating costs to provide a given service are typically about 50%-70% of those of the public operator. The major respects in which their costs are lower are in:

- i) Greater flexibility and efficiency in use of labour.
- ii) Relatively small proportions of maintenance and administrative staff.
- iii) Lower basic rates of pay.
- iv) Lower wage/salary on-costs.

Typically only about 40% of the costs of public-operator bus services are paid from fare revenue, while the remaining 60% is from Government subsidy. Because of their lower costs, private operators would be able to provide many of these services (at the same fare levels) with zero or much reduced levels of subsidy. The saving in subsidy could have a major effect in containing or reducing the levels of Government financial support to public transport.

Private operators achieve greater efficiency in the use of resources primarily because of their operation within commercial discipline. Any subsidy scheme for private operators should be constituted so that incentives to efficiency are maintained to the maximum possible extent. The desirable principles for a subsidy scheme to follow were outlined in the previous section of the paper.

If private operators were to take over some of the publicly-operated services there would seem no strong reason why the services now operated by one public body should not be split between several private operators. Government would still retain sufficient powers to coordinate and integrate services as necessary. All the evidence suggests that there are no significant economies (or diseconomies) of scale in either the public or the private sector of the bus industry. The crucial factor affecting cost levels appears to be the existence or otherwise of commercial incentives.

PRIVATE BUS OPERATIONS

On balance, there is no reason to believe public transport users would consider themselves worse off as a result of expansion of the private bus sector at the expense of the public sector. Travellers appear to appreciate the more personalised nature of the private services sufficiently to balance any inferiority they may be perceived to have in terms of time-keeping, comfort of buses, etc.

Any shift from public towards privately-operated services would (on present cost figures) result in a saving in resource costs, arising primarily from a reduction in total employment in the bus industry and from a reduction in wage levels for some of those who continue to be employed in the industry.

Rate-and tax-payers as a whole would, in principle, benefit from any reductions in public transport subsidy levels. The extent to which they would benefit depends, to a considerable degree, on the extent to which any employees who were displaced from the bus industry were able to find work elsewhere; any who remained unemployed and received social security payments would reduce the net subsidy savings made by Government.

Those people who become unemployed as a result of the shift in services would be likely to consider themselves worse off. Any employees who transferred from the public to the private sector of the industry might also consider themselves worse off. They would tend to be paid at marginally lower wage rates and also to be utilised more intensively during their working periods. However there are certainly cases of bus drivers who, despite slightly lower wages, prefer to work in the private sector on account of the higher morale and job satisfaction obtained.

Any shift in emphasis from public towards private bus services is likely, understandably, to be unpopular with the unions representing the public sector employees. The cost savings from such a shift result partly from more efficient utilisation of labour, and therefore lower staff requirements, and partly from rather lower rates of pay in the private bus industry. Many people would consider it to be a retrograde step for Government to pursue policies which result in higher unemployment and in lower rates of pay for some people transferring from the public to the private sector of the bus industry. However, even if those transferring to the private sector were to have their incomes maintained at public sector levels (this might be a political precondition of any transfer of services to the private sector), then the evidence suggests there would still be a saving of some 15%-20% in total costs of the transferred services as a result of the more efficient utilisation of labour. But there would be little to gain from increasing the role of the private sector just for its own sake. If such a change were to be effected without any change either to average earnings or to total employment in the industry, then the potential cost savings would be very limited.

It seems probable that any shift in emphasis towards private bus services in the major urban areas would take place slowly, by encouragement of the private operators to expand services and by gradual transfer of certain publicly-operated services in outer areas. The potential cost savings from allowing private operators to play an expanded role in urban public transport, within an appropriate regulatory and subsidy framework, are very substantial and on economic grounds there are good reasons to pursue such a policy. However, such a policy has implications on wage levels and on total employment and decisions about whether or not it should be pursued can only be taken in the political arena.

ACKNOWLEDGEMENTS

This paper would not have been possible without assistance from various individuals and organisations in both the private and public sectors of the bus industry. In particular I am grateful for help from Neil Smith of Urban Transport Systems (NSW), Dick Rowe of Rowe's Bus Services (NSW), Ken Butt of North and Western Bus Lines (NSW), John Usher of Invicta United Bus Services (Victoria) and the Transport Regulation Board (Victoria). However, the responsibility for interpretation of data and for the views expressed is entirely my own.

REFERENCES

- Gilmour, P. (1974) - "The economics of private bus services in Australia" Traffic Quarterly 1974.
- Kosha, R.K. (1970) - "Economies of scale in bus transport - some Indian experience", Journal of Transport Economics and Policy, January 1970.
- Lee, N and Steedman, I. (1970) - "Economies of Scale in bus transport - some British municipal results", Journal of Transport Economics and Policy, January 1970.
- Rendel and Partners Economic Studies Group (1975) - "Review of privately owned bus and ferry services in urban areas of Australia", Australian Department of Transport (3 volumes).
- Travers Morgan and Partners, R. (1976) - "Bradford Bus Study - Final Report".
- Travers Morgan Pty Ltd., R. (1978) - "Adelaide Bus Costing Study", Director-General of Transport, South Australia.
- Travers Morgan Pty Ltd., R. (1979) - "Derwent Region Transportation Study - Public Transport", Department of Main Roads, Tasmania.