No Waiting

Ideas for Improving Sydney's Bus Services

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Foreword

A battle is being waged on a landscape that is much closer to home than the Gulf and more familiar to us, namely, the streets of Sydney. More precisely, the war zone is predominantly the Western and Southwestern suburban regions, where the State Transit Authority (STA) has never been able to displace the private bus operators who were there prior to suburbanisation. For those of you who are not familiar with Sydney's outer suburban regions, it will come as a surprise to learn that buses are not fully monopolised by the state. The battle is not being fought over the oil riches of Kuwait but rather something closer to our sensitive 'hip-pocket nerve'. I refer to 'regulatory' as opposed to more 'competitive' solutions to what we would all agree are the ills of our public transport system. If the further regulation of privately-owned passenger bus services, which is in the process of being implemented, results in concentration and further entrenchment of private but government-maintained monopoly, then we will all be losers.

In this timely and accessible monograph Tony Sorensen addresses what seems, on the face of it, to be an innovative solution to the problem as perceived by the New South Wales Department of Transport (DoT). The STA has a monopoly in many of the inner-city suburbs. Although corporatised, the STA is still subsidised, and, at a cost to the taxpayer, is able to offer higher quality (more frequent) bus services. As an aside, the STA has been corporatised with its territorial monopoly intact and without a break-up into potentially competing components. DoT has assigned exclusive territorial monopolies to upwards of 70 private bus companies. There are considerable variations in service quality between these operators. Deemed minimum quality standards are being implemented, and any territory in which the existing operator does not meet deemed minimum standards is declared vacant. So long as proposed fares are set within the government's guidelines, the territory is essentially allocated to the operator who can promise the highest service quality.

From the standpoint of the officers of DoT, the origin of this further round of regulation based on competitive bidding is clear. Poor service, particularly at off-peak times, and invidious comparisons with

subsidised STA services give rise to consumer complaints to the regulatory authority. In the 'command and control' fashion so beloved of the now-failed central planners of Eastern Europe, service quality must be raised whether or not the bulk of customers would actually be willing to pay for added service, or whether the proposed fare/service quality combination is optimal or not.

A feature of Dr Sorensen's account that the reader will find fascinating is the manner in which the would-be 'command and control' planners have gone about their task. Gone is the laying down of the law. The warm, friendly 'pro-market' Liberal government is fully aware that the market can give results while the collapse of Eastern Europe shows that the directive planner is likely to fail. Hence a new and revolutionary answer: harness the market to do the bidding of the planner.

How is this to be accomplished? Recognise that even if there are natural monopoly elements in the supply of bus services, there will be competition for the field. What is known as a Chadwick-Demsetz auction can be held. The winner offers the best quality service within the approved fare guidelines.

Hang on a moment, you say, as does our intrepid author: Why not let the officials set the minimum service frequencies, comfort, operating hours, etc., and let the bus operator bidders compete to offer the lowest prices? Why not let the operator decide critical features such as the use of minibuses, instead of huge cumbersome buses like those of the STA, so as to provide frequency, flexibility and low cost? To be fair to DoT, it is not clear that minibuses are necessarily being ruled out via regulation. Why pretend that there is a natural monopoly in bus services if this is yet to be established? What about allowing open-slather entry as the British have done, admittedly with modest but not overwhelming success?

Dr Sorensen introduces us to this fascinating set of questions. At one level, the failure to adopt more sensible approaches to the problem is a mystery. At another level, as readers of CIS publications will appreciate, the reason is not hard to divine. There are three powerful players: the STA, which does not want its monopoly threatened; the private bus operators, who do not want to lose their territorial monopolies; and the taxi industry, which is still effectively monopolised via the straightjacket of draconian taxi-plate licence restrictions. A private bus-operator sector established on truly competitive lines would be a powerful reminder that state-sponsored monopolies are by no means invincible.

The cynic who cares little for people located in the outer suburban areas might respond to the issues that Dr Sorensen raises with a big yawn. Such a person should wonder, next time he or she is stuck in one of Sydney's interminable traffic jams, why such a huge number of private cars is clogging the streets. Could it not have something to do with the poor public bus system, the almost complete absence of minibuses, and the difficulty of getting a taxi when you most want one?

I leave you to ponder these questions as you savour Dr Sorensen's little monograph. He does not have all the answers and neither do I. I can guarantee, however, that having read it you will be reminded of it next time you are stuck behind one of those lumbering oversized buses.

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Author's Note

I wish to acknowledge the help received from anonymous referees in the preparation of this monograph. The ideas it contains were developed while I was a consultant with the then NSW Ministry of Transport during late 1989. That was made possible through the generosity of both the NSW government and the University of New England, the latter accepting the consultancy as part of my period of study leave from that institution. A considerable debt is owed to my numerous colleagues in the Ministry who assisted me with information and the discussion of ideas. Thanks are due also to Andrew Davies for his help in preparing the manuscript for publication.

About the Author

Tony Sorensen is Senior Lecturer in the Department of Geography and Planning at the University of New England, where he teaches on the subjects of urban land development and regional policy. His current research interests include the limits to urban planning in market economies and the idea that urban planning performs a very small 'c' conservative task. He co-authored, with Associate Professor Jim Walmsley, *Contemporary Australia: Explorations in Economy, Society and Geography* (1988) and has published widely on regional well-being and policy issues. He is a frequent contributor to *Policy*, the quarterly journal of the Centre for Independent Studies.

Chapter 1

The Problem: Service Quality in the Private Sector

The New South Wales Department of Transport (DoT) has concluded that public scheduled bus services run by a few of the private companies that operate in the Western areas of Sydney are inadequate. Some services are deemed to offer the public an unacceptable level of service quality in terms of vehicle age, comfort and reliability; of service frequency, especially during off-peak hours; and of the times of day when services are available. In response to this problem, the government has recently proclaimed the Passenger Transport Act 1990, which aims to force service improvements on laggard companies by means of a limited version of the Chadwick-Demsetz franchising strategy (see Dnes, 1989).

This monograph attempts to answer a number of important questions raised by the government's action. Is the problem a significant one and why has it arisen? Are the proposals enshrined in the Act appropriate to the circumstances: are they, in practice, likely to remedy the situation in an efficient way and without any adverse side effects? What alternative means, including the deregulation of bus services and some 'second best' options, might remedy these service deficiencies and what are their respective merits?

The Pattern of Sydney's Public Bus Services

Before answers to these questions can be attempted, the pattern of public bus services in Sydney and the regulatory environment under which they operate should be briefly sketched. The delivery of scheduled bus services is currently shared between a large number of private operators, with a combined fleet of approximately 1500 vehicles, and the government-owned, but corporatised, State Transit Authority (STA), which runs rather fewer vehicles. The STA has a territorial monopoly over much of the North Shore, the Eastern

suburbs, and the older inner city areas westwards to about Strathfield and Ryde, while each of the 70 or so private companies has its own spatial monopoly over part of the remaining built-up area — mainly Western and Southwestern suburban regions. Many of those companies run just one or two buses, but some of the bigger operators such as Glenorie, Hornsby and Westbus are large, well-run companies.

Government regulation has ensured that private firms cannot encroach on the STA's territory, and grants exclusive franchises to private firms to operate particular routes or in designated regions. Control is exercised also over various aspects of private operations, including fares, routes and vehicle quality. The government has hitherto had no powers to prescribe timetables; but this was something of a grey area since it exercised some leverage through negotiations over fare levels. Under the new Act the government has the right to at least specify service frequency, if not prescribe precise schedules. As a result of these controls, the STA and its private counterparts face operating environments that are similar in many respects. Both are highly regulated.

In some respects, geographical variations in the quality and price of services are an unavoidable feature of both regulated and competitive environments. They arise partly from management strategies adopted by the companies or organisations providing the services: for example, the extent to which company policy allows profitable routes or other operations to cross-subsidise loss-making services, and the pattern of routes selected. The size of the firm may also be important, with small firms being less able to cross-subsidise operations. Management skill in the effective combination and use of available resources (i.e. technical efficiency) can also affect service performance quite markedly. Geography, too, plays an important, but chance, role. Some areas are in practice easier and more profitable to serve than others on account of their high level of demand (which reflects population density and income), the simplicity of the road network, and the small degree of variation in the places people want to go to. In deregulated markets, these variations, whatever their cause, are of little concern to government, though minimum standards are often prescribed in respect of such matters as passenger safety and environmental quality. However, competitive pressures will tend to drive poorer quality operators from the market place and thus reduce spatial variations in service standards. In contrast, regulation of the kind that has existed in Sydney protects less efficient operators and their poorer quality services by proscribing competitive solutions. Yet

there are many social and political reasons why governments might be interested in improving service standards.

The DoT's concern about large differences in service quality among Sydney's private bus operators arises, in part at least, because the situation is made particularly visible through the system of territorial and route monopoly, which concentrates the poorer quality services in certain localities. There is also an equity problem in that people living and working in STA territory receive government benefits in the form of good quality subsidised services that are not available elsewhere. It seems, too, that the government views passenger transit as an essential public service, much like education and health, for which rigorous minimum quality standards should apply.

The Government's Response: 'Appropriate Service Levels'

For these reasons the government clearly perceives an obligation to improve poor-quality services. It has chosen to act by regulation rather than by promoting competition; by incremental rather than radical change. The DoT's strategy, in outline, is to determine an 'appropriate level of service', especially in terms of service frequency and operating hours, for a particular region, taking into account such factors as the region's income, private-vehicle ownership and known travel patterns. Geographical variability in ease of operations is therefore acknowledged. This is no easy task, as we shall see.

This approach is a centre-piece of the Passenger Transport Act 1990. It was originally intended that the principal yardstick for appropriate levels of service would be the quality of service offered by what are regarded as the most efficient private operators, i.e. those whose services do not fall far short of the standard provided by the STA. Negotiations with the private bus industry reduced the standards specified in s.20(1) of the Act to 'the **average service levels** prevailing in the industry with respect to communities which have similar population densities and which are in other respects comparable' (emphasis added).

The Act gives existing operators preference where their current performance meets the DoT's specifications and they indicate a willingness to continue their services (as anticipated by Fleming, 1989, and Day, 1989). Where services are relinquished, for whatever reason, other companies may be invited to tender for the franchise to run commercial services at or above the minimum level specified for the five-year contract period. However, the Director-General of the

Department reserves the right under s.16(2) to reach contracts in some other manner. Since fares are set by government, it appears that would-be franchisees are expected to compete in terms of service quality, with contracts presumably being awarded to the bidders offering the best service. This style of competition differs from the alternative price and capital sum award mechanisms noted by Domberger and Piggott (1986), but, like price competition, it has the merit of promoting allocative efficiency. Once the franchise has been awarded, s.23(1) implies that the contract will be renewed automatically at the end of the contract period if the franchisee's performance in meeting the prescribed levels of service has been satisfactory. If the existing operator feels that the 'level of service' sought is excessive, there may be an avenue of appeal to an independent tribunal.

Any contract entered into for a specific region or route confers on the holder the exclusive right to operate regular passenger services in that region or on that route. Where the franchisee is licensed on a particular route, the Director-General is precluded under s.21(4) from contracting the operation of a similar service on any route 'sufficiently proximate that it would result in substantial competition with the service carried on by that holder'. In the case where a bus company is granted an exclusive right to operate a particular territory, another firm may be granted the right to operate one or more specified routes embedded within it. The Passenger Transport Act 1990 therefore continues the tradition in New South Wales of granting territorial monopoly to bus operators. It also appears largely to confirm the current pattern of territories, routes and operators, subject to companies meeting prescribed service levels. Some sections of the Act permit the extension of services into new areas or the variation of existing routes either during the period of a contract or on its termination, but it is difficult to envisage any major changes occurring under these provisions.

The Issues

The problem and the proposed solution raise several important issues. Since geographical variations in the quality of service provided by private operators are to some degree the consequence of regulation and also partly unavoidable, an obvious solution is to free up the market in some way. However, the government appears to be unwilling to do this because bus services, like electricity and water reticulation, are seen to constitute a natural monopoly. Unfortunately,

monopoly tends to give rise to low productive and therefore low allocative efficiency. It also encourages the supra-normal profits that arise when unit prices are set above average cost. The reasons for this are set out clearly by Domberger and Piggott (1986). One way of avoiding the adverse consequences of monopoly is to auction the right to exclusive territorial franchises for a set period. If the procedure is fully competitive, excess profits should be bid away and productive efficiency improve. This has been termed a Chadwick-Demsetz auction. It is clearly implied in the foregoing discussion of the Act, though it seems in this instance that excess profits will be bid away through competition over service quality rather than price.

Initially, the case for such an auction rests on the presence of natural monopoly. Our first task is therefore to establish whether this exists in the scheduled bus industry. If not, total deregulation may be preferable. Why go to the trouble of holding an auction and assigning (albeit temporary) monopoly rights to the highest bidder if productive and allocative efficiency can be brought about by competition in the marketplace? Even if the industry has some elements of natural monopoly, there may be a case for introducing greater competitive pressures in various ways.

Let us assume that natural (or, for that matter, regulated) monopoly occurs in the industry. The success of the auction in delivering optimal improvement in productive efficiency and therefore quality of service for a given price depends on two further important conditions. The auction should be strongly competitive, which is in turn related to the contestability of the market; and the terms of the auction, including the levels of service and the contract period specified, should be appropriate. Should the market not be contestable, the benefits of both deregulation and the auction strategy may be slim but, even if it is contestable, any potential benefits could be vitiated by a ham-fisted auction mechanism.

We shall see that in practice the element of natural monopoly may be rather less than appears at first sight and that the market's contestability is less than perfect. A relative absence of natural monopoly suggests that there are few constraints on a substantial deregulation of the bus market, from which sizable benefits could result. Moreover, imperfect contestability in the marketplace may well reduce the impact of the auction process. There are also queries hanging over the predetermined levels of service, the auction rules that are so stacked in favour of incumbents, the suitability of the five-year contract period, and the appropriateness of maintaining the current

territorial structure. Despite these problems, it seems that a limited case can be made in favour of competitive franchising on the grounds that it may be a politically feasible way of improving the poorest quality services. The benefits of the auction system may fall far short of its potential, partly because the government has set its sights too low.

This leads to a wider discussion of the respective merits of deregulating all bus services in Sydney or selecting a half-way house by implementing one or more of several second-best options. It seems that the suspension of market processes in the bus industry, by granting monopoly rights to various firms and the STA, may be a primary cause of several related problems: the identified service inequities; the lack of consumer choice in 'bus products'; difficulties in prescribing appropriate levels of service; and queries over the efficiency of the current distribution of routes and territories.

The benefits of full deregulation may be limited, judging from the evidence of Britain's recent disappointing experience. Many of the predicted benefits in that country have not been achieved, despite what appears to be an exemplary approach to the task. Nevertheless, a respectable case can be made for taking this path. Alternatively, the political and social circumstances surrounding the industry suggest that a more subtle and incremental approach to reform may pay greater dividends. We suggest some politically feasible strategies to furnish passengers with a greater choice of services by introducing more competition into the transit arena.

Chapter 2

Holding a Chadwick-Demsetz Auction

According to Phillips (1975:2), 'natural monopoly occurs where scale economies are so extensive relative to the size of the market that only one firm can operate efficiently within the bounds of market demand'. Demsetz (1989:131) puts it thus: 'in natural monopoly we are dealing with a firm cost function that allows full satisfaction of market demand at minimum possible [production] cost by a single firm'. It is often claimed that public utilities supplying (or perhaps, more precisely, reticulating) gas, water, or electricity meet this definition. The scale economies in these industries lie not so much in production as in distribution: the infrastructure required in the form of pipes or transmission lines is so costly that the duplication of distribution networks in any geographical area by competing suppliers would be needlessly expensive. In addition, 'the theory of natural monopoly . . . depends on one belief only — price and output will be at monopoly levels if, due to scale economies, only one firm succeeds in producing the product' (Demsetz, 1989:77). Many believe that these undesirable outcomes are the inevitable consequence of natural monopoly and that they can be avoided by some combination of public ownership of the service in question or the regulation of prices charged by private monopolists. It is widely assumed that the obvious costs of public ownership and regulation are less than the drawbacks of supra-normal profits and sub-optimal production levels for a given level of capital investment.

Demsetz (1989:75) has argued cogently that this view is mistaken and that natural monopoly does not lead necessarily to monopoly price. The error, he claims, lies in the 'incorrect understanding of the concept of rivalry'. The existence of scale economies does not preclude the existence of several bidders to supply a service if the market is contestable. If the number of bidders is sufficiently large or collusion between tenderers is very difficult or prohibitively costly, one would expect the bid price to be close to per unit production costs. In effect, potential monopoly rents are bid away by competition for contracts. A highly contestable market requires that the inputs needed

to enter production must be available to many potential bidders at prices determined in open markets. There should also be low sunk costs (in the bus industry these are mainly in the form of promotion, according to Gwilliam, 1989) and therefore relative ease of exit from the market should the producer so choose.

The answer to the problem of natural monopoly thus lies in promoting what Demsetz calls, after the 19th-century economist Edwin Chadwick, '**competition for the field**'. This means that firms should be encouraged to compete vigorously to supply a particular service before it is established. One obvious way to do this is for government to supervise a tender process for the right of a private firm to supply and operate the service: hence the term 'Chadwick-Demsetz auction'. Once the franchise is awarded, legal constraints can be erected to protect the winner for the contract period. Upon the termination of the contract, or perhaps shortly before, the whole process can be re-activated. However, the process may be less efficient where the service is up for renewal and the incumbent has incurred sunk costs and has developed a degree of economic power. The latter includes goodwill in the form of reputation and customer familiarity, and perhaps a web of contacts and obligations on the part of suppliers, bureaucrats and politicians. Thus the contestability of markets tends to decline over time. Provided, however, that the industry is reasonably contestable, the Chadwick-Demsetz auction process could provide the public with an efficient service in price and quality terms. All this suggests an optimum policy of holding frequent and open auctions. Demsetz himself concludes that 'utility regulation . . . based on the fear of monopoly price, merely because one firm will serve each market, is not based on any deducible economic theorem' (1989:79).

Is Bus Transit a Natural Monopoly?

The notion that metropolitan bus services constitute a natural monopoly does not rest on the usual economic premise that a single supplier experiences continuously decreasing unit costs up to and including the current volume of service provided. Indeed, there is evidence that **the industry encounters few internal economies of scale** and that small operators can be almost as productively efficient as large ones. For example, Windle (1988) surveys numerous studies which all point to the conclusion that company size is not related to operating costs. The main advantage of granting exclusive franchise to one operator in a designated area is that it seems to solve the problem

confronted by bus companies of providing regular and preferably frequent services to a wide geographical area. Passenger demand typically varies greatly with time of day and day of the week. Weekdays usually experience outward and return peaks of work-related travel and moderate inter-peak patronage, while the volume of traffic at nights and on Sundays tends to be low: so much so that service provision is frequently unprofitable despite low marginal costs.

Nevertheless, many people and governments consider that public transport agencies have an obligation to provide regular and frequent services at unprofitable times. We may term this transit's **community service obligation**. Since it is unlikely that an unfettered private operator in a competitive market would satisfy this 'obligation', governments grant exclusive territorial rights on the often tacit understanding that any supra-normal profits arising at peak and inter-peak times will be used to subsidise unprofitable services at other times. This argument seems to equate natural monopoly with **regularity in the supply of, and access by the consumer to, a particular service**. This outcome rectifies one aspect of market failure: the inability of private companies to supply services at some times of the day at an affordable price.

Territorial monopoly has often been defended on other grounds. First, competition along a route could lead to unsafe driving practices as drivers try to reach bus stops ahead of their rivals; but this problem can surely be resolved by adequate policing. Second, the public's preference for rapid journeys would lead, in a freely competitive environment, to companies and drivers serving mainly the principal line haul (trunk) routes. Detours into residential neighbourhoods for the convenience of a few passengers could result in the loss of many other passengers to more direct services. Third, the presence of only one operator in an area reduces the amount of information a passenger needs to negotiate successfully the transit system. Simple, rigid and easily memorised timetables might work to the particular benefit of elderly, young and handicapped people. Fourth, some areas might not be served at all at an affordable price if they cannot be cross-subsidised by routes in other profitable localities. Cross-subsidies of this type are difficult to arrange in fully competitive circumstances, except perhaps where lightly-trafficked feeder routes attract additional patrons to trunk routes, thereby improving the latter's profitability. This is because the competition that emerges on profitable routes will bid away any supra-normal profits that could be made under monopoly conditions. Thus, regulators have an interest

in allocating operating territories that comprise a mix of potentially profitable and unprofitable routes, thereby facilitating a wide geographical spread of services. Finally, territorial monopoly might also reduce the need for vehicle interchange, something that passengers instinctively dislike, and facilitate through-ticketing, which saves the customer money. There seems little doubt that the public prefers a safe, low-cost, convenient, easily understood, and dense network of routes and each of these attributes can be subsumed under the previous definition of community service obligation. This second group of arguments to the effect that bus transit constitutes a natural monopoly revolves around the theme of **safety and convenience in consumption**.

The case for natural monopoly in the bus transit industry seems, therefore, to rest on consumption advantages: regularity, safety and convenience. The argument implies that it is consumers as a whole who primarily gain from monopoly, especially if the price disadvantages of monopoly are constrained by fare regulation. In other words, economies of scale in consumption are realised collectively by consumers. Of course, some individual consumers are disadvantaged by lack of competition, particularly on highly-trafficked trunk routes where they miss out on service choice and lower fares. However, this consideration has little import if we make the assumption that transit is a merit good, or an essential public service, the adequate provision of which governments are obliged to ensure.

The existing theory of natural monopoly focuses primarily on production and distribution issues. If the above discussion holds water, there is a clear implication that natural monopoly can arise from consumption issues also. In transit's case, natural monopoly arises because a deregulated private sector cannot deliver services at all times and places and at a price that the public expects. It follows that the case for transit being a natural monopoly rests on the merits of the public's expectations.

Defects in the Argument

Several of these consumption arguments for natural monopoly appear dubious at best when examined in greater detail. The claim that bus companies should be obliged to run loss-making services in the public interest is badly dented by the fact that bus transit is only one of several ways of getting around. There are various substitution possibilities that can come into play at times when conventional transit services are

unprofitable or, indeed, at any other times. For the majority of intending passengers the list includes: walking, cycling, use of private vehicle (as driver or passenger), taxis of numerous possible kinds, and paratransit (including minibuses run by private transit companies or local businesses; and voluntarily operated, and perhaps local government subsidised, community buses, etc.). The last two options are poorly developed in Sydney, not, one suspects, because of their intrinsic lack of worth, but because they have been regulated out of existence to protect major bus operators (including the STA) and the present licensees of taxi plates. Almost certainly, the private sector could provide a much wider range of alternatives in most locations if permitted. Lave (1985) reviews some of the options available. Several of the options, including taxis, are particularly adapted to offering flexible and cost-effective transport in lightly-trafficked periods. At such times the externality arguments relating to congestion and pollution, which favour mass transit at peak periods, are much less important.

The main argument in favour of subsidising regular services at slack times is that transit is a merit good: that people on the lowest incomes have a right to cheap travel, as typically provided by large buses, to essential work, shopping, social service, and recreation destinations. While most would support the sentiment, the means are questionable. If the poor have difficulty in satisfying their reasonable travel demand because heavily-subsidised transit services are withdrawn, they can be compensated through higher social security payments for having to use more expensive options such as taxis (this at least targets subsidies more accurately to the needy). This could be the preferred strategy whenever welfare transfers cost less than direct subsidies to unprofitable services. Low-income employees who have to travel to work at odd hours might be compensated by their employers either by higher wages (to account for more expensive transport fares) or by access to company transport in the form of car- or van-pools. In either case it is the firm, and therefore indirectly its customers, who foots the bill for the additional cost of off-peak travel, rather than the public at large. This seems eminently sensible compared to the current situation where the public effectively subsidises employers who, for example, need labour late at night or on Sundays.

Naturally, much of the desire for regular and frequent subsidised services at off-peak times comes from people who could afford to pay the full cost of travel or, indeed, non-users for whom the service has

'option value': they might use it one day when their existing means of transport breaks down or fails to arrive. Moreover, subsidies to off-peak fares encourage some people to travel who would not otherwise do so or would use another mode. There may be a net gain to the community if the welfare value of the additional travel and fare income exceeds the cost of the subsidy and the loss, if any, to competing services. This is extremely difficult to quantify, but it is not unfair to conclude that the size of the community service obligation revealed by existing travel patterns is almost certainly overstated.

Many of the other aspects of community service obligation identified seem to be of minor importance or may be met more easily through transport deregulation. Most journeys are over short distances, obviating the problem of interchange and through-ticketing and minimising confusion between competing services. According to my own research of travel using STA services, 87 per cent of journeys are less than 9.6 km. (or six stages) and most of these require no interchange. Anyway, many current interchanges are between such modes as road, rail or ferry and will not be affected by the introduction of road-based competition. Furthermore, minibuses, taxis, cars and other forms of paratransit are ideally suited to short-haul feeder routes from residential neighbourhoods to major service nodes, and they provide a potentially dense network of services tailored to passenger convenience.

The idea that transit constitutes a natural monopoly is probably false. This is certainly the case as far as the classical definition of the term is concerned. Its supposed benefits to the consumer have also been thrown into doubt because they appear to be overstated. We cannot say by how much, because the community has failed to specify precisely, among other things, the social task that transit is supposed to perform and the value it places on particular welfare gains. The inference that bus patrons seem to prefer the convenience of the simple service environment provided under natural monopoly also appears strange in view of the fact that consumers continually and successfully confront often complex choices in markets for other goods and services. Perhaps the problem here is that passengers have used monopoly markets for so long that they are unaccustomed to exercising choice. For all these reasons, the government might be advised to consider greater deregulation of the industry.

However, the dubious nature of natural monopoly does not prevent government regulating monopoly into existence and creating lobby groups in defence of their privileges. Natural monopoly is

therefore not a necessary condition for a Chadwick-Demsetz auction, and the efficiency of regulated operations might be improved if competitive auctions for monopoly privileges could be held.

Market Contestability

The competitiveness of auctions is dependent on the contestability of the industry concerned. The term 'contestability' means the vulnerability of the market to entry by would-be competitors. This is dependent partly on the internal characteristics of the industry concerned and partly on the extent to which the regulations surrounding the market permit such entry to occur. At this point we are mainly concerned with industry characteristics.

According to William Baumol (1983:3):

> A perfectly contestable market is perhaps most usefully defined as one in which all firms have equal access to all customers, to the same technological options, and in which entry incurs no sunk costs.

On the face of it the bus industry is highly contestable. Scale economies are insignificant; buses are widely available, both second-hand and new; compared with many possible industries, the capital requirement to start a new bus company is relatively slight; bus maintenance can be carried out by any of numerous vehicle repair shops, obviating the need for capital investment in the firm's own facilities; the supply of other inputs such as fuel, labour and spare parts is largely unconstrained; there is a good supply of bus drivers; and exit from the industry is easy and without great financial cost. Yet government has regulated out of existence several transport options (for example, most paratransit services) and granted monopoly rights to the operators of large buses.

There are nevertheless barriers to entry, some of which may be magnified by the government's artificial creation of territorial monopoly. The first problem is that despite what may appear at first sight, **the industry is not a single-product one**. Existing private companies may combine two or more of several roles. In addition to being providers of scheduled public bus services they may operate as local charter companies; as contractors for the movement of school children; and as promoters of packaged tours. Income from the last three can be used to subsidise the first so that in any competitive auction a single-purpose entrant can easily be underbid by multi-purpose competitors through

cross-subsidy between the various operating divisions. The scope for this depends on the competitiveness of the various markets. Notwithstanding private operators' arguments to the contrary, the school student transport scheme (SSTS) has been unintentionally configured to yield a government subsidy to those operators fortunate enough to be involved and this is then used widely to sustain unprofitable scheduled bus services. The scheme nominally involves payment to operators on a fee-for-service basis for conveying children to school, whether by conventional public services or by specially chartered vehicles. The subsidy arose in some measure because the scheme was slackly administered and incorrectly calibrated. The formula used to calculate payments has been tightened in the government's favour and some operators' fares have been questioned where they are significantly higher than the average. Thus, this element of cross-subsidy is being reduced. The possibility of cross-subsidy gives an extra competitive edge to more diverse companies.

The incumbents in a particular transit market can also enjoy a competitive advantage. Evans (1988, 1990) produces British evidence to show that former monopoly incumbents tended to charge supra-normal prices after deregulation and to reduce them to normal levels only when entry occurred. By then the incumbent may have amassed sufficient reserves to see off any competitor in a price-cutting war. This scenario is undoubtedly significant in totally deregulated markets. It would be much less so in fully competitive Chadwick-Demsetz auctions, but the more the process involves only limited competition, the more economic power the incumbent can wield. Apart from price manipulation, Evans identifies two other sources of economic power that favour incumbents: tactical advantages and strategic advantages. The former arise from greater knowledge of how to run bus services and of local operating conditions, while the latter stem from the weaker bankruptcy constraints of large established firms, wider route offerings (leading to greater consumer convenience), and the possibility of inter-route cross-subsidy. Evans argues that failure to account for variations in companies' competitive power partly explains the over-estimated forecasts of fare reductions on competitive routes resulting from the deregulation of British bus transport. These additional sources of economic power would undoubtedly benefit well-established firms even in a competitive Chadwick-Demsetz auction.

Unfortunately, there can be no *ab initio* 'competition for the field' in Sydney because each territory has already been allocated to a monopoly incumbent who presumably has some measure of competi-

tive advantage over would-be rivals. Any auction would therefore be imperfect, though it could, if well-conducted, realise some of the benefits of competition: fare reductions, improvements in service quality, and innovation in service delivery.

Chapter 3

Defects in the Proposed Auction Process

In this chapter we consider how far the auction system enables would-be competitors to contest the market. When we turn our attention to the form that the New South Wales government's auction is likely to take there are good grounds for apprehension.

Excessively High Standards

The first worry concerns the government's specification of the minimum levels of service that tenderers and contractors will be asked to meet or improve upon. The standards set are concerned mainly with duration and frequency of service reflecting conventional, though possibly erroneous and out-dated, views about community service obligations. The prescribed levels of service for a particular locality will reflect the average standard currently provided by operators in similar areas. But who is to say that the current services are either what companies would prefer to offer in a competitive market or what the public actually wants and is prepared to purchase? The Act is also unclear whether the word 'average' mentioned in s.20(3b) is a weighted average taking into account the greatly differing sizes of operators or an average of the profiles for individual firms. If the former is the case, the current operations of the larger and supposedly better-run companies that provide most frequent services will be emphasised. Unfortunately, those firms may have the greatest potential for internal cross-subsidy, so that the levels of service could well prove onerous for the many existing franchisees and potential competitors who have less financial power and flexibility. This could be unfair when one considers that the system of regulation gives those firms little room to manoeuvre.

One suspects, too, that service standards set by the STA are unfairly influencing government thinking. There is good reason to conclude that the quality of the STA's bus services, apart perhaps from

such areas as maintenance and cost control, should be considerably superior to those of private operators and that the former should not determine standards offered by the latter. The STA enjoys some important financial advantages over and above the fact that it receives large public subsidies on top of the fare concessions available to all bus companies. These are estimated from the STA's corporate plan to be a little over $50 million in 1990 values (STA, 1989), while private operators have to make do without this largesse. The STA serves neighbourhoods with higher residential densities, lower car-ownership rates, and a greater proportion of older people than the private companies. All these indicators favour mass transit. The transit deck also tilts in the STA's favour because it faces more simple origin-destination patterns and runs a higher proportion of trunk routes than its competitors. The only major operating advantage experienced by many private firms is that they do not confront the kinds of congestion cost faced by the STA.

For all of these reasons the minimum tender requirements that will be set by the DoT could be excessive. This conclusion may seem odd in view of the declared problem that the government is trying to rectify: the perception that the quality of bus services delivered in parts of Sydney is inadequate. Perhaps the key to this paradox lies in the fact that the problem has been mis-stated. The sense of the discussion so far is that government and the public may have excessive expectations of the quality of service that might be delivered efficiently in Sydney's west. Alternatively, higher quality services could be provided in the problem areas by private operators but for inefficiencies in the regulatory system. This issue is the subject of the next two sections.

Rigidity of Specifications

Under the 1990 Passenger Transport Act, potential suppliers of bus services cannot nominate for evaluation their own price/quality trade-offs in which, for example, less frequent services may be provided in large vehicles at a cheaper price or well-appointed minibuses could offer frequent but premium-priced services. The tender conditions are consequently a work of fiction. They cannot be otherwise: we do not know where market preferences lie because the market has been suspended for so long. Consumer surveys are unlikely to help since it is methodologically unsound to conduct them in an environment where the public is almost totally unaware of its potential options. The majority of people may prefer to pay higher prices for a better quality

of service operated by small comfortable air-conditioned vehicles; but we shall not know until competitive markets are established. Evans (1987) argues that there is no particular reason why tender conditions should coincide with market preferences, since the establishment of transit markets instead of the current regulated services would diminish the welfare of some consumers, even if there were a net social benefit. In this regard Dodgson and Katsoulacos (1988) predicted that poor transit users in Britain would be disadvantaged by deregulation of that country's bus services under the Transport Act of 1985. This argument seems to miss the point that the community would be better off reforming bus services to provide a net social benefit and then compensating losers, if any.

Excessive Protection of Incumbents

Once service specifications are set by government, companies will be asked to tender to operate them. The proposed auction will, in the first instance, be extremely limited since existing operators who satisfy requirements are to be given preference in the awarding of contracts. Only where existing contractors fail to enter the auction or to meet requirements — perhaps modified on appeal — will the contract go to the firm tendering the highest quality service. Some unfortunate and probably unintended consequences might emerge. Existing franchisees who leave the industry are likely to comprise the smaller and financially weaker companies, and virtually no new operators are likely to succeed in their bids because of the temptation on the part of the major operators to 'buy' a larger network by bidding up the quality of service for territory on offer. They, and not the new entrants, are more likely to have the resources to adopt such a strategy, which will be made more feasible by the government's failure to unbundle routes and auction them separately.

There is another reason why this is a particularly serious defect in the auction process. In the absence of markets we do not know if the current geographical pattern of franchises is efficient. It is quite possible that existing franchise boundaries do not make sense to the commercial ambitions of potential tenderers. If they decide not to bid for territory on that account, the level of competition will be reduced. The simultaneous auction of the franchises for many separate routes would create a more uncertain climate in which new, small operators could at least pick up some crumbs. It could also allow existing operators to redefine more efficient spatial groupings of routes.

We may conclude with the observation that the proposed auction system may not yield its full potential for improving efficiency because of contestability problems. There are two grounds for believing this to be the case. Despite first appearances, competitive power seems to vary substantially between would-be participants. Second, the auction process seems designed, unintentionally or otherwise, to restrict the level of competition.

Possible Outcomes

As the proposal stands, a range of outcomes is feasible. If most incumbents meet the levels of service required, there may be some improvement in the quality of service provided by a few of the smaller companies with lower standards than the rest. Many services in the Western areas of Sydney would remain unaltered and a lengthy bureaucratic exercise could actually serve to legitimise and entrench existing interests. At the other extreme there may be considerable industry concentration if many existing franchises are relinquished. This, too, would create a powerful lobby group in defence of vested interests and make it difficult to create a truly dynamic and market responsive bus industry. Indeed, Sydney's bus industry may fall into the hands of a cartel of virtually indistinguishable private companies and operating divisions of the STA that are highly regulated monopolies and profoundly anti-competitive in their sentiments. In between these extremes, various combinations are possible. At this stage it seems that few incumbents will fall by the wayside, not least because the SSTS subsidies that go with each territory are too valuable to relinquish.

Professor David Hensher of the University of Sydney has kindly pointed out to me another reason to doubt that major changes will result from a Chadwick-Demsetz auction. The typical cost savings of around 20 per cent that result from this style of auction are less likely to be achieved in Sydney, where the incumbent operators are already private and some are very efficient because of their size and exploitation of multi-tasking potential.

On the plus side, one must concede that the device of territorial monopoly can protect any new operators that gain franchises from predation by large organisations. Discriminatory pricing by large incumbents destroyed many of the new entrants in Britain's deregulated bus market (Evans, 1990). But on balance we must reach the unsurprising conclusion that power in the marketplace is tilted in

favour of the larger existing organisations and that the government's attempts to improve bus services in Western Sydney may have only a marginal effect.

The previous discussion also helps explain why none of the STA's services is up for auction. They presumably already match desired levels of service. What is perhaps more important, the STA's operating divisions have only recently been corporatised and the government is waiting to observe the service patterns that emerge under nominally independent management — and especially those loss-making services that the divisions are obliged to identify in return for explicit subsidy.

Chapter 4

The Deregulation Option

The sense of the discussion so far is that there are both theoretical and practical difficulties with the NSW government's proposed Chadwick-Demsetz style auction for the bus industry. Worse still, its chosen path appears to divert attention from the real policy issue raised by Sydney's transit. This is how to deliver **modern, diverse, user-friendly and inexpensive transport to where most people want to go**. There will naturally be trade-offs between these desiderata, but the optimal combination of service attributes can be determined only on a trial-and-error basis as passengers are confronted with alternatives and select accordingly. It is difficult to see how any combination of bureaucrats, politicians, bus operators and community interest groups could arrive at a good solution to the problem through mutual negotiations. There is, moreover, little evidence that the existing pattern of services represents an acceptable starting point for those negotiations since they are, in many (though not all) respects, the frozen memorial to a bygone era. Thus it is not possible to provide a detailed sketch of what the transport system should look like: that is for the interaction of consumers and producers to decide. Sydney's travellers currently exercise choice between transport modes, but not within the bus mode.

Moreover, since several of the modes — including taxi and bus services — are almost certainly not performing to their full potential because of the suspension of competition, the choice process is distorted. These assertions may be intuitively sound but they are, of course, difficult to prove without opening transit services up to much greater competitive pressures.

How, then, can the government indulge in an exercise in *Realpolitik* to demonstrate the potentialities of market-oriented transit? It could move to total deregulation of scheduled bus services, as occurred in Britain during 1986. Alternatively, it could move slowly by adopting any or all of the four options outlined in Chapter 5 enabling market-oriented transit systems to get a foot in the door and demon-

strate their capabilities. These options go much less far towards deregulation than the policies adopted by Britain's Thatcher Government in the Transport Act of 1985. Evidence on the performance of deregulation in the UK is somewhat ambivalent and there may be a case for emphasising politically feasible and piecemeal strategies rather than grand gestures.

Lessons of the British Deregulation

Before deregulation in October 1986, private and public bus services were regulated in a similar manner to that currently operating in Sydney. After that date operators could provide any commercial services at any fare level in almost any location. There was a brief flurry of competition, followed after a while by reversion to monopoly operation on most routes as new entrants, both large and small, retired hurt. Likewise, fares fell in real terms in a few places but otherwise they mostly stayed the same. Moreover, the fares charged by any one company tend to show little variation between routes, even though the legislation aimed to break the established pattern of cross-subsidy and permit route-by-route pricing.

The most startling (but predictable) change was a drop in real terms of 30 per cent in operating costs partly due to the widespread adoption of cheaper minibuses (Evans, 1990). Simultaneously, the use of minibuses combined with competitive pressures led to a large increase in service frequency in some areas. Eads (1975) noticed a similar increase in service frequency in airlines when competition appeared on a route; and this can be shown to be a normal market response. Since the long decline of bus patronage also continued unabated, the reduction in costs was not reflected in increased profits. Instead, they were soaked up in running more services with reduced loads. The main benefit of this whole process for bus passengers has taken the form of reduced headways (intervals between buses) and therefore waiting time on some routes, notably those where competition emerged. Evans, however, questions the value of saving time. He appears to argue that were it an important issue the savings in overall travel time might have arrested the decline in bus patronage. Since it did not, reduced journey times (including a waiting component) presumably added little to overall welfare (Evans, 1990). However, the decline in patronage could reflect other events such as the recent rapid rise of private car ownership in Britain. He takes the results to date of British deregulation to confirm the existence of natural monopoly,

though there are reasons to doubt this conclusion. The apparent lack of successful competition might reflect poor management practices and conventional thinking (or lack of innovation) by entrants to the industry. Moreover, real productivity and welfare gains have been made without the need for such extensive regulation as once existed. These have clearly resulted from the threat of competition that deregulation poses, rather than the provision of actual services. In effect, contestability has been greatly improved in the second sense defined above, and the market is vulnerable to hit-and-run strikes by any firm that sees fit to contest it. Indeed, even if deregulation had zero tangible effect, it represents an improvement in efficiency through a reduction in the number of public servants.

One should always be wary of translating the experience of one country to another where conditions are substantially different. For example, the rate of car ownership is expanding faster in Britain than in Australia and making larger inroads into bus usage; and the rate of population growth in Western Sydney is much more rapid than almost anywhere in Britain, so providing a growing market. In addition, the entrepreneurial and innovatory climate may differ as between the two places, and Sydney may offer greater scope for innovation than Britain. For all of these reasons, deregulation may prove more beneficial in Sydney than in Britain. However, if Professor Hensher is right and many of Sydney's private operators are already efficient (as noted earlier), the cost savings resulting from deregulation could be small. This conclusion arises from the theoretical tendency to increased service frequencies that may lead to a real increase in fares merely in order to maintain current profit margins. Should that happen, the possible welfare gains arising from increasing service frequency could be eliminated. Remember, though, a neutral service outcome in the short run may nevertheless lead to a net social gain through fewer regulators and the longer-term benefits of a more entrepreneurial business climate.

The Case for Deregulation

Various elements of the case for deregulation have already been advanced, but need to be summarised for greater effect. Deregulation here involves the removal of all entry restrictions into the bus industry, except perhaps for rules relating to the safety and health of passengers and other road users. Domberger and Piggott (1986) argue that deregulation and privatisation should go together to realise the full

benefits of competition. It is certainly likely that, in the event of deregulation, the government would wish to privatise the STA at an early date to realise the highest price for its operations.

Four main reasons for deregulation can be advanced.

First, the case for natural monopoly in scheduled bus services is weaker than commonly supposed. The case lies in transit's perceived community service obligation, but this is not well articulated by the government or in academic circles. There seems to be no clear idea of the minimum level of mobility around a city such as Sydney that members of the community deserve as of right or of the optimal pattern of service in terms of route and of price, type and quality of service to provide that mobility. No doubt present thinking on the subject is clouded by traditional practice, self-interest, fear of the unknown, and unthinking approaches to welfare delivery. Formulation of the optimal package of services requires wide-ranging debate on many politically difficult issues: the extent to which users should pay for the services they consume; alternative means of subsidising the travel of the less well-off sections of the community; alternative means of providing services at off-peak periods; desirable ways of integrating different modes of transport; how to provide essential services without cross-subsidy; and so on.

Second, the pattern of services currently operating in Sydney has been built up under the protective cloak of regulation over a long period and we may expect that the resulting services differ considerably in many respects from what would occur if we were to start again. In short, the system probably embodies cumulative distortions. How rational are the present territorial allocations between companies? Do the present routes really go where people want to travel? Would many people prefer to travel by various forms of paratransit rather than large bus? Are any travel markets currently under-served by virtue of poor marketing or route structures? Deregulation is probably the best way of answering these questions.

Third, the deregulation option is supported by the reasonably contestable nature of the bus industry. We have seen that there are few scale economies in the industry and that the factors of production are generally readily available. Despite the variable market power of contestants, the industry seems well suited to hit-and-run tactics by private firms and the threat of this could well keep long-term participants on their toes. The franchising of territorial monopoly undoubtedly has the effect of magnifying the importance of market power, thereby reducing artificially the industry's openness to competition.

Fourth, the evidence from the UK is that the industry gains in productive efficiency from greater competitive pressures, though expectations in this direction may well be lower in Sydney where the private sector is already efficient. Even so, there could be considerable potential efficiencies resulting from the restructuring of companies' routes. The British experience also suggests that the fear of radical change in the short term may be over-estimated. However, the myriad territorial monopolies and relative lack of transport innovation in Sydney differ from UK practice and may presage a greater potential shake-up.

Taken together, these considerations constitute quite a powerful case for deregulation. We have recently witnessed airline deregulation in Australia, with some immediate price advantages to the consumer. And long-distance coaches have been deregulated for some time with no obvious disadvantages to the travelling public. It does not require too much imagination to see that a deregulated scheduled bus system could well benefit the public in a similar manner.

Chapter 5

Alternative Paths to Greater Competition

If the full deregulation option is not acceptable, there are several other ways to experiment with greater competition. The options include the introduction of competitive markets in newly developing suburbs; the deregulation of STA feeder routes; making provision for duopoly on trunk routes; and exerting greater competitive pressure on the bus industry indirectly through a more efficient taxi industry. Although the first three are very much second-best options, they have been selected because they might generate the least public and operator resistance. This is important because the transport arena, as noted earlier, has a high public profile. Getting around our cities is an issue that concerns nearly everybody and it rates highly on all political agendas.

Option 1: Experiment at the Fringe: Urban Expansion in the Northwest Sector and Elsewhere

The newly-developing regions on Sydney's Western fringes offer a good opportunity for experimenting with a much less regulated and more market-oriented public transport system. This is because vested interests are poorly developed, though by no means absent (for example, the Bus and Coach Association — or, more accurately, its leading and influential operators — is already entertaining hopes of delivering bus services in some areas). A small joint task force could be set up by the DoT and the Department of Planning (DoP) to investigate two related issues.

Developing innovatory and comprehensive transit networks. The first issue concerns the encouragement of the development of a reasonably comprehensive network of passenger transport services in the designated areas to match the mobility requirements of their growing populations. The network created should, in the medium term, be largely privately-owned and profit-oriented. Two approaches are possible: services may be provided by numerous operators with

relatively free entry of competing suppliers; or a small number of operators may be franchised to run operationally diverse and geographically comprehensive services for a contract period within a prescribed area. The second of these is likely to have greater consumer and political appeal, but need not be markedly inferior to the first if 'competition for the field' among a large number of potential suppliers is realised and contracts are awarded impartially. On the other hand, a free market in transport services might produce some interesting service innovations and serve as a yardstick by which to assess the efficiency of existing regulated services.

In all probability, services would mainly take various paratransit forms: community buses and minibuses, van- and car-pooling arrangements, taxis and hire cars, dial-a-ride multiple share taxis, and subscription services of various kinds (for a description of these see Lave, 1985). Conventional buses might not be needed since line haul functions to extra-regional destinations could be handled by the existing rail network with paratransit services performing a feeder role. One would hope that several different quality/price services would emerge in any one area, notwithstanding the Dodgson-Katsoulacos (1988) hypothesis that only two combinations may emerge at best.

Several legislative changes are probably needed to make this system feasible: restricting approved paratransit activities to the target location; approving the disbursement of seeding funds to set up experimental services according to specified criteria; and funding a locally-based transport development coordinator. Decisions would also have to be reached on such matters as:

- whether free entry to the market is to be permitted or operators are to be franchised on specific routes (perhaps a mixed strategy is feasible, but generally the freer the entry the better). If services are franchised some decision is required on how they will be allocated;
- the eligibility of operators for SSTS and pensioner rebates (one hopes they would not be available to paratransit services which, by their nature, would be relatively inexpensive and on short haul routes). This could be a good opportunity to wind back existing subsidy schemes that are not well targeted according to need, or at least to target them better;
- the extent of seeding funds available to innovative services, as advocated by Oram (1980); and

- the advisability of developing public relations strategies to popularise new transit forms.

Integrating transit with land-use planning. The second issue concerns the integration of transport services with physical land-use planning. Given that private transport is likely to remain predominant for the foreseeable future, the regions being developed require good road links with the existing Sydney network (surely no one should be entertaining investment in fixed route systems, rail or bus). The interesting question is how this road network and pattern of land uses will be designed to facilitate the kinds of transit services that may evolve. This is particularly where the DoP comes in. The four specific issues to be resolved are:

- the need for, and design and location of, paratransit interchanges, especially in respect of destination nodes. The design element would need to focus on the comfort and accessibility of would-be passengers;
- the financing of these interchanges: possibly through s.94 levies (under the Environmental Planning and Assessment Act) on development proposals;
- the ways in which the interchanges can be tied in with the publicly-funded road network: for example, the construction of privately-funded link roads could also be made a condition of development consent; and
- the use of the land-use planning system to encourage the development of paratransit services: for example, binding agreements (perhaps for specific periods of, say, ten years) may be made with developers and/or major owners or tenants to subsidise or organise transit services. Such agreements would also be reached at the development consent stage.

These suggestions are not new but are described by Cervero (1986) as currently operating in California. Some of these proposals would require changes to the Environmental Planning and Assessment Act. In short, this is an opportunity for synoptic transport and land-use planning involving joint public and private endeavour. Lest the proposal be seen as a major financial impost on the development industry, it should be stressed that there are numerous ways in which the private and public sectors can trade to their mutual benefit, and without falling foul of the State's Independent Commission Against Corruption.

Option 2: Deregulation of STA Feeder Routes

Local feeder routes to railway stations and shopping centres may prove to be some of the less profitable of the STA operating division's activities when they report on the viability of their routes and the need for specific subsidies from Treasury. Rather than pay out the subsidy or call tenders from traditional private operators for the existing service, the DoT could in the first instance take a number of steps.

First, it could call for expressions of interest from private businesses and community groups for the operation of bus or paratransit or taxi services in the general area of the current route. The former could be shopping-centre owners and managers etc. and need not necessarily operate in the transport field.

Second, it could specify that almost any proposal will be considered and that tenderers should nominate:

- a route or routes (not necessarily fixed);
- the type of vehicle proposed and its capacity;
- operating times and frequency;
- a fare schedule;
- the operating mode: such as multiple hire taxi, dial-a-ride, variable route, and so on;
- their financial and corporate status.

However, some guidelines may be set out detailing the minimum level of service that the government has in mind, though these should not be excessive and should take into account local conditions (including the demographic character of the market served and existing levels of demand). The aim would be to attract the largest possible number of potential transport operators. The replacement service, if any, need not meet the existing rather overblown conception of community service obligations (with respect to off-peak, weekend and late night services). Hensher (1989) correctly warns that detailed specification of requirements may deter competition and that centrally-determined fares and service policy is incentive-incompatible.

Third, it could evaluate the tenders and coordinate tenderers where similar offers are received. In this regard the DoT would operate as a catalyst or reticulator. The aim would be to come up with improved joint proposals from interest groups or to define mutually exclusive services that could be operated simultaneously without substantial damage to either party. Since the original tenders would be competitive, the negotiated services should be able to retain or improve upon

that competitive edge. There is little wrong with government helping producers improve their services by making more information available.

Fourth, once the form of service has been negotiated, the DoT might then sign contracts for the service to be delivered on a trial basis for, say, a year to be followed by a fixed-term contract for three to five years if events proceed satisfactorily.

Finally, the DoT would have to decide once more what to do about SSTS and pensioner concessions, but preferably they should not be necessary or available for what is effectively short-distance local traffic.

The government would need a fall-back position to maintain transport services of some kind in the event of the contractors going bankrupt.

This scheme would function initially in a few carefully selected neighbourhoods within STA territory. A range of operating environments might be chosen for test purposes and experiences should be carefully monitored. Later the scheme could be widened, if successful, to include the areas served currently by private bus operators.

Option 3: Competition on Line Haul Routes

Two companies might be permitted to operate on selected line haul (or trunk) routes to create a more competitive transit environment and generate the consumer benefits that stem from it. A private company could operate on STA routes and either the STA or another private company operate on private routes. The result would not be unlike the now-defunct Two Airlines Policy, though care should be taken to avoid parallel scheduling, which would increase passenger waiting time and encourage competitive driving practices. The extra licence on any route could be allocated by competitive tender, would be open to all comers (not just existing bus companies), and would go to the firm offering the best quality of service (and, possibly, price) package. Contracts, including performance standards, if desired, would be signed for a stated period of perhaps two to three years. Specified performance standards would have to be binding on both operators to ensure that they could compete fairly, and could include scheduling requirements. Such a policy would allow private operators on to the STA's presumably profitable line haul routes, while, as a *quid pro quo*, people in the Western suburbs not served by government bus might gain access to STA high-quality services (or even higher-quality private services should a private concern outbid the STA).

It would be better still if both operators on a route faced competitive tendering. Gwilliam (1989:41) summarises UK deregulation experience with the following observation:

> ... comprehensive competitive tendering would offer the most powerful and credible threat to incumbents. Its main weakness is that it may attenuate inducement to service innovation.

As the removal of exclusive operating rights could involve the government in expensive legal battles and compensation pay-outs, it could easily be cheaper to negotiate mutual exchanges of rights between the STA and private concerns along the lines advocated here.

In the current operating environment the benefits of this policy would be much greater than the privatisation of the STA's operating divisions. The existing restraints on competition are so severe that their privatisation would not add to competitive pressure, unless perhaps all routes were thrown open periodically to competitive tendering. Such an uncertain business environment could have a variety of adverse consequences for passengers: for example, the reluctance of bus proprietors to invest in the latest equipment (see Gwilliam's observation above). Indeed, the introduction of limited competition (duopoly) on main routes may be regarded as a useful first step to privatisation of the STA's services and to deregulation.

Option 4: Tackling the Taxi Industry

The fourth proposal only indirectly affects the bus industry. Further competitive pressure could be brought to play on the existing bus industry if some deregulation of the taxi industry were accomplished. Taxis currently substitute for buses to a limited degree. That substitution potential could be improved substantially by increasing the number of vehicles through deregulation of entry (except for quality controls), encouraging more multiple hiring, and permitting a wider range of vehicle types to call themselves taxis.

This strategy could undoubtedly lead to cheaper fares and the greater use of taxis, forcing bus operators to lift their game. Swan (1979) argues that the removal of entry barriers in Canberra could have reduced charges per kilometre by as much as 13.6 per cent. There is little reason to suppose that a similar order of savings could not be made in Sydney, where the market is also highly regulated and there are only 1.3 taxis per 1000 inhabitants. This figure is much higher than

the figure for Canberra ten years earlier, which Swan puts at 0.47 per 1000 inhabitants. However, Sydney's commercial function, its size and geographical configuration suggest that the demand for taxis should be much higher there than in Canberra. In some deregulated American cities of comparable status to Sydney's the figure is closer to 4 per 1000, and the evidence suggests that those markets with greater competition not surprisingly also have cheaper fares.

Taxi advantages. The taxi is potentially the ideal public transport vehicle for the future city with its decentralised lifestyles and businesses and weakly-patterned cross-city movements. The taxi is totally flexible in its movements, takes up much less parking space than the private car, and should, but currently doesn't, offer a range of service qualities and prices. It can offer specialist transport such as moving the handicapped or holiday-makers weighed down with luggage. Because the taxi unit is small in size, it can operate efficiently during periods of slack demand, and capacity can be expanded rapidly at peak periods. Thus the taxi is highly demand-responsive. Its small size also permits efficient operation in thinly-populated areas that cannot support larger buses. Note, too, that introduction of minibus services and a broader definition of what constitutes a taxi serve to blur the distinction between taxis and buses almost completely. They both have a claim to be regarded as essential and integrated components of an urban transport system.

Improving taxi services. The problem is to get more taxis on the road with a greater choice of services to the public and innovative pricing systems that reflect supply-demand inter-relationships more accurately. Thus late-night travellers may have to pay a premium fare, while regular off-peak day-time travellers could negotiate very favourable rates. How does one get this past the current taxi industry organisations? Possible strategies include the phased introduction of new licences (which may be associated with trade-offs on fare flexibility and the freeing-up of multiple hiring on specified occasions) and the legalisation of what might be called 'parataxis', again with the possibility of trade-offs. These parataxis are conceived as occasional taxis using various non-standard vehicles that could be licensed to operate on certain days, at specified times, or for special events. (It is a wonder that the Japanese haven't developed a taxi meter that would automatically adjust fares for multiple hirings according to the number of passengers and the length of their trips and give multiple read-outs. One is tempted to patent that notion.)

The policy options for taxis include:

- the introduction of more licences for standard cabs even to the extent of freedom of entry for vehicles and drivers of an approved standard;
- the licensing of cabs of several different qualities ranging from limousines to minicabs and adjusting fare structures accordingly;
- permitting cabs to operate outside of cooperatives, though the cooperatives should be able to police vehicle and driver standards much better than they currently do. Poor standards are undoubtedly related also to the current protected nature of the industry; and
- the introduction of more diverse fare structures: premiums for trips at certain times and to certain (limited) destinations and discounts for frequent and regular travel.

The government holds several bargaining chips. Refusal to increase fare tariffs until the industry starts negotiating seriously on these matters is one. The threat to legalise competition is another. The legalisation of car- and van-pools is an option that should be under serious consideration anyway. Then there is the strategy of licensing firms serving specialised markets (these might be called Special Destination Services). The obvious case is that of services to the airport. If Los Angeles can support 30 competing companies taking groups of passengers and their luggage from the airport to home or hotel, Sydney should manage a few. Several of the LA firms run very high-tech businesses with electronic destination and route-finding systems and information transfer systems about passenger locations (Collins, 1989). The feasibility of such services is likely to increase rapidly as Sydney's tourist industry grows; they could be a good advertisement for the country.

Finally, note that if buses and taxis could be made more substitutable, the notion that buses constitute a natural monopoly would be badly dented. Most of the utilities usually cited as natural monopolies confront no substitution threat!

Chapter 6

Conclusions

The NSW government has identified several problems with the quality of bus services delivered by private firms to the residents of Sydney's extensive outer reaches. To rectify those problems it has proposed introducing a form of Chadwick-Demsetz auction that could involve operators tendering for the right to offer passenger services that meet, or improve upon, the government's minimum standards. Such auctions were originally proposed to improve the efficiency of those services that constitute a natural monopoly and are contestable according to Baumol's (1983:3) definition. Similar auctions might be used beneficially for such regulated monopolies as Sydney's private bus industry.

The validity of the government's actions relies on the two conditions of natural monopoly and market contestability being met and on the auction process adopted. If, for example, the industry is not a natural monopoly, there may be beneficial consequences in opening it up to competitive forces. If, on the other hand, the bus transit market is not contestable by would-be entrants there seems to be little merit in holding an auction. We have seen that some benefit may emerge from holding an open auction since the bus market is reasonably open to entrants in a business, if not a regulatory, sense and because the government has decreed a regulated, if not natural, monopoly. It seems, however, that the limited nature of the tender process incorporated in the Passenger Transport Act offers considerable protection to incumbent operators and the pattern of services that they run. Thus we are unlikely to see new entrants succeed and economic power may be concentrated in the hands of a few large monopoly firms. While this outcome does not prohibit innovation, the development of new transit ideas may well be greater in a more fully competitive environment: there is no reason to assume that transit is different from any other market in this regard.

The second potential flaw in the tender process lies in the appropriate levels of service selected by the government. The bus

industry does not seem to be a natural monopoly in the classic sense of the term. Although size of operation does seem to confer some competitive advantages of an organisational and resource-shifting kind, major scale economies seem to accrue to the consumer rather than to the producer. However, many of the consumer and social benefits that are traditionally seen to arise from a system of spatial (i.e. natural) monopoly have question marks hanging over them. This occurs because the community, and through it the government, have not defined in any acceptable sense the social uses and goals of public transit. In the absence of any such analysis it is difficult to specify minimum acceptable standards and, by inference, the spatial variations (or inequities) in service levels that are tolerable. If we do not have a clear and reasonable idea of what we want out of a transit system, it is difficult to prescribe how services might be delivered more efficiently and fairly.

Given that the industry is reasonably contestable and that the natural monopoly argument is not clearly applicable, there seems to be a case for introducing competitive forces to the industry. One option would be to go down the path of deregulation as in Britain. That course of action has hitherto had rather disappointing results, though the reasons for this are unclear. I have suggested a different tack that is perhaps more politically feasible: piecemeal experiment in localities where there are poorly developed vested interests or in services where some horse-trading may be feasible. The four proposals discussed in Chapter 5 are likely to go somewhat further than the modified Chadwick-Demsetz auction towards the creation of better quality and more efficient bus services in Sydney. Of these, the third option, which advocates competition on line haul routes, is perhaps the most problematic as it appears to be incompatible with the government's proposals for the private sector, which at least have the self-interested support of the larger companies.

Although the four proposals appear mild and reasonable, one should not be surprised if they face stiff opposition from existing operators, including the STA, because they seek to overturn cosy relationships, comfortable monopolies and familiar ways of doing things.

Finally, it is worth observing that the addition of a spatial dimension to economic analysis greatly complicates matters. Ideas that are reasonably clear in isolation, such as, in the present case, natural monopoly and contestability, become more difficult when spatial considerations are included. We notice the same thing when time is added and the concept of equilibrium loses much of its meaning.

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