

THE INVOLVEMENT OF PRIVATE BUS
SERVICES IN MELBOURNE'S ZONE FARE SYSTEM

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ABSTRACT: In October 1981 a significant change to the structure of Melbourne's public transport fare system was implemented when multi modal zone based tickets were introduced.

The involvement of the private bus network in the fare scheme was a most important and interesting aspect of the change. This paper examines the background to the inclusion of private bus services and the arrangements made to facilitate their inclusion; the financial implications for the industry are discussed and the measures taken in this regard are described. The paper then goes on to present an analysis of some of the results and effects of the new fare system on private bus services.

NOTE:

Initial plans for this paper were developed prior to my resignation from the Transport Regulation Board during 1982. Fortunately I was able to complete the paper with the Board's authority, through Mr Peter Golden. Board staff, notably Mr R. Wilson, Miss P. Kennedy and various members of the Division of Costing and Financial Analysis were of great assistance in preparation of the paper. The views expressed are mine and responsibility for any errors rests with me alone.

INTRODUCTION

Until 1981 fares for travel on Melbourne's rail, tram and bus services were set on a relatively independent basis by the three authorities involved.⁽¹⁾ There had been several examples of multi-modal tickets but these were minor and had achieved only low market penetration.

In October 1981 a significant step towards fare integration was taken with the introduction of a scheme of zone based multi-modal tickets. The essential features of the new TravelCard scheme were:

- for fare purposes the metropolitan area was divided into three major zones, with a fourth sub-zone covering the inner city area;
- multi-mode tickets (TravelCards) became available, allowing holders unlimited travel in the zones and during the period of validity. The tickets are valid for use on all train, tram, tramway bus and private bus services in the metropolitan area;
- single mode tickets continue to be available, based on the same zones for train travel and based on sections travelled for the tram, tramway bus and private bus systems.

This paper does not discuss the scheme's general impact, rather it concentrates on the effects of the scheme on the private bus network. A full description of the background to the system and its general results can be found in another paper to the 8th Australian Transport Research Forum (Don, Singleton and Wallis, 1983).

MELBOURNE'S PRIVATE BUS OPERATORS

Bus routes provided by private bus operators are a significant element in Melbourne's overall network of public transport services. Coverage extends into most areas of Melbourne; a few routes are radial services, operating into the city or its close environs, but the main role of the private route bus network is to provide local, feeder and cross town services.

Approximately 220 routes are provided in all and the extent of the network can be seen from figure 1 which highlights private bus services on a map showing all Melbourne's public transport services. Compared to the 220 private bus routes there are approximately 18 metropolitan train routes, 40 tram routes and 45 tramway bus services. As a group the private bus services carry approximately 20% of the total patronage on public transport services (See Table 1).

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1. The three authorities are Victorian Railways Board for train services, Melbourne and Metropolitan Tramways Board for tram and tramway bus services and Transport Regulation Board for private bus operators.

TABLE 1

PATRONAGE ON MELBOURNE'S PUBLIC TRANSPORT SERVICES
- BY MODE, 1980-81

MODE	PASSENGERS IN '000's	% OF TOTAL
Train	82,000	32
Tram	100,500	40
Tramway Bus	21,000	8
Private Bus	<u>50,800</u>	<u>20</u>
TOTAL	<u>254,300</u>	<u>100</u>

The 220 services are provided by approximately 60 operators who range in size from a partnership with just one route bus to large companies, with the largest operator having nearly 90 route vehicles and providing service on over 25 separate routes. Most of the operators have other transport interests to supplement route operation, usually through charter services.

The operators of public transport in Melbourne come under the influence of the Government of the day through the Minister of Transport and his Ministry. However the Government agency charged with the direct control of the private bus industry is the Transport Regulation Board (T.R.B.). The T.R.B. is responsible for the licensing of operators, authorising of routes, timetables etc., certification of drivers and approval of fares⁽¹⁾.

In the years leading up to 1981 the T.R.B. had been attempting to rationalise the fares charged by private operators. Although section lengths of 1.3 kilometres (0.8 mile) had been standard on most services for many years there had historically been a number of different fare schedules. Most of these schedules included a large number of different fare values.

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1. Under the current restructuring of the Victorian transport authorities it seems likely that policy issues related to bus services will become the responsibility of the Metropolitan Transit Authority. Licensing matters may be handled by the Road Traffic Authority.

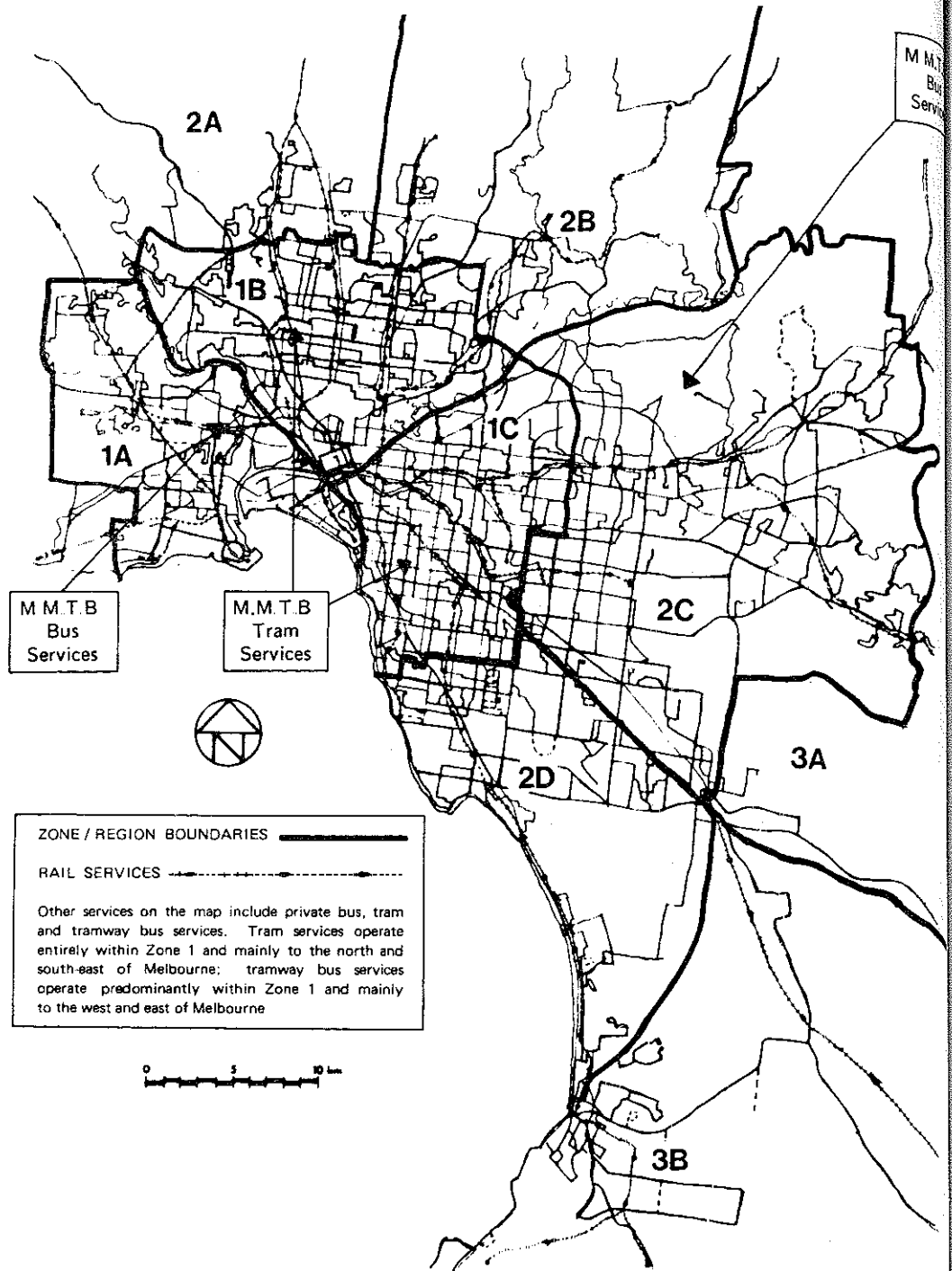


FIGURE 1 - METROPOLITAN PRIVATE BUS NETWORK

By 1981 significant progress had been made and the one fare schedule was applicable on most services; the number of different fare values had also been markedly reduced. On the other hand the fare levels had grown different to those applicable on bus and tram services provided by the Melbourne and Metropolitan Tramways Board (M. & M.T.B.). While there are few examples of direct competition between the modes the existence of different schedules no doubt seemed illogical to the travelling public. Section lengths on M. & M.T.B. services were longer (1.6 kilometres or 1 mile) than on private bus services but the fares were lower, especially for concession travellers, and a greater range of multi ride tickets etc was available. The basic 1981 fares for both modes are shown in Table 2.

TABLE 2

FARE LEVELS PRIOR TO OCTOBER 4, 1981

<u>SECTIONS TRAVELLED</u>	<u>ADULT FARE</u>		<u>CONCESSION FARE</u>	
	<u>TRAM & TRAMWAY BUS (cents)</u>	<u>PRIVATE BUS (cents)</u>	<u>TRAM & TRAMWAY BUS (cents)</u>	<u>PRIVATE BUS (cents)</u>
1	30	35	15	20
2	40	45	25	30
3	50	55	25	30
4 or 5	60	65	25	40
6 - 7	80	75	25	45
8 - 10	80	85	25	50

The problem for the T.R.B. was that opportunities for manipulation of fare schedules were limited to some extent by the continuing reliance, despite subsidy payments, on passenger fare revenue; even with subsidy payments being made cost increases facing the industry and Government budgetary constraints maintained this situation. Radical changes to the structure or level of fares may have adversely affected the financial security of the industry.

The subsidy scheme, of course, was of significant financial assistance to the industry. On the other hand since introduction of the subsidy scheme in 1974 sensible consideration of service adjustments of either an expansionary or contractionary nature had become difficult and in 1980-81 the network of route services remained much as it had been in 1974. The numbers of vehicles and kilometres needed to operate the network were also unchanged, with the obvious cost implications, but patronage had fallen by over 25%. Thus while the viability of individual operators was, at best, maintained in a profitability sense by subsidy funds, capital investment issues tended to be overlooked and the basis of the industry as an innovative mode, able to meet new challenges, became steadily eroded.

TRAVELCARDS ON PRIVATE BUS SERVICES

It cannot be claimed that 1981 was the critical year for the private bus industry. However by then it was certainly clear that the merry-go-round of lower patronage, higher fares and escalating subsidy payments would have to be intelligently and effectively confronted at some stage.

INCLUSION OF PRIVATE OPERATORS IN THE TRAVELCARD SCHEME

Retrieval of the position of the private bus industry was not one of the main factors in the development of the TravelCard scheme. Indeed the earlier schemes of multi mode ticketing (MetroCard etc)⁽¹⁾ had not covered the private bus network and much of the preliminary development of the TravelCard scheme was based on similar thinking.

It was known, however, that the private bus network was an integral element of linked trips made on Melbourne's public transport network. It had been estimated in 1979 that 20% of passengers travelling on route bus services transferred to other routes⁽²⁾ and that travel on private bus services was therefore of great importance in the overall picture of multi modal trips. This was confirmed by later analysis which showed that some 35% of all transfer trips involved some travel on the private bus network.⁽³⁾

As the TravelCard idea developed, it was seen that inclusion of the private bus network would greatly enhance the scheme. T.R.B. officers and bus industry representatives also saw that the scheme may represent a key element in any strategy designed to attempt to reverse the fortunes of the industry. For time there was some opposition to this line of thinking, on mainly administrative grounds, but eventually it was decided that the administrative "difficulties" should also be overcome and private operators included in the scheme.

This decision was reached only in late August 1981 and therefore the administrative problems that were involved were compounded by the very short period left before introduction of the scheme on 4 October. While the M. & M.T.B. and VicRail had important procedures to establish to ensure the smooth introduction of the scheme, the issues facing the T.R.B. and Bus Proprietors' Association (B.P.A.) were, in some ways, the most difficult due to the need for the complete education of all sixty operators.

1. As discussed in another paper to the 8th Australian Transport Research Forum (Don, Singleton and Wallis, 1983).
2. Unpublished calculations made by the Transport Regulation Board.
3. Based on transfer trip statistics shown in Table A1.5 of "Melbourne Fares Study" (Ove Arup Transportation Planning and R Travers Morgan Pty Ltd, 1982).

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Some of the more important steps that were taken in the lead up to the introduction of the scheme include:

B.P.A. Meeting of Operators

The first step was a meeting that the B.P.A. organised for 28 August to advise their members of the scheme; a T.R.B. officer was invited and attended the discussion. This meeting was only preliminary to later discussions but served to give operators a first outline of the scheme, in concept rather than detail, and to assure them that their interests were being taken into account.

Operator Meetings at T.R.B.

On 8 and 9 September further meetings were held at the T.R.B. These meetings were designed such that groups of operators could be made aware of all details of the scheme, raise queries and be distributed with some literature on the system. Only one or two operators saw fit not to attend these discussions.

T.R.B. Officer Task Force

By this time a small group of officers had been informally set up within the T.R.B. This group became responsible for all TravelCard matters, including preparation of publicity material and resolution of queries as they arose.

Publicity

Associated with the introduction of the TravelCard scheme a series of electronic media advertisements and full page daily press advertisements had been arranged to draw attention to the scheme. Explanatory brochures were then distributed to all metropolitan households but although certainly more detailed than the media advertisements they were still somewhat general.

Due to the importance of bus services at the local level a supplementary publicity campaign was developed with the major aspect being the placing of articles and maps in local newspapers and some of the foreign language newspapers. Multiple copies of the article and map were prepared in poster style and distributed to bus operators, along with other printed material such as full descriptions of the zone boundaries and reference lists of rail stations and tram and bus services by zone.

B.P.A. Circular

On 18 September the B.P.A circularised its members with their final comments and instructions. This circular enclosed samples of all the tickets and so completed the package required by operators to explain the scheme to their own staff.

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TRAVELCARDS ON PRIVATE BUS SERVICES

The combined effect of the measures taken enabled the reasonably smooth introduction of the scheme on private bus services which, given the time frame (for example, some operators did not receive their stocks of tickets until the evening immediately prior to the first day of the scheme), was a remarkable achievement. This is not to say that there were no teething problems but happily those that did arise were able to be resolved very quickly.

There were some important lessons to be learned from the process. From the regulator's viewpoint the most important lesson was simply the attitude of positive thinking that prevailed; in this environment problems were seen as issues requiring fast resolution rather than baffling stumbling blocks. The delegation of much responsibility to the special team working on the scheme allowed the usual relatively rigid bureaucratic processes to be somewhat short-circuited.

Another most important factor was the co-operative attitude of the bus industry, which had to go to some length to enable introduction of the scheme. In most depots adjusted or new recording systems were needed and in some cases additional staff had to be hired. Presumably the guiding motive for the industry was the feeling that inclusion in the TravelCard scheme indicated, at last, the acceptance of private bus services as a true component of the public transport network.

FINANCIAL ARRANGEMENTS

In the background of the administrative arrangements the financial scheme that had to be negotiated was clearly of critical importance. Since 1974 the bus industry had been supported by subsidy funds and by 1981 subsidy payments represented some 40% of total route revenue. Therefore it was essential from the industry point of view that their financial security was not jeopardised by the introduction of TravelCard.

It transpired that this issue was resolved by a conceptually simple agreement. The elements of the agreement were:-

- the existing subsidy scheme was not altered;
- at no cost, operators were issued with an initial stock of tickets (two months); the funds generated from the sales of these tickets were to be applied to the purchase of replacement stocks;
- receipts from sales of TravelCard were therefore not to be considered as revenue, rather just a specific purpose fund;
- operators were given a commitment that they would not be financially disadvantaged by the scheme; in practice this has come to mean
 - a guarantee that fare revenue levels would be maintained at the same real level⁽¹⁾ as the same period of the previous year;

1. Calculation of the real revenue level takes account both of inflation and service changes.

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- the "revenue make-up" payments required to implement this guarantee would be made monthly, on a retrospective basis;
- operators who could demonstrate that patronage had increased had the ability to claim additional reimbursement such as would restore their revenue to the appropriate corresponding level;
- operators are reimbursed for the costs associated with a drivers' wage increase which was approved after introduction of the scheme - the increase takes the form of a small adjustment to the weekly rate and a payment for each TravelCard sold;

Clearly this scheme shifts all the risks of declining patronage onto the Government and therefore it could not be regarded as a very long term agreement. As a short term system it has worked reasonably well although the procedures and calculations involved are far more complex than apparent from the deceptively simple theory.

With the growth of TravelCard usage the revenue make-up payments became significant and metropolitan operators, on average, in late 1982 were receiving approximately 60% of their route revenue from the Government. Several separate schemes are involved and the arrangements have therefore become administratively complex and time consuming; the situation must also be quite confusing for operators. There would seem to be a strong case for rationalisation of the overall financial assistance package; perhaps this goal may be achieved by the present Government which has indicated an intention to negotiate a scheme of contracts with the bus industry.

IMPACT OF THE SCHEME

As already mentioned introduction of the scheme proceeded fairly smoothly; in the initial period, of course, operators raised many questions of interpretation and some of the supporting arrangements for the scheme had to be refined in the light of experience. Importantly very few of the problems seemed to directly concern passengers such that the launch was certainly successful in that sense. One exception was that some operators had difficulty in ensuring that all drivers had adequate reserve stocks to cater for unusually heavy TravelCard demands and occasionally passengers could therefore not purchase the ticket of their choice; by and large this problem was overcome within a few weeks.

As was expected the involvement of the private bus industry became an important element of the scheme's operation. A number of trends are discussed below to give some indication of the effects of the scheme on the private bus network.

Level of Sales

The immediate impact of the scheme was not strong and in the first week of its introduction under 30,000 TravelCards were sold on private bus services. This was less than 3% of all tickets or, on average, about 25 TravelCards per route per day.

Sales increased rapidly, however, and by the start of the 1982 school year (which coincided with the introduction of weekly TravelCards) sales were about 70,000 per week or 10% of all tickets sold on bus services.

As weeklies are not available for purchase on private bus services (1) there was a temporary drop in the level of sales before slower but steady growth throughout the remainder of 1982. The trend in sales is illustrated in figure 2 with the two noticeable high points corresponding with school holiday periods when sales of TravelCards are relatively high.

By early October 1982, twelve months after the ticketing scheme was introduced, more than 100,000 TravelCards per week were being purchased on private bus services. At this level TravelCards represent more than 12% of all tickets purchased on private bus services.

As is to be expected the level of sales varies widely between different route services, depending on the nature of the particular services. As shown on the map of services (figure 1) Melbourne's bus services can be subdivided into nine regions. When analysis of sales is carried out at this regional level it is found that sales are relatively the highest in the inner western suburbs (region 1A) where, in October, TravelCard sales were over 16.5% of all tickets purchased. Sales were relatively the lowest in region 3B (outer southern suburbs) at only 2.5% of all tickets. Interestingly the next highest sales levels were in regions 2A and 1B, demonstrating a strong penetration of TravelCard in one sector of Melbourne. Suburbs in this sector are among the less affluent of Melbourne and work trips from these suburbs tend to be less CBD oriented than trips from other sectors; car ownership is also relatively low in these suburbs. (2)

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1. Weekly TravelCards are not available for purchase on board any vehicle; they are sold at rail stations and tram depots.
 2. As summarised from "Melbourne's Development and Planning" (Beed, 1981) Chapter 2.

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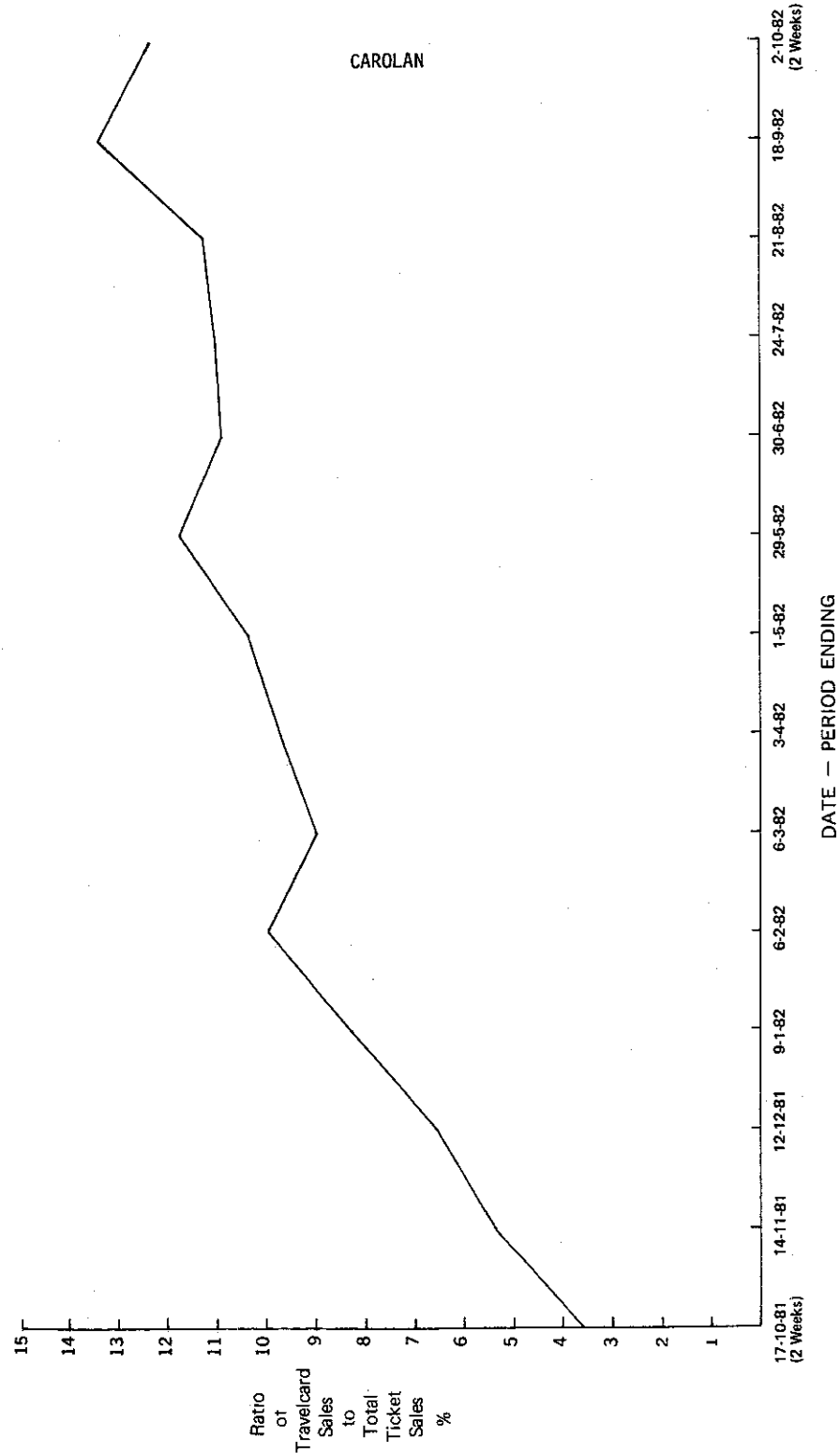


FIGURE 2 - METROPOLITAN PRIVATE BUS SERVICES
 TRAVELCARD SALES RELATIVE TO TOTAL TICKET SALES

Sales Relative To Other Modes

In the initial weeks TravelCard sales on private bus services represented under 15% of all TravelCards sold. By 1982 sales grew to represent about 18% of all TravelCards and this ratio has remained fairly constant since. The relative level of sales on each of the other modes has also remained fairly steady at around 50% on rail, 24% on tram and 8% on tramway bus.

The level of TravelCard sales on private bus services is relatively far greater than TravelCard ridership on the services; this importance of bus services as a point of sale of TravelCards is illustrated by a comparison with tram services. Annual patronage on bus services is approximately 50% of that on trams and only 35% as many TravelCard rides are made on bus services as on trams; but, on the other hand, sales of TravelCard on private buses regularly exceed 75% of the number purchased on tram services.

Types of TravelCard

As stated approximately 18% of all TravelCards are sold on private bus services. In the case of concession TravelCards private bus services are relatively even more important as a point of sale; since early 1982 over 35% of concession TravelCards have been sold on private bus services.

Over 90% of the TravelCard sales on the private bus network are represented by the ticket types of adult zone 1, adult zones 1 / 2 and concession zones 1 / 2. Figure 3 shows the trend in sales of individual ticket types with the most noticeable trend being the steadily growing relative level of concession TravelCard sales.

By October 1982 sales of concession TravelCards represented about 45% of total TravelCards sales on bus services. Of course there is wide variation around this industry average level. Analysis at a regional level is shown in Table 3 which lists the level of TravelCard sales relative to total ticket sales and the level of concession TravelCard sales relative to total TravelCard sales. Interestingly it is found that in the area where TravelCard sales are relatively the lowest (region 3B) concession TravelCards represent over 70% of total TravelCard sales, by far the highest ratio of any region; conversely region 1A, with the highest level of TravelCard sales is the region where concession TravelCards represent the lowest share of TravelCard sales.

Such results tend to highlight the diverse nature of bus services in different areas of Melbourne; the analysis could usefully be taken further to yield guidance as to some of the issues that warrant consideration in any review of the TravelCard Scheme.

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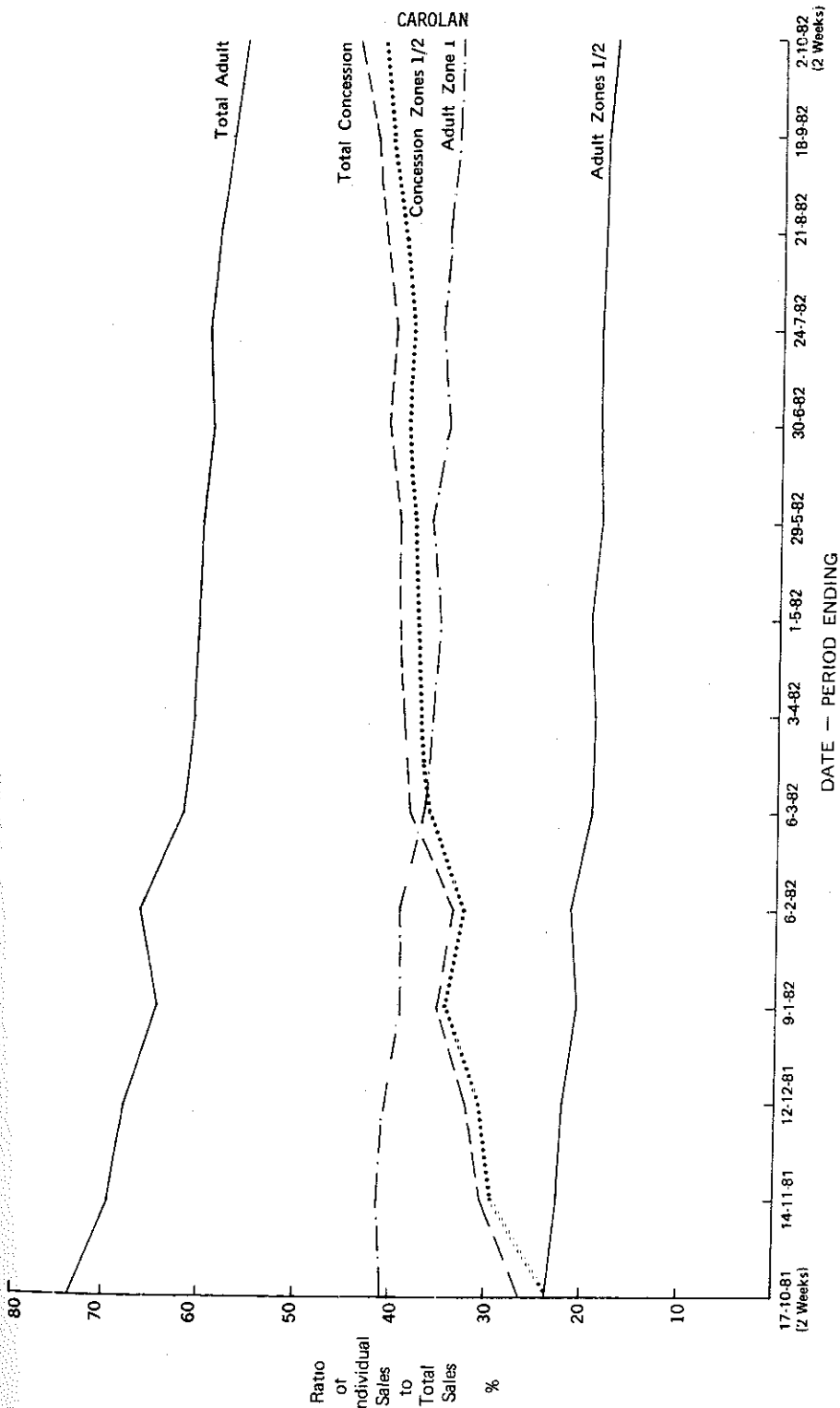


FIGURE 3 - METROPOLITAN PRIVATE BUS SERVICES
 TRAVELCARD SALES BY TYPE

TRAVELCARDS ON PRIVATE BUS SERVICES

TABLE 3

REGIONAL ANALYSIS OF TRAVELCARD SALES

REGION	TRAVELCARD SALES RELATIVE TO TOTAL TICKET SALES (%)	CONCESSION TRAVELCARD SALES RELATIVE TO TOTAL TRAVELCARD SALES (%)
1A (Inner Western)	16.6	37.0
1B (Inner Northern)	14.3	44.3
1C (Inner South Eastern/Southern)	12.1	39.9
2A (North Western/Western)	15.4	43.2
2B (North Eastern)	12.0	42.4
2C (South Eastern)	8.9	40.1
2D (Southern)	8.6	50.0
3A (Outer South Eastern)	N/A	N/A
3B (Outer Southern)	2.7	71.7

Other Effects

The report of the study of the introduction of the scheme⁽¹⁾ reviewed trends in the time of day of travel, day of week of travel, length of travel and type of passenger on private bus services. This analysis was based on examination of section ticket riders to see if introduction of TravelCards had led to any noticeable shifts in previous patterns.

For both time of day and day of week analyses no significant trends were found, certainly not of a type that could reasonably be attributed to the TravelCard scheme.

At the time of that analysis (based on figures to April 1982) it was found that the proportion of adult travellers on section tickets had fallen noticeably, indicating the initially strong penetration of adult TravelCard sales. However, with the more recent continuing increase in concession TravelCard sales, this impact will have been largely redressed and the previously established balance restored.

It is in terms of length of travel on section tickets that one would expect the TravelCard scheme to have had the most noticeable effects, due to the different appeal of TravelCards for passengers making different types of journey.

1. "Melbourne Fares Study" op. cit.

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- 37.0
- 44.3
- 39.9
- 43.2
- 42.4
- 40.1
- 50.0
- N/A
- 71.7

This expectation is confirmed and it is found, for example, that the relative level of one section riders on section tickets has declined for each of the adult, child and pensioner categories. This result is consistent with the expectation of short distance bus riders transferring to other services and therefore using TravelCards; the effect is most marked for adults and in some regions, including the inner western region 1A, the use of one section adult tickets (compared to all section tickets) has fallen to about 2/3 of the previous level.

At the other extreme it can be observed that in at least some regions travel by children on section tickets for longer journeys (say over 5 sections) has declined quite significantly. For some such trips concession TravelCard can be attractive for even a bus only return journey.

Overall effects in terms of length of travel are quite complex and further detailed analysis necessary to identify other trends has not been possible for the purposes of this paper.

Patronage

As part of the study of the scheme⁽¹⁾ surveys were carried out to establish ridership rates for public transport passengers using TravelCards.⁽²⁾

Using the derived ridership rates the study report⁽³⁾ estimated that patronage on private bus services had increased by 5% in the first six months of the scheme, that is, for the period October 1981 to March 1982 compared with October 1980 to March 1981. The report did not attribute this increase directly to the TravelCard scheme but certainly the association seemed fairly strong.

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1. "Melbourne Fares Study" op. cit.
2. The survey techniques are summarised in Don, Singleton and Wallis, (1983)
3. "Melbourne Fares Study" op. cit. Technical Appendices, Section D2.20.

A similar calculation⁽⁴⁾ has now been made for the first twelve months of the scheme. It is found that in the period October 1981 to September 1982 approximately 51.8 million passengers were carried compared to 50.4 million passengers in the same period of the previous year; this represents an increase of approximately 3%. While this increase is less than the calculated six month trend it should not be viewed as a minor impact; given the previous underlying downward trend in bus patronage and the introduction of increased section fares in January 1982 the increase in patronage can only be regarded as a very significant turnaround in the fortunes of the private bus industry.

Of course the upward trend has not been uniform and some operators have unfortunately lost passengers; on the other hand by December 1982 some ten operators have submitted requests for additional revenue make-up payments, claiming significantly increased patronage on their services.

It remains impossible to claim that the TravelCard scheme is the reason for increased bus patronage but it would seem likely that it has been a most important factor. Only continued analysis of the type commenced in this paper, particularly at a disaggregate level, will reveal sufficient information to resolve this most important issue.

CONCLUSION

Clearly the decision to include private bus operators in the scheme has been proved correct as the industry has played a significant role. This has been important not only for the TravelCard scheme itself but also as one important factor in redeveloping the perception of private bus services as an essential element of the overall public transport industry.

While it is pleasing to see that a patronage increase has occurred since the scheme's introduction it is far more important that the reasons underlying that increase be clearly identified; this paper hopefully represents a commencement of that process. Even if it is concluded that the patronage increase is due to the TravelCard scheme it cannot be assumed that the scheme is therefore ideal; rather further analysis of reactions to the scheme may give essential pointers as to the demands of passengers and therefore yield indicators of desirable changes to the fare scheme.

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4. The calculation uses the ratio between ridership and ticket sales that was established in the study to convert TravelCard sales to a patronage figure which can be added to the sales of section tickets. Given the continuing development of the scheme it may be that the ridership ratios have altered since the surveys were conducted. It would be desirable for repeat surveys to be carried out to check this point.

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