

" M O V I N G P E O P L E "

Address by R.J.H. Risson,
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Someone, Kipling, I believe, once wrote "Transportation is Civilization".

It is of one element of that civilization that I am privileged to speak to you this afternoon.

The earliest urban public transport vehicle was possibly the sedan chair, two-man power, or maybe the Venetian gondola, one-man power. The principle of the wheel was known then, but some city streets were not suitable for it - still true, 'tis said.

There was recently published in the Press a summary of sedan chair charges in old London. I regret I have not it with me, but my recollection is that the fare was shillings for a few hundred yards. I mention that, of course, Sir, to quiet for all time carping criticism of modern Melbourne's more modest fares.

I said "Transportation is Civilization". Certainly I have read, and believe, it was the tramcar that made possible and laid the foundations of modern urban development - if you will agree that that betokens civilization.

Prior to about 1880, cities of Western civilization were limited in size to the radius of horse buses. Now they have no known limit - or had none in the pre-atom age. Whatever our views on the desirability of gargantuan metropolises (and I for one think it a great pity that three millions of nine million Australians live in two cities) cities of even much more modest size could not exist, as they do, with homes, by choice or of necessity, at a distance from work places, were it not for trams, buses, trolleybuses and today's electric trains. The accent is, must be, on public transport, designed for mass movement of people.

There is, or has been, a disposition to refer to some transport authorities as tram-minded, bus-minded, or as the case may be, meaning unreasonably prejudiced in favour of one type of vehicle. That, of course, is foolish. No operator founds his business on prejudice - even, let me assure you, a monopolist operator. Decisions are based on hard facts - economic facts.

That different cities reach different conclusions is not unnatural. It is because their conditions are different. To take a simple case in point, Hobart and Launceston in Tasmania buy electric energy at about 40% of Melbourne's price. (Cheap hydro-electric power is the reason for that, of course.) They favour trolleybuses, rightly, no doubt, whereas cities of similar size in Victoria might well, and equally rightly, prefer diesel buses.

Let me put in here, too, Mr. Chairman, with emphasis: London is very different from Melbourne. I need not elaborate.

It is safe to say that every city of consequence today has a requirement for some motor buses - for cross-town routes, feeder services, developmental routes, and as a flexible reserve. What to use for other purposes (the normal basic services of the city system) is more of a problem - trams, motor buses, trolleybuses, or a combination of two or all three of them.

Melbourne uses trams (767) and buses (300). It will probably add trolleybuses in the future, but not early.

Where to use trams and where buses is determined by the economics of individual cases. Automatically, the deciding factor is normally density of loading. There is no doubt that on Melbourne's more heavily loaded routes trams remain the most efficient vehicle, both financially and on the score of moving people quickly. Other, lightly loaded routes are equally without doubt bus propositions. Between the two are the less certain cases, that must be determined on their individual merits.

The most important factors are these.

FIRSTLY, ROAD COSTS:

Trams require tracks and accompanying roads built and maintained by the Tramway authority (which, incidentally, also pays rates on the space it occupies in the streets for that privilege). Including the necessary overhead system (but excluding substations) they cost today approximately £120,000 per mile of double track in concrete, or £100,000 in ballast.

Against these road and way costs, buses pay only the equivalent of normal registration fees. Municipalities must provide their roads.

But, fortunately, much, nearly all, of Melbourne's present tramways were built at a fraction of today's costs. And those tracks are going to be used for many years yet. Had they to be built today, the story would be different.

SECONDLY, ROLLING STOCK:

Trams now cost £10,000 each; buses, £6,500.

The nominal life of a tram is 25 years; of a bus, 8. Each is sometimes run appreciably more than its nominal life, but the ratio remains the same.

Like its tram tracks, but to a somewhat less degree, Melbourne's tramcars were built very much below today's costs. Like the tracks they will continue in service for many years yet. Most of its buses are relatively new, purchased at modern prices - and still will be worn out before the bulk of the trams.

THIRDLY, RELIABILITY:

Per 100,000 miles, tram "pull-ins" (breakdowns in service requiring withdrawal of the vehicle and replacement by another) are 22; bus 98 - 1 to $4\frac{1}{2}$.

FOURTHLY, POWER:

Trams use electric power at approximately 6d. per tram-mile; buses, diesel fuel at a little over $3\frac{1}{2}$ d. per bus-mile.

FIFTHLY, PLATFORM LABOUR COST:

Nominal average maximum tram capacity is 90 passengers; bus, 60. Most buses have two-man crews, the same as trams. Direct platform labour cost per passenger, therefore, is of the order of 50% higher on buses than on trams. There is the real rub, particularly when I add that wages and salaries, sick pay, retiring gratuities and the like (in short, payment to personnel) make up 70% of the Tramways Board's outgoings.

It will be obvious that some of the factors I have put before you favour trams; others, buses. Each close case must be examined on its merits, and it is apparent that, broadly, the issue is determined by whether or not the density of loading is adequate to warrant the greater capital cost of a tramway, of which the operating cost per passenger is less than that of a bus route.

Where traffic is really heavy there is another factor. Trams will lift up to 13,500 passengers per hour in each direction; trolleybuses about 10,000; the largest modern motor buses somewhat less.

In Swanston Street, for instance, the rate of passenger movement reaches 12,000 or upwards per hour, although not for a full hour. It is beyond the accepted capacity of motor buses or trolleybuses.

TRAFFIC CONGESTION:

Among the most serious problems besetting transport operators, and their passengers, is traffic congestion in principal streets. Though less acute in Australia than overseas, it is still intolerably serious.

Public transport is not the only sufferer of course: private transport suffers too. But public transport delays affect many times more people than do delays of private traffic, even though they are represented by a mere fraction of the number of vehicles.

The title of my talk today, "Moving People", was chosen deliberately. It is not original. I owe it to the General Electric Company of America, which a few years ago produced an excellent educational film with that title of "Moving People", to emphasize that the basic traffic problem is moving people, or goods, and not, as commonly and erroneously supposed, moving vehicles. It is easy, too easy, for the average man to look at the obvious foreground of vehicles and assume that there is the essence of the matter - just as it is proverbially easy to fail to see the wood for the trees.

To make my point, as briefly as I can, a traffic count taken by the Town and Country Planning Board in 1947 showed that in the heaviest half-hour of the peak Swanston Street trams carried 5,472 Southbound passengers over Prince's Bridge on one track, while in the same half-hour two lanes of motor cars and taxis carried 727 people, including the drivers. If you will trust my arithmetic, that means 88% of the total on trams in one traffic lane against 12% in cars and taxis in two traffic lanes.

There were probably a few private buses not counted in those figures. Allowing for them, it appears that the trams carried some 85% of the total in one lane against some 15% carried in the other two lanes.

Those figures were checked again in 1951 and found practically unchanged. You will agree that there has been little change since.

This is the Town and Country Planning Board's comment in its Annual Report:

"At this time of the day Prince's Bridge would be regarded as operating at its maximum capacity For every 10 feet of road space occupied, therefore, 36 passengers were conveyed out of the city in private motor cars as against 547 passengers in tram cars." (1 : 15)

"It is therefore apparent that public transport is by far the most economical user of street space when considered in relation to the number of passengers for which it caters."

I have here (Fig.1) a "blow-up" (enlargement) of a small picture I came across in an American Transport Journal some time ago. It shows the whole of a street blocked by motor cars, each doubtless carrying one and a bit people, followed by a solitary bus, and the bus followed in turn by a motor car with the driver's wife "back-seat driving" beside him. The caption shows her saying to him, "Honk some more; that bus is holding up all the traffic". Like Hades it is! There are probably more people in that one bus than in the whole of those motor cars.

The public transport vehicle is not the cause of congestion: it is the victim of it.

COSTS AND FARES:

If someone says, "I will be quite happy to travel by public transport if you will guarantee me room and comfort", my reply is, "Certainly, if you will pay for it".

Public resistance to realistic fares is astonishing when contrasted with ready acceptance of prices commensurate with costs of goods and services in general.

Melbourne's average fare per mile today is 1.84 times what it was in 1939. The average fare paid per passenger - slightly different - is 2.03 times. Operating costs are approximately $3\frac{1}{4}$ times!

This chart (Fig.2) shows how they have moved. It is based on 1939 figures as 100 per cent. The bottom line is fares. You will see that they were constant from 1939 to 1949: in fact they remained unchanged from 1926 to 1949. Since then, based on average fare per mile, they have risen 84 per cent.

This line shows the basic wage per hour, now up 250 per cent.

This is Drivers' and Conductors' wages per mile, slightly higher.

This other full line is the Operating Cost per Mile - as I said, up approximately 225 per cent., or $3\frac{1}{4}$ times what it was.

In 1951, one of Melbourne's suburban City Councils issued to its ratepayers a pamphlet entitled, "Why does my road cost so much?". It showed how costs had risen from 1939 to 1951. These are some of the figures.

Earthwork excavation had gone up by 528 per cent. - that means it was costing $6\frac{1}{4}$ times as much in 1951 as in 1939. Metal screenings had gone up by 242 per cent.; sand 362 per cent.; cement 108; bitumen 198; motor cartage 252; dray cartage 262; concrete channels 266.

In other words, costs were from more than double to more than six times what they had been in 1939.

That was in 1951. I do not know how much they have gone up since, but in the meantime, I remind you, the basic wage has gone up about 30 per cent.

The older ones among you will agree with me that you bought a better suit for 8 guineas in 1939 than you can buy for 30 odd guineas today. I need not remind married men of what their wives tell them about the costs of groceries, meat, etc.

Far from being exorbitant in price, public transport is probably the cheapest thing you can buy in this community today.

PEAK LOAD AND STAGGERING OF HOURS:

Getting the bulk of the travelling public, or even if we got all of them, to travel on public vehicles, is not a complete solution of the traffic difficulty, or, should I say, the transportation problem. Large cities the world over, and particularly highly industrialized cities, all face the problem that the great bulk of the travelling public require to travel in the same brief periods, going to their work in the morning and returning home from it in the afternoon. All such cities have

intense crowding in those brief peak periods and relatively light traffic in off-peak periods. It is in peak periods that street congestion is at its worst, and it is the peak periods that impose the greatest strain on transport undertakings. Those undertakings are obliged to provide rolling stock and other capital equipment, and to employ labour to carry the peak traffic, which they do not require for the greater part of the day - but they must meet interest and depreciation, sinking fund and such like charges on the equipment, and often, in addition, pay the labour when they have no use for it. Naturally, in the interests of economy, which means in the interests of the public who pay for its service, they make constant efforts to reduce the disparity between peak-hour and off-peak demands. The acuteness of this problem varies considerably between country and country and even between city and city in the same country, owing to local conditions. It is, I regret, particularly acute in Australian cities.

This chart (Fig.3) shows more eloquently than figures how loading on Melbourne's trams and tramway buses fluctuates over the peak periods mornings and afternoons. It shows numbers of passengers reaching or leaving the central city area per one-quarter hour. Looking at the a.m. peak, you will see that from 7.30 to 8 a.m. the number remains more or less constant, at a little under 8,000 per quarter hour. They are factory workers. Then from 8.0 to 8.15 it drops to 6,500. Then it begins to climb, and climb steeply, until, with the white collar workers reaching the city just before 9 a.m., it attains for a brief - a very brief - period a rate in excess of 15,000 per quarter hour. As those white collar workers go through the front doors and punch the clocks the graph tumbles downwards nearly off the paper. From 9.15 to 9.30 the average is below 3,500 per quarter hour - a drop of 75 per cent. in less than half an hour.

Obviously the transport authority's task would be much easier, its costs (and therefore the cost to the community) much less, and the comfort of the travelling public would be greatly enhanced, if this high peak could be 'dozed off into the deep valleys on either side of it.

Until recently, suggestions of staggering have generally been ill received in Melbourne, and doubtless in most other places. This reception is based not really on merits, but primarily on habit, prejudice, conservatism - general reluctance to accept change and depart from established practice. The great majority of workers of all grades would really benefit from a measure of staggering, and their employers, be their businesses great or small, would not suffer. Shopping, for example, and transaction of much business would be greatly facilitated.

Thanks to the efforts of certain public spirited men, particularly The Employers' Federation, we have hopes of some success in this direction in the future.

There is even now a certain amount of staggering of hours in Melbourne, although only a fraction of what is desirable. At Fisherman's Bend, for example, starting times are staggered from 7.15 a.m. to 9 a.m. In consequence, the Tramways Board's buses serving Fisherman's Bend are able to make some 5 trips, some 4, and so on; and 49 buses suffice in the mornings, 55 in the afternoons, whereas, if there were no staggering, 133 would be necessary. We are very grateful for that staggering. We would like the same elsewhere. It illustrates the advantages to be gained by staggering, both on the score of costs and on the score of comfort, for I can assure you that if the workmen travelling to Fisherman's Bend had all to be taken to the same starting time they would necessarily travel in much less comfort than they do now.

As it is, in the morning at any rate, I should say that they travel in much greater comfort than any other great body of our going-to-work bus passengers.

Mr. Chairman, I have given you, thanks to the courtesy and great patience of your members, a somewhat discursive story of the salient points that engage the attention of a public transport operator. If I seem to have devoted myself primarily to our problems, please do not imagine that that is in any sense in complaint. I have done so because telling you our problems has seemed the most direct and expeditious way of offering you some insight into our industry. If there were no troubles, of course, there would be no need for us who direct it, and that would be calamitous.
