

WIRELESS ADDRESS, 3.L.C., by MR. ALEX. CAMERON.

CHAIRMAN

MELBOURNE AND METROPOLITAN TRAMWAYS BOARD.

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"OUR TRAMS AND SAFETY."

I have been asked by the Safety Council of Australia to say something to you on the subject of safety in relation to tramway operating and to give you an outline of the Tramways Board's efforts to minimise the accident risk. As the Board is running some 700 cars per day on nearly 140 miles of routes in the metropolitan area, the magnitude of the task of accident prevention will be appreciated by listeners:*in*

The Board has concentrated on the development of a suitable type of car for the traffic requirements of the City, and safety to tram passengers and others has been made a special feature of the design. The cars are equipped with brakes representing the last word in efficiency. Each car is fitted with a hand brake, an air brake and an electric brake, and these brakes are independent of one another. The hand brake is a standby, the air brake is used for service stops and as a first emergency, whilst the electric brake is for emergencies only. In parenthesis, let me say that while the braking apparatus on the Board's cars is of the highest standard, motorists should remember that electric trams are heavy vehicles. It is impracticable to stop them in the same distance as it is possible to stop a light motor car, and allowance should therefore be made for this by those indulging in

the practice all too common in our streets of "cutting in" or swerving on to the tram tracks in order to beat the other fellow to the intersection.

The cars and brakes must, of course, be well maintained. The Board has 18 Car Depots, at each of which a staff of men is employed to ensure that cars shall be in a serviceable and reliable condition. After each day's run the equipment and brakes are examined and adjusted, and such minor repairs made as are necessary to keep the cars on the highest level of efficiency.

For major repairs, the cars are sent to the Preston Workshops. These workshops are fully equipped with up-to-date plant and machinery specially designed for the manufacture of tramcars and the overhaul of equipment. After running 100,000 miles, each car is taken out of service and despatched to these workshops, where the brakes, the electrical apparatus and gear are stripped from the car and defective or worn parts are repaired or replaced. Each car leaves the shops in a condition equivalent to that of a new car, and ready for another round of service. All the work of inspection, adjustment, repair and general overhaul is systematised, and is so thoroughly done that accidents due to faulty workmanship are very rare.

In order to get the best out of first-class equipment it must be in the hands of men physically and temperamentally fit for the job. To ensure such fitness, each man is required to pass the

Board's Medical Officer before being admitted into the service; and so that the required standard shall be maintained each employee is re-examined by the doctor every three years. By this means the unfit are precluded from taking charge of passenger cars.

Careful training is the next line of our accident defence. We have two special training schools for new recruits - one for conductors and the other for drivers, and each man is thoroughly trained in the duties required of him. The drivers' training school is at the Hawthorn Depot, and at this school the recruit must obtain a certificate of competency. The school is in charge of an instructor who devotes the whole of his time to the training of recruits. He has a special truck equipped with motors, brakes and suitable apparatus so mounted that they can be operated in situ, and each part of the equipment can be opened for inspection and examination. After passing through this school of instruction the recruit is detailed for practice in traffic under the control of a qualified driver for a period of at least 72 hours, until he has acquired proficiency in the work, after which he returns to the school for final instruction. The training, however, does not finish at this point. Attached to each district of the metropolitan tramway system there are special officers who follow up trainees for a period of six months with the object of correcting any tendency to faulty driving or habits which would endanger passengers or other users of the road. The follow-up officers make progress reports to the

school instructor, and by this means a close check is kept upon the efficiency of the work.

Notwithstanding the use of suitable cars and well-trained men, accidents will happen, and to encourage the staff in safety work records are posted at the depots showing the total number of accidents allotted to each depot, and the accidents per 10,000 car miles operated. This information is conveyed in graph form, and by this means every member of the organisation knows exactly what is going on, and his interest in accident prevention is stimulated.

The Board's efforts towards accident prevention will be appreciated by the following comparison:- For the year ended 30th June, 1925, there were 8,292 tramway accidents recorded, while for the last financial year the total was 6,771. These figures include both minor and major accidents. For example, should a passenger fall in a car but receive no injury this occurrence would be reported and included in the foregoing total. Careful investigation has clearly shown that the majority of accidents are due to carelessness, and in nine cases out of ten the fault does not lie with the tram-men. In fact, the emergency conduct of tramway men has, on many occasions, evoked unstinted praise from onlookers.

Our accident records provide an interesting study. They show that ~~at~~ most accidents are at street intersections. For the 12 months ended 30th June, 1929, on the Cable system there were 1,151 collisions with motor vehicles for 8,151,392 car miles, or 1.41

accidents per 10,000 car miles. There were 1,104 accidents of this class for 15,640,465 car miles, or .705 accidents per 10,000 car miles on the electric system. It is interesting to note that twice as many accidents occur per 10,000 car miles with cable trams as with electric cars, and probably the psychology of this is to be found in the greater contempt for the lighter vehicle and the encouragement it gives to take risks.

A record kept of the persons knocked down by trams shows that this class of accident occurs principally in the City, and in most cases is due to pedestrians disregarding the traffic signals. 211 persons were knocked down by cable trams for the year ended 30th June, 1929, as compared with 100 on the electric systems. Here again the cable service results are less favourable than those recorded for the electric trams. This suggests that a more serious view will have to be taken by the traffic authorities of breaches of the rules governing jay walking and the crossing of intersections against traffic signals.

The next class of accident is that of boarding and alighting - accidents which chiefly occur through intending passengers attempting to board after the car has started or waiting until the last moment and then alighting when the car is moving off. To protect the last-moment passenger, the Board is providing motormen's mirrors, so that the drivers may before starting their cars look along the steps.

The movement of passengers on and off the car is often

impeded by persons blocking the gangways, even when there is seating accommodation available. Apart from the risks to others, this practice is most annoying. If such passengers would give those who wish to board or alight freedom of movement, the class of accidents referred to would be reduced. At peak periods, when some cars are crowded with passengers, and gangways are blocked, passengers would study both their own safety and convenience if they would wait for the following car. This would help to distribute the loading, and regulate the headway at the same time. With traffic congestion, it is impossible to maintain an even spacing of cars, and when delays occur the car or cars affected tend to get more heavily loaded. This means frequent stops, irritation, overcrowding and risk. In such circumstances, it is a wise precaution to let the first car pass, as other cars for the same destination will be following close behind, and the second or third frequently has seating accommodation available even at peak periods, whilst the cars in front are inconveniently crowded.

Another source of accident to tramway passengers is to be found in the danger of crossing from the kerb to the tram line, or vice versa. From the 1st January, 1929, to the 16th July, 1929, 81 persons intending to board cars, or having alighted from same, were knocked down by motor vehicles, and this suggests that there should be uniform regulations in respect to vehicles passing stationary trams. The traffic By-laws of some municipalities prohibit the passing of

stationary trams. Others do not, and this tends to confusion and risk.

I regret to have to say that some motorists are inclined to be selfish. They want not only the best part of the road but the whole of it, and the interests of other users are all too often disregarded. The Board, however, is endeavouring to help intending passengers to protect themselves, and for this purpose is providing route numbers which can be seen at a distance. These will be of assistance, especially in those streets through which cars are routed to many destinations. Intending passengers can wait on the kerb until their car approaches.

It would be a great convenience and add to the safety of tramway passengers if in Swanston Street, for example, arrangements could be made for suitable crossings between the safety zones and the footpaths from the middle of each zone as well as at the end nearest to the intersection. For this purpose, I suggest that two parallel white lines about six feet apart be drawn between the safety zone and the footpath, and it be a traffic regulation that no motor car waiting at the intersection for the traffic signal should stand across these lines. This would relieve the congestion on the safety zones, as passengers could wait on the footpath until the car which they desire to take is approaching, and then cross to the safety zone at a suitable time. The route numbers previously referred to will assist passengers to do this, and I am sure it

would make for greater safety than is the case at present.

City congestion is becoming more serious, and with it a growing risk of accident. For the year ended 30th June 1929, there was an increase of 96% on the motor vehicles in Victoria as compared with the number registered for the year ended 30th June 1925. According to the police records, 175,696 motor vehicles are now registered in Victoria, and a recent traffic count by the same authority showed that from 8 a.m. to 8 p.m. on one day, 49,915 vehicles passed over Princes and Queen's Bridges as compared with 38,804 on a day in November 1926, which gives some idea of the rate of growth that has taken place in the short space of three years.

This increase in motor traffic is intensifying the tramway accident risk. Especially is this so by reason of the lack of experience and training of motor drivers, and I feel persuaded that our accidents would be reduced if we had uniform and comprehensive traffic regulations with one authority in charge. We need a system of training for drivers of motor vehicles and tests to ensure a proper knowledge of the work. Medical examination should be compulsory, and no person who is physically unfit should be allowed to drive a motor vehicle. The Board has found medical examination of great benefit and the training and follow-up work has had a marked influence on the prevention of accidents.

The increased volume of traffic through the City streets creates many problems that will need to be solved if congestion and accidents

are to be reduced. For example, all forms of parking in the main City thoroughfares will have to be prohibited at peak periods, and in order to get the greatest volume of traffic through the City streets in safety and in the shortest possible time, well-defined traffic lanes will need to be provided. A system of traffic lanes would prevent what we see so often in our streets today - an irregular stream of cars held up by some slow-moving vehicle which occupies an inconvenient position on the road, forcing all traffic to swerve to the left. It is at such times that the danger of collision between tramcars and vehicles and between vehicles themselves is great. As compared with the cities of the Old World, we have fine, wide avenues which are capable of supporting a greater volume of traffic, provided the latter is systematically regulated and controlled, and with such control, the danger to tram passengers, pedestrians and others would be decreased in a marked way.

Permit me to end this talk with a few "don'ts" for motorists, pedestrians, and tram passengers.

TO MOTORISTS:

Don't stop on the tram track.

When overtaking a tram, don't swerve on to the track immediately in front of a tramcar.

Don't cross the road in the centre of a City block.
Make the turn at an intersection.

Before crossing a tram track at a street intersection, make sure the road is clear.

Keep a look-out for passengers alighting from trams.

TO PEDESTRIANS:

Look both ways before crossing the road.

Cross the streets at regulation crossing places.

Obey the traffic signals.

When crossing a road behind a tram, make sure that there is not a tram approaching from the opposite direction.

TO TRAM PASSENGERS:

Wait on the footpath or safety zone until your car approaches.

Wait until the car stops before boarding or alighting.

Keep the gangways clear.

Don't place suitcases or packages where passengers can trip and fall over them.

THANK YOU! GOODNIGHT!