

R.A.C.V. *Noted again*
conversion

9
NTAL
a/r/s

20th July, 1934

The Secretary,
Royal Automobile Club of Victoria, Ltd.,
94 Queen Street,
MELBOURNE, C.I.

Dear Sir,

Conversion of Brunswick Cable Tramway
to Electric Traction.

With reference to the deputation from the Council of your Club which waited upon the Board on 12th inst., I am directed to inform you that after considering the report of the Board's Technical Officers on the representations made, the Board is of the opinion that the representatives of the Council of your Club failed to submit any effective arguments which should induce it to alter its decision on the above matter.

For your information, I enclose a copy of the report above referred to.

Yours faithfully,

Secy

20/7/34

Secretary.

Encl.

every person using the road.

R.A.C.V. - Protest against City St. Council

(DEPARTMENTAL)

Melbourne and Metropolitan Tramways Board
(Manager)MEMO TO MANAGER

At last Board Meeting-

CONVERSION BRUNSWICK CABLE TRAMWAY.

Separately
Letter, Town Clerk Coburg, 17th July, was read and noted.
Copies are to be forwarded to the members *Press*.

The draft of the joint report of yourself and the Chief Engineer in reply to the representations of the deputation from the R.A.C.V. was read and approved.

The Chairman was authorised to give the fullest publicity to the report.

Further resolved that the R.A.C.V. be informed that after considering the report of the Board's technical officers, the Board is of opinion that the Council of the Club has failed to submit any effective arguments which should induce the Board to alter its decision.

Please draft reply.

R.A.S.
Secretary,
20/7/34.

Chairman issued

Instructions to the Sec L. Dept

letter.

DM
25/7/34

every person using the road.

Please quote 9/5/7.

19th July,

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(CHIEF ENGINEER.
(MANAGER.

CHAIRMAN

Adverting to the representations made to the Board by the President and members of the Automobile Club of Victoria on the 12th July in respect to the electrification of the Elizabeth Street cable line:

It was very pleasing to hear the President of the Automobile Club pay such a tribute to the Board's electric tramway system, and state that he has travelled in many parts of the world, and, if the Melbourne system was not the best, then at least it was equal to the best electric system in any part of the world.

The Deputation's case was -

- (1) that they did not pose as experts, and did not pretend to be experts in connection with this matter. They were, however, vitally interested in safety on the road, and claimed that the conversion of Elizabeth Street would decrease that safety and make the street one of the most dangerous in the City. Safety on the road was the paramount point of the Deputation.
- (2) that checks taken by the Club on the 22nd and 23rd June showed that the total traffic observed going north was 1,844 vehicles and 180 trams, while, going south, there were 1,709 vehicles and 174 trams. The percentage of trams to other vehicles was 8.7 occupying 25% of the roadway in Elizabeth Street. If safety zones be included, 33% of the roadway was occupied by trams, leaving in the two cases but 75% and 70% for the rest of the traffic.
- (3) that there are now 187,000 vehicles in Victoria, and, in the next five years, it is reasonable to assume that the number will be 300,000 to 350,000. That being so, it follows that the congestion in that particular street is going to be a potential source of danger to every person using the road.

Memo. to Chairman

19th July, 1934.

1. DANGER.

In London for the last year, comparison between the accident records of tramways and trolley buses are all in favour of trams, 21 fatalities with 2,518 tram cars and 5 with 61 trolley buses being recorded. This is readily understood. Whilst it is an advantage for passengers to be picked up and set down at the kerb, the weaving in and out of motor vehicles increases the risk to other users of the road as well as to the pedestrian.

It is apparently overlooked by the Automobile Club that, on a heavy traffic line like Brunswick, at least 25% more trolley buses than cable trams would be required at peaks. This would increase the congestion in Elizabeth Street. Trolley buses progress by line movement as trams do. They cannot pass one another. There would be banking up at intersections, and this, together with their ability to weave in and out of traffic, would add to the risks of motor vehicles and pedestrians.

The congestion would be further increased by the fact that trolley buses could not be effectively turned at the terminal points either at Elizabeth Street or the Brunswick terminus. They would have to be routed round a City block, making right-hand turns at Flinders Street, Queen Street, Collins Street, and a left-hand turn at Elizabeth Street. At each of these points, the congestion would be greater and the risk of accidents increased. A similar circuitous route would have to be provided at St. Francis Church where short-shunting obtains on special occasions, via Lonsdale Street, Queen Street and Latrobe Street back to Elizabeth Street. At the Brunswick end, the route would be via Davies and Cameron Streets and Moreland Road.

Danger arises chiefly from an absence of proper regulation of traffic. Many motorists fail to observe the obligations imposed by Section 10, Sub-section (1) ~~xxxxxx~~ of the Motor Car Act which is as follows:-

Memo. to Chairman.

19th July, 1934.

- (1) Every person who drives a motor car on a public highway recklessly or negligently or at a speed or in a manner which is dangerous to the public having regard to all the circumstances of the case, including the nature condition and use of the highway and to the amount of traffic which actually is at the time or which might reasonably be expected to be on the highway shall be guilty of an offence against this Act.

The arguments of the Automobile Club suggest a more rigorous enforcement of this section is required. There is no orderly progression of traffic through the City as in the case of trams. It is the uncontrolled movement of motor vehicles travelling at various speeds, turning into and out of main avenues without precaution, taking up positions in the road which effectively block other users and weaving in and out, which makes it impossible for other drivers and pedestrians to know exactly where safety lies.

With the increasing use of motor vehicles, the practical method of improving the movement of vehicles with safety through the City will be by routing, one way traffic and line progression in definite traffic lanes in the congested areas. If no definite lanes or marks are provided on the road, the tendency of the motor car is to wander over the entire surface and block the free movement of others. This has been the experience in Great Britain, where, on some country roads, lanes are now being marked out to keep the motorists within the bounds of ordinance. A system of lanes does not mean that vehicles should not pass one another. They would, however, prevent the waste of road space which now obtains. Straddling the lanes and blocking the road would be stopped.

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Tramways assist in marking a well-defined traffic lane through the City, whilst parked tramways, where the width of the road will permit, Victoria Street to the Sarah Sands, would provide continuous refuge for pedestrians crossing the road and for tram passengers waiting to board trams or alight therefrom.

The danger to tramway passengers is not as great as is made to appear. In the City proper, the trams stop at the intersections. These stops correspond with the cross flow of traffic, and tramway passengers, as well as pedestrians, make the crossing at the appropriate time, with no interference to the cross traffic.

In places like Brunswick, a municipal By-Law which prohibits motorists passing stationary trams, will effectively care for the safety of passengers and the public generally in this section. This is a busy street, and is one in which, under all conditions of traffic, an orderly movement at the slower rate of speed will make for greater safety, and this will increase when the municipalities definitely decide to adopt "no parking" regulations. It is the parked vehicle which prevents the orderly movement of traffic through the street by compelling vehicles to swerve, and it is principally in swerving that accidents occur.

Further, to increase safety, it will be necessary to have major and minor streets, with the right of way given to traffic in the major street. Traffic approaching main streets must slow down to a walking pace to make the turn or to cross. It is in these directions that safety will be increased.

2. SPACE OCCUPIED BY TRAMS AND CARS.

With respect to the checks taken by the Automobile Club: These are based on vehicles, and not on the number of persons carried. On the days of the checks taken by the Automobile Club, and on the 22nd and 23rd June, the Board carried 37,074 and 28,763 passengers respectively, whilst the total number of passengers carried on the Brunswick line for the last year was 9,503,666. At peak periods, the time when the road surface is used to its full capacity both by trams

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and motor vehicles, the advantage is in favour of the tram passenger.

3. GROWTH OF TRAFFIC.

The Automobile Club, in looking to the future, apparently forgets the right of hundreds of thousands of tramway passengers who are inarticulate. The Board speaks for these passengers. They have a prior right which has prevailed for over forty years, and should not be made subservient to the motor interests.

Drastic "no parking" regulations will have to be applied to City streets to increase the safety, and, at the same time, to provide for the increasing use of motor vehicles referred to by the Deputation. The main City streets are, at present, being used as garages. In Bourke Street, Elizabeth Street, Flinders Street and Collins Street, the width of the roadway is decreased by some 20 to 25% by the parking which now obtains on each side, and at peak periods, a single line of vehicles only can get through in addition to the trams. The effect of this or even of a single vehicle standing at the kerb in a main traffic stream can be seen on any evening in the peak periods. The approaching traffic may be in double column, and then is forced into single line movement, with cars cutting in to the danger of themselves, pedestrians, and other users of the road generally.

In the matter of safety, it is not out of place to refer to the Board's effective system of medical examination of traffic men to ensure physical fitness under all conditions of service and the training and follow up practice. In the case of motorists, there is no medical examination, nor system of follow-up and careless driving is quite common.

TRANS OR TROLLEY BUSES.

Many factors have to be taken into account in deciding the system of transportation to be adopted. It cannot be said that any one system is the superior instrument under all conditions. The Board will find it convenient to use, according to suitability, trams, buses and trolley buses, but, in deciding to convert the Elizabeth Street cable trams to electric traction, the decision was influenced by the

fact that -

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19th July, 1934.

On economic grounds, the conversion of the Brunswick route to electric traction offers advantage over the trolley bus. The density of traffic and frequency of service will not only support the cost of track construction, maintenance, interest and sinking fund charges, thereon, but will leave a surplus in favour of trams as against trolley buses.

The conversion of Elizabeth Street will further improve the existing facilities to the northern districts and bring them into full economic usefulness.

Their flexibility will be materially increased to the advantage of a large population in Coburg and Essendon. At the present time, these northern lines are in the highest state of repair and efficiency, and it would be economic waste to scrap them for the purpose of improving the commercial status of an isolated trolley bus system in Elizabeth Street.

The closing of the Richmond and the Northcote racecourses, and the transfer of the meetings from these courses to the Ascot course has increased the demand for facilities on these northern lines. This also applies to Show and Race days at Flemington and Moonee Valley. The electrification of Elizabeth Street will make it possible to render greater service to the public in this connection.

At least twenty-five per cent. more buses would be required for the peak load movement of passengers than would be necessary with the use of trams, thus increasing congestion in the centre of the City and the operating costs.

On the occasion of football matches at the Carlton Grounds, 20 additional trams are put into service over and above the number used for the daily peaks. These are, at present, surplus on the cable lines. Under electrification, they would be drawn from other sections of the service, the reserves and rolling stock being pooled. With buses, an additional 25 buses would have to be acquired to meet the demands of this traffic.

With the trolley bus, there would be a tax of £3. 7. 6 per

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seat; for the fleet of 50 buses, £10,462, which would be further increased if the spares for football specials are included.

Substantially built roads are required for buses. In this connection, our municipalities have not, apparently, contemplated 10 to 12 ton vehicles. Vehicles of this description operating 18 hours a day with a short headway soon damage the roadway, and substantial road repair would have to be undertaken by the municipalities concerned. If these costs are taken into account, the case for trolley buses would be worse than it is.

Section 11 of the Motor Car Act 1928 gives the municipalities concerned the power to prohibit the use of motor vehicles exceeding 5 tons weight loaded, or to require the operator to obtain a special permit to operate. The Board, therefore, might find itself in the position of ordering buses which would weigh 12 tons, or thereabouts, fully loaded, only to find the Councils putting into effect the powers conferred on them by the above section, unless the Board contributed to the maintenance and upkeep of the road. It would be impracticable to carry dense traffic of this kind with buses having a maximum weight of 5 tons all in, under the Motor Car Act, and eight tons under the Motor Omnibus Regulations.

Trolley buses could not be turned at the terminal points. The use of turntables is impracticable under the traffic conditions which obtain on the Brunswick line. It would, therefore, be necessary to extend the route via Flinders Street, Queen Street and Collins Street at the City terminus and Davies Street and thence to Moreland Road and back into Sydney Road at the Moreland Road suburban terminus, and for short-shunting at St. Francis Church, when the City is blocked on account of processions, etc., the route would have to be via Lonsdale Street, Queen Street and Latrobe Street.

With electric trams in Elizabeth Street, the present system of fly-shunting would be discontinued. The "up" electric car, that is, the one just arriving at the terminus would pick up its passengers on the "up" line, and the safety zone which now is the fairway would

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occupy a position corresponding to the "down" line similar to the arrangements at William Street. This would remove the congestion to vehicles now turning from Flinders Street into Elizabeth Street.

With trolley buses, four overhead wires would be required instead of two for the tramways. These, at points where the wires cross or intersect others, would have to be specially insulated, and the over-head is, therefore, not only heavier and more expensive, but the speed of vehicles when there are overhead lines and crossings, has to be reduced to prevent de-wirements and delays.

Whilst the vehicles can pick up and set down at the kerb, and weave in and out of traffic by deviating some 14 or 15 feet from the overhead wire, line progression is necessary as it is with trams. Trolley buses cannot pass one another. Any delay to traffic would bank them up just as trams are banked up.

With double deck vehicles, the loading would be slower than with the trams.

In considering the question of trams versus trolley buses for the converted Brunswick route, the conversion will provide employment for a large number of people. The same applies to the tram car equipment. If trolley buses are substituted, the chasses and many of the parts would have to be imported. There would not be the same relief work available.

The Board's tramways have a future. Apart altogether from the amount of public funds invested in the business, the property is in a high state of efficiency and repair, and the traffic is sufficient to carry the investment and provide for its amortisation. On the subject of tramways and other instruments of transport, we append the considered opinions of experts in other Cities.

CHIEF ENGINEER.

ADM/DT.

MANAGER.

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OPINIONS OF EXPERTS IN OTHER CITIES
ON THE SUBJECT OF TRAMWAYS AND OTHER INSTRUMENTS OF TRANSPORT.

G. R. STEER, ESQ. - GENERAL MANAGER, BRISBANE TRAMWAYS.

Among other conclusions arrived at after his trip abroad in 1933, Mr. Steer is of the opinion that -

"for heavy traffic where the roads are wide enough for double tracks the trams are safer, more effective, cheaper and more profitable than either trolley or motor buses."

SIR WILLIAM GOODMAN - CHIEF ENGINEER & GENERAL MANAGER, ADELAIDE TMS.

In his address as retiring chairman of the Australian and New Zealand Tramways Conference, Sir William stated:-

"Notwithstanding the greater activity of advocates of transportation by means of buses, and the undoubted inroads upon revenue, the street rail transport continues to maintain a pre-eminent position. The electric tram-car remains the backbone of mass transportation. A black picture as to the future of electric tramways was painted by interested persons when it was found that many cities in America, England or elsewhere had abandoned street tramways for buses, or some other method of locomotion. No mention was made of the fact that in the majority of cases the systems transformed or abandoned were located in towns where the population was not large enough to warrant the heavy outlay of capital necessary to build or maintain a rail service in the face of competition. If, however, we consider cities with a population of 100,000 or more, with heavy load peak loads, we notice that in such centres the bulk of the passenger traffic is still carried by street cars."

from Transport Board
MR. TYLDESLEY JONES, K.C., APPEARING FOR THE L.P.T.B. BEFORE A
SELECT COMMITTEE OF THE HOUSE OF COMMONS.

Among other things, Mr. Jones said -

"From the point of view of other road users, the overhead tramway system causes less obstruction and interference with convenience and comfort."

The length of tramways worked by the Board was 326 miles, the longest tramway system in the world. The routes over which they worked trackless trolleys were eighteen miles. In the last year before these undertakings were vested in the Board, the tramways carried 1,039,000 passengers. The cars ran 105,000,000 car miles, and the gross receipts exceeded £6,170,000.

MR. FRANK PICK, VICE-CHAIRMAN OF THE TRANSPORT BOARD.

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Mr. Frank Pick, Vice-Chairman of the Transport Board, giving evidence in support of the Bill, said that -

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"two tramcars were roughly equal to three omnibuses in passenger-carrying capacity, and it was obviously desirable that at this stage tramways should be retained. The only alternative would be to construct underground railways to relieve the streets of the tramways, and then to deal with the remaining surface traffic by omnibuses. It was cheaper to run tramcars than omnibuses."

In a paper given before the Municipal Tramways and Transport Association, in June 1933, Mr. Tattam states -

"The tramcar is still paramount in the function of shifting large numbers of passengers in the shortest possible time, especially on standard gauge tracks where the fullest advantage of available road space can be taken. On routes of high traffic density, where the permanent way has been well and truly laid on good road foundations, and consequently maintenance costs are low, I foresee the continuation of the tramcar for some time to come.

What are the disadvantages of the modern tramcar? Let us admit them right away -

2.

Inflexibility in so far as it is railbound. This disadvantage is, however, a matter of degree, dependent upon the width of the streets traversed by it, the volume and nature of other vehicles passing along them, the number of converging side streets, and the consequent number of traffic control points, operated by automatic signals or policemen, as the case may be, and, of course, the number of stops made which often, in the case of municipally-owned tramways, is far too many. I think it could be proved that in some streets the modern tramcar moves as rapidly as any other vehicle, and, therefore, causes no hindrance to other traffic. x x x x x x x x x x

As I have already stated, I foresee tramcars in operation in a number of our large towns and cities for some time to come, but, of course, on tail-end routes of low traffic density and low earning power, and on those laid with single tracks and passing loops, tramways will have to be abandoned as soon as the time for permanent way construction arrives, if not before.

Also on many other routes where tracks are due for renewals, it may be found uneconomic to incur the heavy capital expenditure entailed, and in these cases also, abandonment and substitution will need to be undertaken. The question then arises; which new form of vehicle shall we adopt? Again I say there is no answer to the question which can be generally applied. It is a matter which must be decided by individual operators.

The tramway is the most economical mode for the transportation of heavy traffic.

HERR ERNEST REUTER, CHAIRMAN OF THE BERLIN TRANSPORTATION COMPANY:-

"I am convinced that the electric car will remain the chief vehicle in the movement of mass transportation We have no intention of substituting buses for electric cars in our congested centres. We believe that the electric car does this work best."

HERR E. GROWTHWELL, CHAIRMAN OF THE GERMAN TRANSPORT COMMISSION, AFTER AN OFFICIAL VISIT OF INSPECTION AND INVESTIGATION TO LONDON AND NEW YORK:-

"Our Commission is unanimous in its report that neither in London nor New York have the buses demonstrated their ability to handle what we call mass transportation."

MR. A. C. BAKER, GENERAL MANAGER OF THE BIRMINGHAM CORPORATION TRANSPORT DEPARTMENT:-

"The modern tramcar is equal to any other type of road transport for comfort and speed, and where there is a reasonable density of traffic, they will remain for many years to come."

THE PRESIDENT OF THE CANADIAN TRANSIT ASSOCIATION (MR. K. B. THORNTON):-

"The electric tramcar remains the backbone of mass transportation."

MR. LACHLAN MACKINNON, GENERAL MANAGER OF THE GLASGOW CORPORATION TRANSPORT DEPARTMENT:-

"For all-round economy and efficiency for public service, the electric tramway system will hold its own for many years to come."

MR. H. STUART PILCHER, GENERAL MANAGER OF THE MANCHESTER CORPORATION TRANSPORT DEPARTMENT:-

MS
"The trams are blamed for obstruction and yet they transport more people per yard of street space occupied than any other vehicle. As the number of motor cars increases, the tendency is to cause greater congestion. The effect of this congestion is to push off the street the public service vehicle to provide for private motor cars. At a census taken in December last, we found that the average load of our buses was 32 passengers, and the average of private cars 1.57 passengers. It was taking 20 private cars to do the work of one bus."

M. BOCCUEYRISSE, GENERAL MANAGER OF THE PARIS PUBLIC TRANSPORT COMPANY,

"The tramway is the most economical means for the transportation of heavy traffic."

OVERSEAS TRAMWAYS.
L O N D O N.

Within the last five years, on the L.C.C. system (now part of the undertaking of the London Passenger Transport Board) alone, £1,500,000 has been spent on new rolling stock and power plant and the enlargement of the Kingsway Tunnel so as to make it usable by the large double-deck trams.

Recently the Transport Board decided to ask Parliament for power to convert the tramways in the outer suburban areas, such as Uxbridge in the north-west, Canons Park in the north, Enfield in the north-east, and Sutton in the south, to trolley buses. More than 70 local authorities and other persons and companies have lodged notices opposing the Bill.

B E L F A S T.

In January last, the Belfast Corporation resolved to equip the entire system with new trams.

G L A S G O W.

During the last four years, Glasgow has carried through an extensive programme of tram remodelling, and in addition has placed in service 68 trams of a new type. Extensions have been made since the War to include the housing schemes.

L I V E R P O O L.

A new type of tram has been put into traffic, and a new depot and workshop has been erected at a cost of £300,000.

E D I N B U R G H.

Since the War, the entire system has been converted from cable to electricity, while since the conversion, various extensions have been made to the west, south-west and south. An improved type of tram has likewise been placed in service.

P A R I S.

While some routes in the centre of Paris were abandoned, it was found necessary last year (1933) to rebuild 21 miles of track. Further renewals are being made this year.

B R U S S E L S.

Last year (1933) 100 new trams were built, and a three-year programme of extensions, totalling 40 miles, was started.

G. R. STEER, ESQ. - GENERAL MANAGER, BRISBANE TRAMWAYS.

Among other conclusions arrived at after his trip abroad in 1933, Mr. Steer is of the opinion that -

"for heavy traffic where the roads are wide enough for double tracks the trams are safer, more effective, cheaper and more profitable than either trolley or motor buses."

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In his address as retiring chairman of the Australian and New Zealand Tramways Conference, Sir William stated:-

"Notwithstanding the greater activity of advocates of transportation by means of buses, and the undoubted inroads upon revenue, the street rail transport continues to maintain a pre-eminent position. The electric tramcar remains the backbone of mass transportation. A black picture as to the future of electric tramways, was painted by interested persons when it was found that many cities in America, England or elsewhere had abandoned street tramways for buses, or some other method of locomotion. No mention was made of the fact that in the majority of cases the systems transformed or abandoned were located in towns where the population was not large enough to warrant the heavy outlay of capital necessary to build or maintain a rail service in the face of competition. If, however, we consider cities with a population of 100,000 or more, with heavy peak loads, we notice that in such centres the bulk of the passenger traffic is still carried by street cars."

MR. TYLDESLEY JONES, K.C., APPEARING FOR L.P.T.B. BEFORE A SELECT COMMITTEE OF THE HOUSE OF COMMONS.

Among other things, Mr. Jones said -

"From the point of view of other road users, the overhead tramway system causes less obstruction and interference with convenience and comfort."

"The length of tramways worked by the Board was 326 miles, the longest tramway system in the world. The routes over which they worked trackless trolleys were eighteen miles. In the last year before these undertakings were vested in the Board, the tramways carried 1,039,000,000 passengers. The cars ran 105,000,000 car miles, and the gross receipts exceeded £6,170,000."

"The trackless vehicles ran 500,000 more miles and carried nearly 4,000,000 more passengers than the tramways which they had replaced. It was an absolutely impossible proposition to think of abandoning all the tramways, but there were many routes where tramways were being worked on which trackless trolleys could be conveniently substituted, and those were the routes for which authority was asked....."

MR. FRANK PICK, VICE-CHAIRMAN OF THE TRANSPORT BOARD.

Mr. Frank Pick, Vice-Chairman of the Transport Board, giving evidence in support of the Bill, said that two tramcars were roughly equal to three omnibuses in passenger-carrying capacity, and it was obviously desirable that at this stage tramways should be retained. The only alternative would be to construct underground railways to relieve the streets of the tramways, and then to deal with the remaining surface traffic by omnibuses. It was cheaper to run tramcars than omnibuses.

In a paper given before the Municipal Tramways and Transport Association, in June 1933, Mr. Tattam states -

"The tramcar is still paramount in the function of shifting large numbers of passengers in the shortest possible time, especially on standard gauge tracks where the fullest advantage of available road space can be taken. On routes of high traffic density, where the permanent way has been well and truly laid on good road foundations, and consequently maintenance costs are low, I foresee the continuation of the tramcar for some time to come.

What are the disadvantages of the modern tramcar? Let us admit them right away:-

1. Inflexibility is so far as it is railbound. This disadvantage is, however, a matter of degree, dependent upon the width of the streets traversed by it, the volume and nature of other vehicles passing along them, the number of converging side streets, and the consequent number of traffic control points, operated by automatic signals or policemen as the case may be, and, of course, the number of stops made which often, in the case of municipally-owned tramways, is far too many. I think it could be proved that in some streets the modern tramcar moves as rapidly as any other vehicle, and, therefore, causes no hindrance to other traffic. For buses, or some other method of locomotion. In question was made of the fact that in the majority of cases the systems tramways or abandoned were located in towns where the population was not large.....the heavy outlay of capital necessary to build or maintain a rail service is the cause of competition. If, however, we compare cities with a population of 100,000 or more, we find that tramways are in operation in a number of our large towns and cities for some time to come, but of course, on tail-end routes of low traffic density and low earning power, and on those laid with single tracks and passing loops, tramways will have to be abandoned as soon as the time for permanent way construction arrives, if not before.

Also on many other routes where tracks are due for renewals, it may be found uneconomic to incur the heavy capital expenditure entailed, and in these cases also, abandonment and substitution will need to be undertaken. The question then arises: which new form of vehicle shall we adopt? Again I say there is no answer to the question which can be generally applied. It is a matter which must be decided by individual operators.

The tramways carried 1,075,000,000 passengers. The cars ran 105,000,000 car miles, and the gross receipts exceeded 25,170,000.

The trackless vehicles ran 500,000 car miles and carried nearly 1,000,000 more passengers than the tramways which they had replaced. It was an absolutely impossible proposition to think of abandoning all the tramways, but there were many routes where tramways were being worked on which trackless trolleys could be conveniently substituted, and these were the routes for which authority was asked....."

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The trackless vehicles ran 500,000 more miles and carried nearly 4,000,000 more passengers than the tramways which they had replaced. It was an absolutely impossible proposition to think of abandoning all the tramways, but there were many routes where tramways were being worked on which trackless trolleys could be conveniently substituted, and these were the routes for which authority was asked....."

MR. FRANK PICK, VICE-CHAIRMAN OF THE TRANSPORT BOARD.

Mr. Frank Pick, Vice-Chairman of the Transport Board, giving evidence in support of the Bill, said that two tramcars were roughly equal to three omnibuses in passenger-carrying capacity, and it was obviously desirable that at this stage tramways should be retained. The only alternative would be to construct underground railways to relieve the streets of the tramways, and then to deal with the remaining surface traffic by omnibuses. It was cheaper to run tramcars than omnibuses.

In a paper given before the Municipal Tramways and

Transport Association, in June, 1933, Mr. Tatam states -

"The tramcar is still paramount in the function of shifting large numbers of passengers in the shortest possible time, especially on standard gauge tracks where the fullest advantage of available road space can be taken. On routes of high traffic density, where the permanent way has been well and truly laid on good road foundations, and consequently maintenance costs are low, I foresee the continuation of the tramcar for some time to come.

What are the disadvantages of the modern tramcar? Let us admit them right away:-

1. Inflexibility is so far as it is railbound. This disadvantage is, however, a matter of degree, dependent upon the width of the streets traversed by it, the volume and nature of other vehicles passing along them, the number of converging side streets, and the consequent number of traffic control points, operated by automatic signals or policemen as the case may be, and, of course, the number of stops made which often, in the case of municipally-owned tramways, is far too many. I think it could be proved that in some streets the modern tramcar moves as rapidly as any other vehicle, and, therefore, causes no hindrance to other traffic.

As I have already stated, I foresee tramcars in operation in a number of our large towns and cities for some time to come, but of course, on fall-and routes of low traffic density and low earning power, and on those laid with single tracks and passing loops, tramways will have to be abandoned as soon as the time for permanent way construction arrives, it not before.

Also on many other routes where tracks are due for renewal, it may be found uneconomical to incur the heavy capital expenditure entailed, and in these cases also, abandonment and substitution will need to be undertaken. The question then arises: which new form of vehicle shall we adopt? Again I say there is no answer to the question which can be generally applied. It is a matter which must be decided by individual operators."

Handwritten note:
Dunlop
March 1933

A DEPUTATION FROM THE ROYAL AUTOMOBILE CLUB OF VICTORIA, CONSISTING OF THE PRESIDENT (MR. GEORGE RAMSAY), THE VICE-PRESIDENT (MR. J. A. PATERSON), A MEMBER OF THE GENERAL COUNCIL (MR. E. H. LEETE), AND THE SECRETARY (MR. C. J. P. HODGES), WAITED UPON THE MELBOURNE AND METROPOLITAN TRAMWAYS BOARD ON THURSDAY, 12th JULY, 1934.

THE CHAIRMAN - I understand that you desire to place before us certain objections to the Board's proposal to convert the Elizabeth Street cable line to electric traction, and to urge upon the Board the substitution of trolley buses instead. We shall be pleased to hear your views on the matter.

THE PRESIDENT - First of all, Sir, we desire on behalf of the Royal Automobile Club of Victoria to thank you for letting us come before you this afternoon in connection with the proposal to convert the Elizabeth Street line to electric traction. I want to repeat what we have said in our letter, that we do not come down here in any spirit of being experts in connection with this matter. We claim that you and your officers are the experts, and we come down solely from the point of view of safety. We represent directly and indirectly 350,000 people who are interested in the matter -- practically one-third of the population of the Metropolitan area. We want to congratulate you on the efficiency of your electric tramway system. I have travelled in many parts of the world, and if the Melbourne system is not the best, then at least it is equal to the best electric system in any part of the world. As I have said, we do not come here posing as experts; we have never pretended to be experts in connection with this matter. We are, however, vitally interested in safety on the road, and from our point of view the conversion of Elizabeth Street is going to decrease that safety, is going to make that street one of the most dangerous in the City. During the course of our investigations we took a census of the traffic at the Elizabeth and Bourke Streets intersection on the 22nd and 23rd of last month, and we found that from 2 to 3 p.m. on the 22nd that 620 vehicles passed north and 53 trams. Between 5 and

6 p.m. on the same day there were 731 vehicles and 80 trams going north. Between 9 and 10 a.m. there were 520 vehicles going north and 48 trams. The hour between 5 and 6 p.m. is probably the peak hour of traffic, and during that hour, as you will see from the figures that I have quoted, 91% of the traffic going north is composed of vehicles other than trams. The total traffic observed going north was 1844 vehicles and 180 trams, while going south there were 1709 vehicles and 174 trams. The percentage of trams to other vehicles was about 8.7, yet that 8.7% of traffic occupied 25% of the roadway in Elizabeth Street. If safety zones be included 33% of the roadway was occupied by trams, leaving in the two cases but 75% and 70% for the rest of the traffic. The actual space for traffic going along Elizabeth Street would be nineteen feet leaving room for a double row of vehicular traffic. The tendency in all parts of the world is not to decrease but to increase the roadway. We realise that you have a mandate to carry passengers by trams, and although we are certain that you have discharged your duty admirably in the past we claim that you have a public duty to perform and that is, to make the roadways as safe as possible. The contention of my Council is that Elizabeth Street is too narrow for safety zones, and that by putting safety zones in that arterial roadway you are going to increase the danger to a greater extent than in Wellington Parade where the roadway is very much wider. I do not propose to say much on the best form of traction - either trolley buses or other vehicles such as the heavy oil engine or the petrol bus. Our objection is that with fixed rail traffic in Elizabeth Street, a comparatively small roadway, leaves insufficient space for the needs of the future. If electric trams are put in there, then they are in for the next twenty years at least. Motor traffic is increasing very rapidly in Melbourne; it is increasing by thousands of cars a year. There are now 187,000 in Victoria and within the next five years it is reasonable to assume that the number will be 300,000 or 350,000. That being so, it follows that within the next few years the congestion in that particular street is going to be a

potential source of danger to every person using the road. We quite realise your objection to other forms of traction, in this particular instance. We realise that a new form of traction in Elizabeth Street would not link up with your electric system in the northern suburbs. We appreciate that one great difficulty is the question of turning trolley buses at the foot of Elizabeth Street. Nevertheless we do say that with some other form of traction you will create safety on the road. Safety on the road is the paramount point of our deputation here today. Personally, I have investigated the trolley buses running in Sydney. As you know, passengers do not need to go into the streets to board them as they do here with trams. They are mobile, and they draw up to the kerb in order to set down and pick up passengers. The same thing applies to either heavy oil or petrol buses. Both are mobile and leave the whole of the roadway free for the big preponderance of traffic in the street. Again, we have been informed that the Brunswick shopkeepers in Sydney Road are proposing to call a public meeting in order to protest against the proposal to put electric traction in that thoroughfare. They are going to do so because they think that the danger will become very acute in that street. We admit also that you and your experts have many difficulties to face, and that you have not come to the conclusion that electric traction is best without very grave consideration and taking all aspects of the case into consideration. But we do urge upon you the necessity of looking at the matter not only from the point of view of transport of passengers but also from the point of view of safety. As I have said, 91 per cent of the traffic in Elizabeth Street is other than trams. That is going to be accentuated in the years to come, perhaps to the extent of 95 or 96 per cent. The transport of passengers should not be your sole concern. When danger to the safety of life and limb exists, we urge you to take that matter into consideration very fully. That danger will increase with electric traction. Beyond the Haymarket, an electric track would be quite all right. In the name of safety and on behalf of the 350,000 people who

drive motors we urge you to eliminate electric trams from Elizabeth Street and Sydney Road.

THE CHAIRMAN - There are a few questions which I would like to put if you do not mind answering them.

THE PRESIDENT - That will be quite all right, sir.

THE CHAIRMAN - In considering this problem, have you had regard to the provisions of section 11 of the Motor Car Act 1928?

THE PRESIDENT - No, sir.

THE CHAIRMAN - Under the provisions of that Act any Council - and three Councils are concerned in this conversion - may prohibit the use of any vehicle the weight of which and the load carried exceeds 5 tons.

THE PRESIDENT - No, we have not considered that.

THE CHAIRMAN - Have you considered that under the Motor Omnibus Act the weight limit, laden, is 8 tons? Have you considered what position the Board would be in if, after putting into service some form of bus exceeding the weight referred to, the Council exercised their powers of prohibition?

THE PRESIDENT - No, sir.

THE CHAIRMAN - Has your Council in considering and investigating this matter had in mind that under the Motor Omnibus Act each bus is subject to a tax of £3:7:6 per seat, and the amount of the burden^{this} would be on the finances of the Tramways Board?

THE PRESIDENT - No, sir.

THE CHAIRMAN - Yet all these are questions which the Board has to consider. We have, you see, to take a somewhat wider view than the Council of the Automobile Club.

Another important point; have you considered when making your traffic census the difference between the various classes of traffic?

THE PRESIDENT - You mean, I suppose, the total number of passengers carried? No, sir.

THE CHAIRMAN - Yet I am sure you will agree that that is a very important feature of any traffic census?

THE PRESIDENT - Yes, sir.

THE CHAIRMAN - Have you considered the question of the amount of road space occupied by the tramway passenger as compared with the passenger on a motor car or lorry? Have you taken into consideration the question of the economy of use of road space?

THE PRESIDENT - No, sir, but we realise that one of your arguments would be that trams carry such a number of passengers that the number does not matter at all.

THE CHAIRMAN - In our view, the number of vehicles is not so important as the use of road space per vehicle. Do you realise that the motor car passenger occupies 43 square feet of road space as compared with 6 or 7 square feet occupied by the tram passenger? Then, of course, there is the relation of the service in Elizabeth Street to those other services given by the Board in West Brunswick and Essendon. For years the people of these places have been protesting against the inconvenience of their terminus in William Street. They claim that we should bring them nearer the centre of the City. The Essendon line passes the Haymarket, just a few yards from the Elizabeth Street line, yet we cannot bring the Essendon people just now nearer the centre of the City than William Street. Elizabeth Street is the most convenient terminus for Essendon and West Brunswick passengers. We have only one direct north and south route, Swanston Street, and you must see that it is very desirable that the greatest unity should exist in the system to avoid a change of vehicles. Has that matter been a subject of your consideration? I do not ask these questions to embarrass you but in order that we may understand how far you have investigated the subject.

THE PRESIDENT - That is quite all right, sir.

MR. COLIN TEMPLETON - As I understand it, you are just here from the humanitarian point of view.

THE PRESIDENT - From the point of view of safety.

MR. TEMPLETON - You realise, I suppose, from that point of view, that electric trams are controlled more effectively than cable trams?

THE PRESIDENT - We are not so much concerned about the actual danger with electric trams - I must say that you have very few accidents with electric trams and I think that you are entitled to be congratulated on that fact - as with the fact that the trams are going to take up 25% of the road space for only about 9% of the traffic, and that in the future the percentage of traffic other than trams is going to be increased.

THE CHAIRMAN - Have you considered the fact that we have £8,500,000 invested in the Tramway system?

THE PRESIDENT - Yes, sir, and we recognise that constitutes a great difficulty.

THE CHAIRMAN - And that tramways must remain for many years to come? That is the view taken by responsible transport experts in all parts of the world. On economic grounds alone it is impossible to scrap the tramway system, for any new system would not only have to carry the capital burden of its installation but the unredeemed debentures of the tramway system. Our system is one of the newest in the world, particularly the northern portions, and its physical value has scarcely been depreciated. Does it seem unreasonable to you that we should try and make that asset as efficient an instrument as possible? Is it unreasonable that we should try and increase its flexibility and make it a more unified system by improving its articulation as against a disjointed system? Is that not a proper point for your consideration? We have eight municipalities in the north who are clamorous for such an improvement. We think there is a great deal of justice in their contention. Is the Board to turn a deaf ear towards them? All these are questions which the Board must consider.

THE PRESIDENT - We quite appreciate that, sir.

THE CHAIRMAN - This subject of the claims of trams against motor buses is an age old fight. It has been going since 1923. We are not oblivious to it. We see how big trade interests secure champions to their cause. We quite realise what a magnificent gain it would be to the bus industry if it could secure

such a territory as the metropolis of Melbourne. We appreciate the immense stimulus that would be given to that industry. In considering the question such as the conversion of Elizabeth Street, we have neither personal bias nor self interest. So far as we are concerned we have to consider all forms of transport, and we take that which we consider will serve best the interests of the community having regard to local conditions. Now let me come to this question of safety. In the operation of tramways where does the source of danger arise?

THE PRESIDENT - It arises in the question of the small space between the tram and the kerb or between the safety zone and the kerb.

THE CHAIRMAN - A stationary tramcar at a safety zone is surely not a source of danger. The passenger in himself is not a source of danger, except, perhaps, to himself. When you come to analyse it the danger arises from the fast moving traffic. If you examine Section 10 of the Motor Act 1928, you will find that every person who drives a motor car recklessly and negligently or at a speed or in a manner which is dangerous to the public having regard to the state of traffic at the time and surrounding circumstances shall be guilty of an offence against the Act. Does that not indicate that Parliament thought it necessary to place upon the motor car driver this obligation in the interests of general safety?

The real danger today does not come from the tramcars, but from the fast moving traffic. Your observations seem to suggest that none of the danger is due to the motor car; that it is all due to the unfortunate tramcar. We all admit that the motor car has made a most wonderful development, and has added greatly to the amenities of life and is an invaluable instrument in industry, but you must not forget that this Board has to consider the interests of 600,000 passengers daily whose only motor car is the tramcar. In our opinion, and in the opinion of transport experts all over the world, the modern tramcar is the most economic, the most efficient and the safest vehicle of transport on the road.

THE PRESIDENT - We do not doubt that aspect at all.

THE CHAIRMAN - The time will come — probably not far off — when the street surface will be inadequate to meet traffic demands and require the introduction of sub-surface space. The latest thing in transport is never the last. Although many people are saying that tramcars are obsolete, several well known traffic experts in England say the same of the petrol bus. There are distinct limitations to the employment of trolley buses. In the course of time, we, or some of us, shall see certain classes of surface traffic segregated, some being confined to the street surface and others to sub-surface transport. What form generally transport should take is largely a matter of economics. If we put in trolley buses here, let me tell you that on the economic side they will cost us far more than conversion.

SIR STEPHEN MORELL - I do not know of any city in the world where parking is tolerated as in Melbourne.

THE PRESIDENT - That is another question altogether.

SIR STEPHEN MORELL - If my Council had listened to me, the parking of motor cars in the streets of the city would never have been allowed.

THE CHAIRMAN - I doubt if it is generally known that at common law and under the Local Government Acts, parking, if it becomes a nuisance, can be dealt with by a common law indictment. The City Council, however, by special legislation, has been authorized to turn its streets into garages and make money out of it.

SIR STEPHEN MORELL - Has your Council considered that it would take at least double the number of buses to do the work now performed by the trams?

MR. TEMPLETON - Two? It would take about three.

THE CHAIRMAN - Generally the latest buses carry 60, and crush loading is not allowed. We provide in the trams seats for 52, and allowing 2 square feet per passenger there is standing room for another 56, or a total of 108. If we adopted the American practice of 1.2 square feet, we would be able at the peak

times to carry 132 passengers per vehicle. I do not say that would be desirable.

THE PRESIDENT - The question of capacity is only an isolated matter when it comes to be a question of only a couple of hours per day.

THE MANAGER - Then the position becomes worse, for rolling stock has to be provided for these hours.

THE PRESIDENT - I believe with you that electricity provides the best form of traction, but we maintain that to put electric trams into Elizabeth Street is not in the best interests of safety.

THE CHAIRMAN - Is Elizabeth Street any worse than Swanston Street ?

THE PRESIDENT - Yes, sir. Even in Swanston Street you can see how a slow-moving vehicle can hold up the traffic.

MR. TEMPLETON - What sort of traffic ?

THE PRESIDENT - All sorts of traffic.

MR. TEMPLETON - Motor cars.

MR. MEMBREY - On the point of safety, while it may be quite feasible, and perhaps desirable, that in certain streets some other form of traction should be used, is it not a fact that to introduce, say, trolley buses into narrow streets with their power of swerving from one side to the other would but increase the danger ?

THE PRESIDENT - The probabilities are that they might. But do they swerve ?

THE MANAGER - Yes. And it is just at that point that the chances of dewirement are greatest.

THE CHAIRMAN - You have mentioned the trolley buses in Sydney. - We know all about them; we have inspected them. They are on loan from the A.E.C., and Sydney has had the two for about 10 minutes. They run from Potts Point and skirt Hyde Park. That is no demonstration of what will happen in Elizabeth Street. To talk about these two Sydney trolley buses and the Adelaide example,

which is merely a converted petrol bus, as an example of what should be done in Elizabeth Street, is provocative only of laughter.

Fortunately we have much better information, and have the benefit of much greater experience. There is scarcely a member of this Board who has not travelled abroad, and has used his powers of observation as effectively as anybody. Mr. Murdoch, our Traffic Manager, is just back from an extended inspection of the transport systems of Great Britain. I do not wish to hold myself up as an expert, but after all I have had 25 years experience of the difficulties of transport and of the problems which have to be met locally. The Board is not guided solely by its own knowledge; it has the benefit of its highly skilled technical staff, gentlemen who have devoted their whole lives to the practical study of such questions, and whose industry, intelligence and capacity are at our disposal. We are also familiar with the knowledge conveyed by technical journals devoted to transport.

THE PRESIDENT - We wholly agree with you in these remarks, sir.

THE CHAIRMAN - After all, we are not a set of ignoramuses, as a certain Melbourne newspaper endeavours to convey sometimes.

THE PRESIDENT - We have no sympathy at all with such newspaper remarks.

THE CHAIRMAN - It is very seldom that that newspaper gives the point of view of the pedestrian. Here is a letter which we received the other day from a prominent member of the Bar, Mr. Hotchin.

Having read the letter,

THE CHAIRMAN proceeded - Now I want to express our deep appreciation of the very courteous way in which you have put your case. ("Hear, hear.")

MR. TEMPLETON - I would like to endorse that.

THE CHAIRMAN - We will give careful consideration to the views you have put to us. We shall refer your observations to our technical officers, and when we have their report we shall take the whole matter into consideration.

THE PRESIDENT - So far as you are aware there is nothing more suitable ?

THE CHAIRMAN - We do not say that at all. On the contrary we believe that there is a great field for both trolley and oil buses. We believe that the death knell of the petrol bus has been rung; at least it looks very like that. As for oil buses, they have perhaps not yet reached that stage of perfection which we consider necessary. We believe that there is a place for all forms of transport in a modern city, the type of transport used depending upon the local conditions. Three years ago or so we desired to put in trolley buses from Essendon to Heidelberg. The Government refused to give us the necessary permission. The route at that time was partially, and still is, served by a number of short bus routes and cab routes, giving a disconnected service over that area. The Government refused, taking the view that pending the appointment of a Transport Board for the Metropolis it was better to maintain the status quo. Our position is that we are prepared to adopt that form of traction which is best suited to the needs of a particular locality. We have no prejudice in favour of any particular vehicle. We receive regularly all the latest technical journals; we are in constant communication and exchange views with transport organizations overseas, and in Australia we have our regular conferences with Mr. Steer of Brisbane, Sir William Goodman of Adelaide, and Mr. Maddocks of Sydney, at which all the latest developments are discussed and considered.

THE PRESIDENT - If I may make an observation, I would say that you are not serious when you talk about a seat tax.

THE CHAIRMAN - Aren't we ? That is the law.

THE PRESIDENT - The idea that the Government would levy that seat tax on you can be dismissed.

THE MANAGER - Wouldn't they? They levied it on our buses when we were carrying out previous conversions.

THE CHAIRMAN - Then there are the local Councils to be considered. At present we make a considerable proportion of the street, and maintain it. That liability would disappear if we ran buses, but what would the Councils say when they found their streets ruined? And what would our position be if the Councils refused to repair the streets and keep them in a fit state for bus operation? I think they would rightly demand the seat tax as a contribution towards the cost of the streets. Put it as a matter of business. Would you be inclined to go into the business of running buses on such an insecure basis? Of course you would not, nor would any business man.

THE PRESIDENT - I do not think there would be any difficulty in meeting this point of seat tax. It would be easy to get an Act passed through Parliament exempting your buses from seat taxation.

THE CHAIRMAN - From the point of view of economy it would pay us better to put down electric tram tracks. In Williamstown we had this same problem. The Council invited us to run buses, and we did so. The promise to keep the roads fit for bus operation was never fulfilled, and eventually we were compelled to withdraw the buses.

THE PRESIDENT - We admit that the portion of the streets carrying your tracks are the best in the Metropolis.

THE CHAIRMAN - We have done more for catering for the motorist in the matter of road making in the Metropolis than any Council. We have done in the Metropolis what the Country Roads Board has done in the country. We have raised the standard of road-making to a level which had never previously been attained.

THE PRESIDENT - You are quite right there, and we are very grateful to you for it.

THE CHAIRMAN - Our decision to convert Elizabeth Street arises from our desire to improve our transport equipment and strengthen our armament. While we appreciate your point of view, we cannot see that the electric trams are dangerous.

THE PRESIDENT - We have never in any circumstances imagined the trams to be dangerous. Under proper conditions, the electric trams constitute the best system in the world. In certain circumstances, however, we do consider that their presence must be considered dangerous.

THE CHAIRMAN - We shall give your representations every weight. I think I have indicated enough to show that our considerations take a wide scope. The trams have been on the streets of Melbourne for nearly 50 years; as we are the first comers, perhaps we might say that we have rights which we ought to protect and are worthy of protection. At all events, we have demonstrated that trams are effective, economic and safe. I repeat that your points will be handed to our technical officers for report. After we have considered that report, we shall communicate our decision to you.

THE PRESIDENT - Thank you, sir. On behalf of the Club, I desire to thank you for the cordiality of the reception you have given us here to-day.
