Suggested Notes for Lecture at Jolimont.

It was good of your Chairman to introduce me so nicely ; it was equally good of you to endorse has introduction so heartily. I have a doubt as to whether you would have been so appreciative had you known of the several expedients I have resorted to in order to avoid figuring on this platform. I even went the length of suggesting to the Board's publicity officer that as there was a certain amount of publicity in this lecture that its delivery ought to be his function. That gentleman, however, is a paradox inasmuch as while heils a publicity officer he loathes all personal publicity. Had he been a member of my staff I think --I say I think--I might have been able to persuade him, but as he isn't, it was I who had to accept his suggestion that I was the proper person to speak to you. So much for my presence here this evening.

A gentleman with whose name you are doubtless familiar, a Mr. Chapp, is never tired of telling the public about the service with which you are connected, and just the other day, I notice, he directed pointed attention to the fact that the railways in a year deal with 8,000,000 tons of goods and live stock and about 150,000,000 passengers. That is a great public service to the State, and one without which the state would be a poor thing indeed. What I am here to suggest to you this evening is that in its own sphere the Melbourne and Metropolitan Tramways Board renders a service equally great, equally efficient, and one which is equally entitled to receive the support of the community. That it is great will be evident to you when I mention that day in, day out, for the 365 days of the year, it deals with on the average 600,000 passengers a day, expeditiously, safely, economically ; that it is efficient, when I point out that last year the trams covered 24,000,000 miles without one serious accident, and that the number of cars withdrawn from service owing to defects was approximately one per 20,000 miles ; and that it deserves the support of the community because the high standard of service performed is illustrated by the fact that the complaints received from the public amount only to 1.8 per million fares. That is a brief and comprehensive epitome of the Board's work, and personally I would be quite glad to leave it at that and go on to show you views of various aspects of the tramway organisation ; but as I understand that you want me to speak for nearer 40 minutes than for four, I think that I can utilise that time by taking as my subject "The Passing of the Cable Car."

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Both you and I belong to a generation which knows nothing of the 0.25 dreary controversy which raged for many years over the subject of the street transport of Melbourne. Because we are all wise after the event we read with astonishment some of the views expressed 50 years ago. Electricit was just becoming known, but only the dreamers envisaged its enormous potentilaities. That being so we cannot blame our predecessors for having decided to put down cable tramways. In this age of speed there is something humourous in the thought that while the resolve to construct tramways was reached in 1872, it was not until 13 years later, on the 11th November, 1885, to be precise, that the first cable tramway, that to Richmond, commenced running. An interesting fact in this connection is that the cable car which inaugurated the service, No. 1, has run more than 1,100,000 miles. It is running yet. I have no doubt that its period of service will end only with that of the cable system. In the next six years other 12

cable lines were put down, the last, Windsor, being opened in October, 1891. As most people are unaware of the origin of the tramways, it will not be out of place if I sketch rapidly the powers created by the Tramways Act. Under that Act, the welbourne Tramway and Omnibus Company authorised that concern to lay down tramways in the city and suburbs with the consent of the various wunicipalities interested. As all the wunicipalities decided to avail themselves of the option in the Act to construct tramways themselves, a gramways grust was formed, the members of that body numbering The Trust had to raise sufficient funds to pay for the construction 18. of the tramway tracks and the engine-houses, and was under an obligation to complete such work by the end of 1893. It had, in addition, to give the company a lease of the tracks for 32 years as from the 1st July, 1884, when the liability for the interest on the loans raised for the / construction of the tramways commenced. In return, the Company was required to find sufficient capital for the necessary rolling stock, and for the equipment of the lines and engine-houses. The Company paid to the Trust annually the interest upon the loans, together with a sum sufficient for a sinking or redemption fund, and undertook, at the expiration of the lease in July, 1916, to hand back the tramways in good working order to the Trust. By the end of 1921 the Company had 41 miles of cable lines in operation. You will be interested to know that the length of the wire rope in motion under the various roads was equal to about 95 miles, the ropes varying in length from 16,000 to 32,000 feet. At first looked upon as a wonderful novelty, and thenas a vital necessity, the cable tramways prospered from the start, to some extent,

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of course, because the unsophiscated workmen of these days did not know that awards mattered a bit and that penalty rates, and allowances for walking to your work, mattered anything at all. It was not long, however, before people in the outer portions of rapidly-growing Melbourne recognized that local growth depended to a large extent upon the provision of a modern transport system. They saw how settlement was encouraged and increased by the presence of a tramway, and they read, also, that in other parts of the m world the cable system was looked upon as out of date, and that the overhead electric system was better in all respects. But although there was a genera realisation of these facts, it was not until October, 1906, that the North-Melbourne-Essendon Electric Tramway Company, under authority from the resendo Flemington and Kensington Councils commenced operations. After that date progress was rapid, and in quick succession the Prahran and Malvern Tramways Trust, the Hawthorn Tramways Trust, the Melbourne, Brunswick and Coburg Tramways Traust, the Fitzroy, Northcote and Preston Tramways Trust, and the Footscray Tramways Trust came into being. The development of the suburbs in which these new tramways operated was most marked, particularly in the southern and eastern portions of the Metropolis, in the area served by the Prahran and Malvern Tramways Trust. The Chairman of that Trust is now the Chairman of the Melbourne and Metropolitan Tramways Board, and I direct your attention to that fact and to the phenomenal growth of Caulfield and Malvern because in recent years it has become the habit of a new generationof Councillors in the northern suburbs to make the quite unfounded allegation that the Board has starved these districts atxthexexpensessixthe in order to benefit the municipalities in the south. From this brief history you will see that the dominating factor in the growth of the southern and easter:

trangery scheme which it was ordered by the Act to prepare. In tackling

municipalities was the construction of electric tramways at the instance of the Councils of Malvern, Prahran, Gaulfield and St Kilda in the first place, and subsequently by Hawthorn and Kew. These Councils built tramways, pledging their rates in order to do so, and they reaped the **î**xwi fruits of their enterprise in that development of their cities to which I have referred. In 20 years the population of gaulfield has grown from 11,000 to 70,000, while Malvern has increased from 13,000 to **5**0,000.

It soon became obvious that a condition of affairs which involved tramway operation by seven different authorities in the one city could not be permitted to continue. After much negotiation Parliament moved in the matter, and the Tramways Act of 1915, placing the cable system, with the exception of the Northcote Tramways, under a temporary Tramways Board, pending the establishment of a tramway authority to take over the whole of the tramways, was passed. Three years later the Melbourne and Metropolitan Tramways Act was passed. Under that Act the cable tramways were taken over by the present Board on November 1, 1919, and the electric tramways on February 2, 1920. The compromise arranged between the politicians and the municipalities was a weird affair, and has militated against the success of the Board from the first day. By having to pay the money paid by the Government to the Fire Brigades Board, the Infectious Diseases Hospital and the Licensing Fund, the undertaking has been deprived in these 10 years of over one million pounds. Mach all that made of information at its disposel, fortified

Practically the first act of the Board was to commence an inquiry into the form of transport to be adopted for the general tramway scheme which it was ordered by the Act to prepare. In tackling

the problem, the Board kept in the foreground two distinct propositions, the first being that the passenger transport scheme must provide sufficient facilities to serve all settled portions of the Board's area for a generation ahead, and, second, that it must provide a sufficient number of routes in the city proper and inner suburbs to carry the estimated future peak loads without undue crowding on the cars or undue congestion of cars along the routes. As you will readily realise, the inquiry early resolved itself into two parts - statistical and engineering. With the former, that which indicates the relationship of traffic movement . to population, you are not much concerned; I imagine that you are more interested in the engineering side. In order to determine the practical location of routes, the relative costs for constructing tramways in alternative locations, ruling gradients, and many other technical details, an immense amount of work was carried through by the Board's engineering department. To give you some idea of what was involved I may say that in addition to survey work, investigation had to be made into land resumptions, over 100 title searches and property valuations were completed, bridges, culverts and subways had to be designed, sites for proposed future workshops, car depots and substations had to be selected and surveyed, and a programme for the standardisation of car bodies, track curves, clearances and track centres had to be built up.

With all that mass of information at its disposal, fortified with a report by the Chairman on what he had seen overseas in a tour of investigation, the Board decided that the traffic requirements

of the future could be met only by converting the cable system to electric traction. It adopted that view not because of the defects of the cable system - each system of transport has defects in a greater or less degree - but because the retention to cable tramways would prevent the development and subsequent operation of the tramways as a complete and unified system. I think that the Board's conclusion that the cable system was inherently unsuitable for a large and growing city was, and still is, sound. Indeed, it is proved, I think, by the fact that in 30 years that elapsed between the running of the first cable line and the formation of the temporary Tramways Board in 1915, the tramway system remained in form and extent just as it was originally designed. While that fact reflects the greater credit upon the designers, it is an indictment against the system that it remained stagnant while the population increased by more that 60 per cent. Other considerations influencing the Board against the continued use of the cable system were the limited size of the cable tram units, the lack of facility of control, the impossibility of using loops and the consequent necessity of shunting, and the great cost of constructing and operating shunts or sidings, the most of which rendered the cable trams unsuitable for handling dense traffic whether in the city, at pleasure resorts, football grounds or racecourses.

As submitted to the Minister for Public Works in November, 1922, the General Scheme, which was approved in April, 1923, covered tramway development required to meet the estimated needs of the Metropolis up to the year 1940. It was really a framework upon which systematic extensions could be made to meet future possible needs without

disturbing the proper workings of existing or projected tramways, or altering location of any of the main lines, Where possible the mere duplication of transport facilities was avoided. (Slide of General Scheme can be shown here if necessary with any further elaboration you may consider necessary). The way having thus been cleared, the Board was free to commence conversion operations and it was decided, on the score of public convenience, that the electric systems south of the Yarra at Carlisle Street, Dandenong Road, Commercial Road and High Street should be extended along High Street, St. Kilda, and St. Kilda Road and routed through Swanston Street so as to link up with the northern systems. In the opinion of the Board and its technical advisers, the transition from one system to the other could best be effected by laying the electric track in the central avenue alongside the plantations in St. Kilda Road. It was pointed out that these tracks could be completed without distumbing the fast moving traffic along the motor speedway, or the cable trams or the commercial motor and vehicular traffic in the central road. These advantages apart, it is obvious that the adoption of that proposal would have cheapened the construction, and that with a non-paved track high speeds, smooth and silent running and cheap operation, allied with safety to passengers and other users of the road would have followed inevitably. With that lack of vision which so frequently distinguishes politicians and municipal councillors the proposal for such tramway reserves in Brighton and St. Kilda Roads was rejected by the Minister. The decision would be somewhat

different, I fancy, if the question could be put to the Councils concerned and the Government today., The decision, in fact, was regretted almost immediately, for a few months later the recommendation of the Board that certain portions of Victoria Parade should be declared a tramway reserve was adopted by the Government after the Councils concerned had approved of the proposal.

However, having been given, the decision had to stand, and so my department at once tackled the work of preparing a huge specification necessary for the conversion, a work which called for, to quote the advertisement, "the conversion for electric traction of permanent way of cable tramways in Swanston Street, St. Kilda Road, High Street, Brighton Road, Wellington Street, Fitzroy Street, Esplanade and Acland Street, including the laying and removal of temporary tracks and the construction of permanent way for new electric tramway in Brighton Road between the terminus of the existing cable tramway and Glenhuntly Road."

Long before I could finish describing the work involved my voice would give out and your patience would be exhausted. I overcome these handicaps by producing for your inspection a copy of the schedule and specification. The contract was let in August, 1925, and the work was commenced on the 31st. of that month, and by the 29th. August in 1926 the whole tender had been completed and electric trams were in operation, providing such through runs as North Coburg-St. Kilda, 11.290 miles, St. Kilda-Preston, 11.659 miles and Elsternwick-East Coburg 10.515 miles. As slides will convey to you an admirable idea of the work I need not further refer to it, with

the exception of a reference to the conversion of Swanston Street. Business people and The latter was quite a notable piece of work. the public alike contemplated the conversion operations in that busy thoroughfare with dismay, visualising many weary weeks of traffic congestion and interruption. But the job was completed in less than four weeks with what was, I am sure, the minimum of inconvenience to all concerned. Simultaneous with the construction my department had to proceed with the plans and specifications for the conversion of Chapel Street, Victoria Street, Toorak Road and Richmond, while something like a score of extensions in addition to duplications were dealt with as these works proceeded. Collins Street has since been converted - and notwithstanding the dismal jeremiads uttered before that event doctors and dentists are still doing business on the old stands, I notice - and Brunswick Street is on the point of completion. By the end of this month, therefore, practically half of the conversion plan indicated in the General Scheme will have been completed. The remaining half will, I am afraid, have to wait the dawn of a better financial day.

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PRESTON WORKSHOPS.

The 270 single track miles of the tramways as they exist at present are operated by 520 electric and 250 cable trams. In addition the Board has 57 motor buses which during the last five years have been used to provide services on these routes which were undergoing the process of conversion. When the Board came into existence 10 years ago it had to take over from the various Tramway Trusts about a domen

different models. As no really efficient repair shopwas in existence, it was at once recognized that the provision of a modern workshop was essential, and that until such a workshop was available no progress could be made towards the standardisation of equipment. A site of 17 acres was secured at Preston, and now today the various shops which have been erected represent a capital expenditure of £224,000, while the tools and machinery cost £102,000, the total expenditure so far being approximately £333,000. The present installation of plant is designed for maintenance of 600 running cars, and the building of 30 new cars per annum. The result of careful maintenance has been such, however, that we have been able to almost double the output of new cars, the rate of construction the last two years averaging better than one per week. The general lay-out of the works has been so designed that extensions can readily be made without interruption to the normal daily flow of work in any way. As the slides will show you all the departments I need not enumerate them at this stage.

SUGGESTED SLIDES.

General Scheme

Map of present routes

CONVERSION AND TRACK CONSTRUCTION.

Selection of slides from Mr. O'Meara, pandenong Road Royal Park Flemington Road

PRESTON WORKSHOPS.

general lay-out.	Administrative offices.
Traverser	Store
Messroom	Timber store
Paint shop	Spray paint chamber
Woodworking shop	Lifting bay.
Pits	Fordson tractor pulling trucks
Truck shop	car body section
Wheel work	wheel press
Heavy machine bay	Toolroom
Electrical shop	Arc welding
Blacksmiths', plate and pattern shops	
New safety Trams for One and Two Man operation	

cable tram depot. Electric depot. School. Cable tunnel. Enginehouse.

17th June,

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The Chief Engineer.

I am forwarding a draft for your lecture at the Railway Institute in October. Doubtless it is on the long side, but I think that you will find that it is drawn up in such a way that you can easily "cut" it without affecting the narrative.

Unless you wish me to do so, I do not propose to write anything on the topics referred to by Mr. Moody. I suggest that it would be best i if you spoke extempore on these matters, just as you did so effectively on noise prevention experiments to the Tramways Conference.

Attached to the draft is a list of suggested slides. It covers the ground traversed by the whole lecture, and it will be easy to get, with Mr. O'Neara's lot, a group of 70.

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Publicity Officer.