

REPORT BY HECTOR H. BELL JNR., OF THE MELBOURNE  
AND METROPOLITAN TRAMWAYS BOARD, ON THE STREET PASSENGER  
TRANSPORT SYSTEM OF BALLAARAT URBAN AREA.

The present system governing the control of  
Street Passenger Transport of the Urban District of  
Ballaarat can be classified as under :-

- (a) The existing tramway services operated by the  
State Electricity Commission.
- (b) Privately operated regular omnibus services  
under licence from the Ballaarat City Council,  
under the Motor Omnibus Act, 1928.
- (c) Taxi services under licence from the Ballaarat  
City Council.

BRIEF HISTORY OF TRAMWAYS CONTROL.

On the 20th September 1886 authority was given  
to the City of Ballaarat to construct horse trams within  
the municipality, and in the same year this authority was  
delegated to Edward Thomson of Adelaide.

On October 31st 1892 authority was given to the  
Borough of Sebastopol to construct horse trams within the  
municipality, and in the same year this authority was dele-  
gated to the Ballaarat Tramways Company Limited.

In 1901 the above mentioned authorities were  
amended to include electric motive power and in 1902 to  
authorise the reconstruction of existing lines.

On the 8th August 1902 the Ballaarat Tramway  
Company Limited surrendered its power to the City of  
Ballaarat and the Borough of Sebastopol. On the 25th  
November 1902 the Councils of the City of Ballaarat and  
the Borough of Sebastopol were authorised to delegate  
their powers to the Electric Supply Company of Victoria  
Limited.



In 1905 the horse trams were taken over by the Electric Supply Company of Victoria Limited, which converted them to electric traction.

When the State Electricity Commission of Victoria was constituted in 1922, Parliament provided for the Commission to take over any lighting undertaking and also any tramways operating in conjunction therewith. The Act stipulated that such action could only be taken with the consent of the Governor-in-Council, and subject to sanction by Parliament.

In 1927, the Government gave the assurance that, whatever system of control was decided upon for the electric tramways, this service would continue for the public use.

In 1928, the Commission stated that it was prepared to undertake the future operation of the tramways, subject to the approval of Parliament, and provided that the municipalities entered into an agreement similar to that existing between the Electric Supply Company of Victoria Limited and the municipalities

The agreement which was entered into by the Commission on 17th November 1929 has no particular time of expiry, but remains in force while the tramway system is operated by the Commission. It governs generally, the relations between the Councils and the Commission in such matters as maintenance, tram speeds, tramway by-laws, payments to Councils in lieu of rates, obligations of Councils to restrict competition with trams. Losses on tramways to be a charge against electricity supply revenue, and the Councils were to bear losses on those tramways it sponsored.

In agreeing to accept the statutory duties of a tramway authority, the Commission stressed the fact that it did not regard the responsibility as coming within its functions, and asked for reasonable legislation to protect it against loss on electricity supply resulting from tramway operation.

In 1929, by Act No. 3826, the State Electricity Commission of Victoria was authorised to purchase the undertakings of the Electric Supply Company of Victoria Limited at Ballarat, while by Act No. 3845 (1929) the State Electricity Commission of Victoria was appointed as the Tramway Authority to control the tramways within the City of Ballarat and the Borough of Sebastopol.

Amongst other things this latter Act protected the tramways from competition by providing that no licence to operate motor omnibus traffic in any area served by any tramway should be granted by the licensing authority without the consent of the Commission.

In the practical application of the legislative provisions for protecting tramway revenue against bus competition, the Commission has adopted the general principle that the tramway should serve an area within a quarter of a mile of the tram track. Consequently, it has not withheld its consent to any proposed bus route which would operate throughout its length more than the quarter mile distance from the tramway route, or to any proposed bus service which, where it came within the quarter mile distance, did not pick up passengers on the inward trip or set down passengers on the outward trip.

In 1934 the State Electricity Commission of Victoria assumed full control of the tramway system and arranged for an overhaul of the rolling stock and tracks.

A short length of single track extension was carried out along Lydiard Street North to the New Cemetery in 1938.

Although the Commission has controlled the tramways since 1934, it has never exercised the authority conferred by Act No. 3845, which gave it the power, subject to the consent of the Governor-in-Council, to operate motor omnibuses, electric rail-less trolley omnibuses or other buses within its area.

DATA PERTAINING TO THE EXISTING TRAMWAY SYSTEM.

The following is a summary of the Commission's undertaking as at the 30th June 1949.

- (a) Population served - approximately 40,000.  
(b) Miles of single track - 16.17 miles.  
(c) Route miles - 13.84 miles.  
(d) Trams in operation: 21 - 4-wheel.  
4 - 8-wheel vehicles.  
(Number of years in service - up to 40 or more).

(e) Passengers carried -	<u>1937</u>	<u>1949</u>
Gardens, via Sturt Street West	909,305	2,214,609
Lydiard Street North	245,790	880,545
Mt. Pleasant	143,643	508,618
Victoria Street	205,983	714,185
Sebastopol	656,169	1,345,720
	<hr/>	<hr/>
Totals	2,160,890	5,663,677

- (f) Number of passengers per tram mile - 9.1.  
(g) Passenger journeys per head of population served - approximately 141.59.  
(h) Number of trams used in traffic:- AM. - 10  
PM. - 10  
Peak Periods - 16.  
(i) Tram mileage - 624,586.  
(j) Number of personnel :-

Motormen, Conductors and Inspectors	- 88
Other Employees	- 24
	<hr/>
	112

THE COMMISSION'S TRAMWAY SYSTEM.

In order to assess the value of the tramway system to the Community of Ballarat, an analysis of its maintenance, control, and operation is necessary.

This tramway is most efficiently managed and operated, but serves only a restricted area which has a population of approximately 40,000, and not the new industrial and residential areas which are rapidly developing.

During 1934-35 this tramway system was reconditioned in order to bring it to a satisfactory standard, and to assure a reasonably adequate service over a period of 15 years.

During the above period of reconstruction, certain re-routing of the tracks would have been preferable, particularly on the Mt. Pleasant route, where the track should have been re-located, via Peel Street in lieu of Main Street. This would have reduced the length of the route and served an additional area.

The cost of the reconstruction was approximately £100,000. This included overhead lines renewals and the reconditioning of the permanent way on all tracks. The latter work accounted for the greater portion of the expenditure. No provision was made for new rolling stock.

It was fully realised at the time that the above expenditure would not increase the earning capacity of the tramway system. During the years following its completion, the Commission has fulfilled its obligation by providing a service to the public of these municipalities. The service has operated at a loss throughout this period, and has become a financial burden to the Commission. The rolling stock, although in good condition, is out of date when compared with the modern tramcar, which provides riding comfort and fast transit.

It is estimated that 90% of the axles in the existing trams will shortly require replacement if retained. The permanent way is in good condition, but extensive expenditure will be necessary within the next five years if this system is to be retained.

Schedules are slow because of single track operation and an insufficient number of passing-loops, the average speed being, including stops, 8.3 m.p.h. If additional maximum traction bogie cars be placed in

operation to replace the single truck cars at present in use, it will be necessary to extend the existing car depot. This will cost approximately £5,500.

The capital expenditure to rehabilitate the tramway system, excluding the cost of necessary duplications and extensions, would be approximately £500,000.

#### TRAFFIC MANAGEMENT.

*Mr. Mawby*  
Mr. Mawby, the Branch Tramways Superintendent, and his staff, impressed me with their knowledge and ability of traffic management. During my discussions with Mr. Mawby, I became fully convinced that every possible effort has been made to reduce operating costs, and at the same time to provide a regular service. Consideration of the scale of fares will be referred to under the financial analysis.

#### THE FINANCIAL ANALYSIS OF THE COMMISSION'S UNDERTAKING.

The gross capital expenditure of the undertaking at the 30th June 1949 is shown as £52,546. This capital value concerns only the reconstruction costs as the Commission acquired the Tramways at no capital value.

Depreciation and loan provision will be, with interest, sufficient to write off the amount in the tramway Capital Account at the 30th June 1950.

The traffic receipts for the financial year 30th June 1949 amounted to £52,257.

The traffic operating expenses over that of revenue was £29,086.

Traffic receipts per tram mile 20.08d.

Operating expenses per tram mile, including electricity costs and standing charges 31.26d.

The comparatively high operating expenses of 31.26d. per tram mile are partly due to the fact that the vehicles are two-man operated.

The following show Tramway Statistics as  
from 1935.

Year ended 30th June	Loss	Rev- enue	Expen- diture	Pass- engers	Rev- enue per Car Mile	Exp- enses per Car Mile	Car Miles	Avg. Fare per Pass- enger
1935	£ 1,807	£ 23,188	£ 24,995	000 2,277	d. 10.50	d. 11.31	000 530	d. 2.44
1936	3,801	22,647	26,448	2,244	10.1	11.78	538	2.416
1937	4,553	21,799	26,352	2,161	9.71	11.74	538	2.418
1938	19,281	24,218	43,499	2,429	9.725	17.46	598	2.377
1939	20,081	25,264	45,343	2,665	10.34	18.57	586	2.249
1940	20,671	25,244	45,915	2,752	10.30	18.745	588	2.185
1941	14,854	29,783	44,637	3,255	12.12	18.169	590	2.182
1942	5,482	38,604	44,086	4,430	15.51	18.16	597	2.082
1943	*2,104	51,178	49,074	6,410	19.72	17.71	623	1.91
1944	2,763	50,944	53,707	6,016	19.69	18.91	621	2.026
1945	2,758	51,509	54,267	5,757	20.109	20.76	615	2.13
1946	* 947	51,726	50,779	5,768	20.28	21.18	612	2.14
1947	7,815	49,853	57,668	5,397	19.815	22.92	604	2.204
1948	20,578	50,915	71,493	5,474	19.59	27.509	624	2.22
1949	29,086	52,257	81,343	5,664	20.08	31.26	625	2.21

\* It will be noted that the Revenue has exceeded that of Expenditure on only two occasions, viz. 1943 and 1946.

I was informed by the Commission, that in earlier years the losses of this Undertaking were borne solely by the obligations originally accepted. In more recent years, although consumers in this City have not been formally released from their obligations, deficits have been generally carried by all electricity consumers throughout the State.

In August 1948 a memo was submitted by Mr. W.J. Price, the Secretary of the Electricity Commission to the Hon. the Minister of Electrical Undertakings.

Mr. Price pointed out that the Commission was concerned with the financial losses of the Tramway Undertaking.

The increased losses were largely attributed to higher costs of labour and material, and the introduction of the 40-hour week; it was estimated that the loss would increase during the current year. It was further pointed out that the electricity consumers should not have to bear the whole of these losses, and it was decided that some proportion should be borne by tramway passengers.

Almost all of the tramway capital had been written off, and therefore the losses cited in recent years are exclusive of charges for interest and depreciation. The Commission has accordingly recommended, subject to the approval of the Governor-in-Council, the amendment of its Tramway By-Laws to increase fares. There has been no fare increase since the Commission acquired the tramway.

It is worth noting at this juncture that the average fare paid per passenger was 2.44d. in 1935, whereas it is now 2.21d., the reduction being mainly due to the sale of weekly tickets at a reduction of 50% on the ordinary fares. During the same period expenses per passenger have risen by approximately 70%.

It is generally accepted that the present scale of fares could be increased without causing any undue hardship to tramway passengers. This subject is dealt with in my recommendations.

#### BALLAARAT SUBURBAN OMNIBUS ROUTES.

The Ballaarat City Council is the Licensing Authority under the Motor Omnibus Act 1928 (No.3742) and 1929 (No.3851), under Division 1, Section 25 (q) (c), the Council of the City of Ballaarat was authorised as the Licensing Authority. The third section of the Act defines the district as the Municipal District of the City of Ballaarat, and vicinity within a distance of 8 miles



from the boundary of the said municipal district. The areas defined include the following municipalities :-

City of Ballaarat  
 Borough of Sebastopol  
 Shire of Buninyong  
 Shire of Bungaree  
 Shire of Creswick  
 Shire of Ballaarat  
 Shire of Grenville

The total area of the above municipalities is 345 square miles.

Ten operators have been granted licences and operate 25 omnibuses over 8 city and 3 outer routes. The average length of the routes is 2.5 miles in the City area and 7 miles to the outer centres.

Particulars of these routes are as follow :-

Route	Number of Passengers (approx.) carried, 12 months ending June 1949.
<u>City Area</u>	
Eureka Street	86,000
South Street	91,430
Brown Hill	378,000
Mt. Pleasant	69,264
Black Hill	82,500
Wendouree	224,172
Eyre Street	59,700
Canadian	169,572
<u>Outer Area</u>	
Mt. Clear	49,920
Creswick	117,000
Buninyong	69,520
Total	1,397,078

The routes as set out above do not comply with the titles as prescribed in By-Law No. 115. It is understood that some of the routes prescribed in the By-Law have been cancelled, and others substituted in their place.

The Council gazetted a By-Law, No. 115 in 1930, for the purpose of licensing motor omnibuses and set forth the routes, fares, time tables, stands, maximum number to be carried, fees, etc., which had been approved by the State Electricity Commission.

Licences for vehicles expire on the 31st December each year, and are not renewed, unless the requirements of the Regulations under the Act are complied with.

Vehicles licensed solely by the Transport Board do not operate on Urban services, although the majority of Urban buses hold "Charter Rights" from the Board. This permits the operation of the vehicle within a radius of 25 miles from the Ballarat Post Office, but the operator must in all such cases maintain his regular time-table on the Urban route for which the vehicle has been granted licence.

Under the provisions of the Motor Omnibus Act, 1928, it is the Council's responsibility to control omnibuses operating on Charter Service within the Urban Area.

It is evident that the Council is not performing this obligation with a result that omnibuses holding a Charter Service are operating in the Urban Area without control and authority.

Since the By-Law was proclaimed in 1930, new routes have been approved, original time-tables have been changed, and alterations to prescribed routes have been made. The York Street-Eureka routes have been combined, and the route to the new Cemetery was discontinued because of the tramway extension.

As far as I can ascertain, the above conditions have been approved by the Council, but only one amendment of the original By-Law has been gazetted. Provisions of the Motor Omnibus Act 1928, Section 27, stipulated that any alteration to time-tables, fares, sections, etc. can only be made by amendments to the By-Laws.

As prescribed in the By-Law, a continuous service was provided for on certain routes, but it is found that the operators are not performing this service, more particularly between the hours of 7 pm. and 10.45 pm.

As a comparison, I set out below a table to illustrate this anomaly :-

<u>By-Law 115 - 2nd Schedule - Route No. 6.</u>		<u>At present being provided by Operator.</u>	
<u>From City</u>	<u>To City</u>	<u>From City</u>	<u>To City</u>
Week Days (Mon-Fri).		Week Days (Mon-Fri).	
8. 5 am	7.40 am	7.10 am	7.35 am
9. 5 am	8.40 am	8.25 am	8.45 am
10. 5 am	9.40 am	-	-
11. 5 am	10.40 am	-	-
12. 5 pm	11.40 am	12. 5 pm	11.30 am
1. 5 pm	12.40 pm	1. 5 pm	12.45 pm
1.35 pm	1.20 pm	2. 5 pm	1.45 pm
2. 5 pm	1.40 pm	2.45 pm	2.15 pm
2.35 pm	2.20 pm	3. 5 pm	2.55 pm
3. 5 pm	2.40 pm	3.40 pm	3.15 pm
3.35 pm	3.20 pm	4.15 pm	3.55 pm
4. 5 pm	3.40 pm	4.40 pm	4.30 pm
4.35 pm	4.20 pm	5. 0 pm	4.50 pm
5. 5 pm	4.40 pm	5.20 pm	5.10 pm
5.35 pm	5.20 pm	5.40 pm	5.30 pm
6. 5 pm	5.40 pm	-	-
7. 5 pm	6.40 pm	7.25 pm	7.10 pm
8. 5 pm	7.20 pm	-	7.30 pm
10.45 pm	-	11. 0 pm	-
Saturdays		Saturdays	
8. 5 am	7.40 am	-	-
9. 5 am	8.40 am	-	8.45 am
10. 5 am	9.40 am	10.10 am	9.45 am
11. 5 am	10.40 am	11.15 am	10.45 am
12. 5 pm	11.40 am	11.45 am	11.30 am
1. 5 pm	12.40 pm	12. 5 pm	11.55 am
2. 5 pm	1.40 pm	12.30 pm	12.15 pm
3. 5 pm	2.40 pm	-	-
4. 5 pm	3.40 pm	-	-
5. 5 pm	4.40 pm	-	-
6. 5 pm	5.40 pm	-	-
7. 5 pm	6.40 pm	7.25 pm	7.10 pm
8. 5 pm	7.40 pm	-	7.40 pm
10.45 pm	-	-	-
Sundays		Sundays	
2.30 pm	3. 0 pm	-	-
4.30 pm	5. 0 pm	-	-
6.30 pm	7. 0 pm	-	-
8.30 pm	-	-	-

Trips per week - 113

Trips per week - 81

## PRESENT SCALE OF FARES.

A flat rate fare of 4d. for adults is in operation at present on the majority of city omnibus routes and to the city boundary on outer routes, but no sectional fares are provided for. There are, however, weekly concessional fares in operation.

The Council approved of fares on the outer routes, but single and weekly concession fares were not included in the By-Law.

## PRIVATELY OPERATED OMNIBUSES.

In order to provide a more efficient omnibus service to the community of Ballarat and its environs, the Council should give immediate consideration to the following recommendations :-

- (a) To review the existing routes and eliminate any duplication of tramway services.
- (b) To provide an off-peak service on all routes.
- (c) To implement the through-routing of omnibuses in order to eliminate congestion at city terminals.
- (d) To investigate the flat rate fare and consider the introduction of sectional fares.
- (e) To expedite the revision of the By-Laws as prescribed under the provisions of the Motor Omnibus Act, 1928.
- (f) To investigate the omnibus on Charter Services within the Urban District to ascertain whether or not these vehicles are complying with the regulations as prescribed in the Motor Omnibus Act, 1928.
- (g) To provide additional assistance to the Traffic Officer so that more supervision could be given to omnibus operation and the enforcement of the Council's traffic By-Laws.



That the City Engineer be directly responsible to the Council in all matters appertaining to traffic administration, and that the Traffic Officer be under the direction of the City Engineer.

Information Relative to Taxis.

The Council licences street taxis as Hackney Carriages under the provisions of the 15th Schedule of the Local Government Act, 1946 (No.5203). There are 49 taxis licensed to ply for hire within the City of Ballaarat.

The Council does not licence hire cars to operate within the City. These vehicles do not ply for hire on the street and the Council does not have the power to allow them to do so as the provisions of the Carriages Act only apply within the municipal districts of the City of Melbourne and the City of Geelong.

The majority of vehicles licensed as Hackney Carriages by the Council also hold "PH" licences from the Transport Board, Melbourne, and this entitles the vehicle to be operated anywhere in the State.

The Function of a Street Transport Authority.

I consider that street transport should be operated by the State, as it comes within the same category as Water and Electricity supplies. There is no purpose to be served in having two authorities to control passenger services within the Ballaarat urban area. As the State Electricity Commission is vested with the powers to control all street passenger transport in the urban area of Ballaarat, it was unfortunate for the future development of passenger transport in this area that the Commission agreed that the Council should have Licensing Authority for omnibuses and taxis.

The dual control is partly responsible for the unnecessary duplication of the transport services. Street

passenger transportation in any city is a highly specialised business demanding an organisation of experts and trained staff. A safe dependable service suiting the varying needs of heavy pick-up and set-down passenger traffic is necessary. Morning and evening rushes impose a severe tax on the equipment and staff.

The Transport Authority should endeavour to provide the travelling public with a ride comparable to that enjoyed in the modern motor car. This cannot be given in tramcars which have had up to forty years' service.

Future Policy for Decentralisation of Industry.

It will be noted on the plan attached that industrial areas are developing outside the municipal boundaries of Ballarat, and as an encouragement to the progress and foundation of these industries, an adequate and efficient transport service must be provided.

In the furtherance of its policy of decentralisation, the State Government should be prepared to establish an efficient system of Street Passenger Transport for the community of the urban area of Ballarat.

#### TOWN PLANNING.

At the Council's invitation, I have studied the Tentative Report upon the Plans for the future Development of the City of Ballarat, submitted by Mr. Frank Heath, Architect and Town Planner.

This report is most comprehensive, and clearly presents the result of an intensive and detailed study of the City's Town Planning problems. It is unfortunate that this scheme relates only to the City of Ballarat and does not include the adjoining Municipalities, the inclusion and co-ordination of which is essential for a future planning of areas adjacent to other Municipal boundaries.

As the Plan covers proposals for a period of between 30 to 40 years, I can appreciate the Council's reluctance to adopt it in its entirety.

I would recommend the following for the Council's consideration.

That a Town Planning Committee be formed similar to that operating in Geelong.

This Committee to consist of representations of the Ballarat City Council and the adjoining Municipalities.

Should difficulties in the formation of such a committee be met with, the City Council to give consideration to the setting up of a Committee within its own municipality to consider the Plan submitted by Mr. Heath.

There are, however, several proposals included in the Plan which I consider should be put into operation immediately, in order to relieve the traffic congestion in Bridge Street. Should my recommendations regarding the replacement of the Tramway System by that of Trolley Buses be adopted, these would be necessary.

There are three main factors contributing to the congestion in Bridge Street :-

- (a) The location of the single tram track in the centre of the roadway with two-way tram operation causes confusion to traffic.
- (b) The majority of the traffic using the Melbourne Highway passes through this street.
- (c) The kerbside parking of vehicles.

In order to relieve this congestion, I would recommend the following :-

- (a) That Curtis Street be widened to 99 feet and extended eastward from Peel Street to Victoria Street. This would provide a one-way traffic route from Grenville Street to Victoria Street for traffic travelling easterly and a one-way

traffic route would also operate in Bridge Street from East Street to Grenville Street for vehicles travelling in the opposite direction.

- (b) The diversion of traffic to and from the Melbourne Highway via Princess Street and Mair Street.
- (c) The control of kerbside parking on similar lines to that in operation at present in the City of Melbourne under the Melbourne City Council By-Law No. 295, and the use of Curtis Street instead of Bridge Street as a parking area.
- (d) The setting back of the south-west corner of Bridge and Peel Streets in order to facilitate an easier flow of traffic from Peel Street into Bridge Street.

Details of the above proposals are set out on the attached plans.

Location of Factories, etc.

The position of the following list of factories etc. are shown on an attached plan and give some indication of the industrial traffic density points.

<u>Plan No.</u>	<u>List of Factories</u>	<u>Employees</u>
City Area		
1.	Railway Department Goods Sheds etc.	380
2.	M.B. John Ltd., Lydiard Street	350
3.	Ballaarat Brewing Co., Armstrong Street	70
4.	Jelbart Bros., Mair Street	16
5.	R. Graham and Sons, Dana Street	36
6.	Oliver and Stevens, Dana Street	36
7.	Paddle Bros., Lydiard Street	50
8.	Jaunties, Grenville Street	60
9.	Gowers, Grenville Street	60
10.	James McKay and Sons, Mair Street	30
11.	Macleod and Co., Lydiard Street	20
12.	Trahar Bros., Channel Street	36
13.	S.K. McIver, Little Bridge Street	60
14.	Hollway and Son, Armstrong Street	15
15.	Rowlands Pty. Ltd., Dana Street	12
16.	Goodfellows, Mair Street	8
17.	R. Hutchinson, Armstrong Street	9
18.	Wyres Bros., Sturt Street	12
19.	Eclipse, Doveton Street	15
20.	Lucas and Co., Doveton Street South (2)	470



21.	Benoit, Davey Street	14
22.	Haymes Paint Factory, Davies Street	22
23.	Strickland and Sons, Nolan Street	15
24.	Eastern Joinery Works, Peel Street	12
25.	White Foundry, Dana Street	10
26.	Jas. Smith Pty. Ltd., Creswick Road	60
27.	Ballaarat Gas Works, Grenville Street	50
28.	Water Commission and Sewerage Auth.	60
29.	Ballaarat City Council Yard	120
30.	Wallace Butter Factory, Creswick Road	12
31.	Ballaarat Butter Co., Curtis Street	8

Outside 1/2 mile radius

32.	Railway Loco Sheds, Corbet Street	200
33.	Ford Manufacturing Co., Eureka Street	190
34.	Ballaarat Products (Farmers) (Temporarily closed)	
35.	J.C. Foord, Eureka Street	36
36.	Ronaldson Bros., and Tippett,	300
37.	(New Foundry being built in Creswick Road)	
38.	M.B. John Ltd. (New Foundry being built in Creswick Road)	
39.	Emu Footwear, 86 Barkly Street	30
40.	Paddle Bros., Sutton Street	50
41.	Bennett and Co., Binney Street	15
42.	Woodward, Melbourne Road	15
43.	Gunn Box Factory, Howitt Street	30
44.	Selkirks Brick Works, Howitt Street	50
45.	Eureka Tile Co., Charlesworth Street	45
46.	Martin Stoneware Pipe Co., Creswick Road	36
47.	I.C.I. Ltd., Latrobe Street	150
48.	Myttons Ltd., Eureka Street	40
49.	Ballaarat Products (Sunshine Biscuit)	100
50.	Flax Production Committee, Wendouree	43
51.	Cowleys Ironworks, Rodier Street	50
52.	G. O'Hehir, Rodier Street	20
53.	Miller Bros. Ironworks, Salisbury Ave.	36
54.	Elliott and Magill, Wendouree Parade	15
55.	Joe White and Co., Wendouree	20
56.	Garden City Flour Co., Trench Street	20
57.	Thos. Owen and Co., Sutton Street	46
58.	Martin Bros. Tannery, Humffray Street	8
59.	Ballaarat Woollen Mills, Hill Street	400
60.	Morleys Mill, Doveton Street	360
61.	Myers Woollen Mill, Howitt Street	428
62.	Wilsons Clothing Factory, Doveton Street	50
63.	Wilsons Clothing Factory, Barkly Street	60
64.	V.I.M.A., Freezing Works, Alfredton	40
65.	City Abattoirs, Gillies Street	40
66.	Railway Workshops, Creswick Road	486
67.	S.E.C. Power House, Wendouree Parade	170
68.	S.E.C. Tram Depot, Wendouree Parade	107
69.	P.M.G. Post Office and Telephone Wks. Yard	60
70.	Ballaarat Engineering Co., Trench Street	20
71.	Slough Estate (New Industrial Area proposed) Wendouree	
72.	Explosives Factory Area (Available for Leasing) Latrobe Street	
73.	Water Commission White Swan Reservoir	10
74.	B. and G. Myers, Engineers, Water Street	12
75.	McLean and Roakes, Humffray Street	10
76.	E. Foord, Bacon Co., Fussell Street	30
77.	Egg Pulp Plant, Learmonth Street	30

---

5,956

---

## CONCLUSIONS

The present tramway system will require complete renewal in the near future, at a capital expenditure of approximately £500,000.

I do not consider this expenditure justified, when a modern trolley bus service at an approximate cost of £198,000 could be placed in operation, covering the areas served by the existing tramway, and also extending services to areas now developing.

I therefore recommend the conversion of the existing tramway system to that of trolley bus operation. My reasons for recommending the replacement of trams by trolley bus operation are summarised below :-

1. The topography of the Ballarat Urban Area is suitable for trolley bus operation,
2. Existing power facilities could be used,
3. The adoption of trolley buses would permit the replanning of the existing tram routes,
4. Such a replacement would modernise the present system and eliminate investments in track reconstruction,
5. The trolley bus can be operated by one man,
6. A trolley bus service would lower present operating costs,
7. Permit trolley bus extension of services not justified by the cost of permanent way construction,
8. Speed of service would be increased by approximately 3 miles per hour,
9. The existing staff could be used to operate trolley buses.

The features of trolley bus operation which would appeal to passengers are :-

to Could  
include  
the  
works

New  
trunk  
line  
along  
Murray

- a. Absence of fumes,
- b. Speed,
- c. Kerb loading and unloading,
- d. Quiet running,
- e. Smooth riding.

From an operator's viewpoint the notable features of trolley buses are :-

- a. Flexibility of operation,
- b. Fast acceleration and braking,
- c. Ease of control,
- d. No gears,
- e. Speedy,
- f. Rubber tyred.

The fare increases recommended by the State Electricity Commission are on a similar basis as my recommendations with regard to Tramway fares in the City of Bendigo. See attached plan for details.

It is estimated that by increasing fares as recommended, the annual deficit would be reduced by approximately £16,500.

I have been advised that these fare increases are to be brought into effect on the 15th September 1949.

Future Control of Street Passenger Transport of the Ballarat Urban Area.

Dual control of street passenger transport has proved unsatisfactory, but with administration vested in one Authority, economic waste and duplication would be eliminated. It is the policy of the State Government to co-ordinate transport, and as this matter is under consideration, I shall refrain from making a definite recommendation. I shall, however, suggest the following measure for consideration.

That the powers of the Melbourne and Metropolitan Tramways Board be extended to embrace the street

passenger transport of the urban area of Ballaarat as recommended by Mr. J. Elliot in his report on "Transport in Victoria", dated 20th May 1949.

Should this suggestion be adopted, I consider that an advisory sub-committee of the Ballaarat City Council be set up to advise on local requirements.

- - - - -

Accompanying this report are the following :-

1. An Illustration of a 44 Passenger Trolley Bus.
2. A Plan of the Tramway through-routing system.
3. A Plan of the Tramway showing Section Lengths, and Fares.
4. A Plan showing a proposal to relieve traffic congestion in Bridge Street.
5. A Plan showing the City Council's Licensing Area for Motor Omnibuses.
6. A Plan indicating :-
  - Tram and Bus routes.
  - Thickly populated areas.
  - Business areas.
  - Public reserves.
  - Factory areas (existing and proposed).
  - Proposed Housing estates.
  - Schools.
  - City and Shire Boundaries.
7. A Plan indicating :-
  - Tramway Passenger Time Zones.
8. A Plan indicating :-
  - Tramway Passenger Distance Zones.



I wish to record my appreciation of the courtesy and valuable assistance accorded me in respect to my investigations by the following :-

The Mayor and Councillors of the City of Ballaarat.

The Town Clerk and Treasurer, Mr. G.F. Morton, of  
the City of Ballaarat.

The City Engineer, Mr. L.H. Finch, of the City of  
Ballaarat.

The Assistant Town Clerk, Mr. H.R. Maddern, of the  
City of Ballaarat.

The Assistant City Engineer, Mr. O. Murrewood, of  
the City of Ballaarat.

The Traffic Officer, Mr. J. Rogers, of the City of  
Ballaarat.

The following Officers of the State Electricity  
Commission :-

Mr. W.H. Connelly, Assistant General Manager,

Mr. T.H. Thomas, Tramway Superintendent,

Mr. T.A.L. Farr, Manager, and

Mr. A.W. Mawby, Traffic Superintendent, Ballaarat  
Tramways, and the Staff concerned.

Mr. Frank Heath, Architect and Town Planner.

The Executive of the Ballaarat Branch of the  
Australian Tramway Employees' Association.

.....