

seen that the average fare per passenger has increased by about 75% only between 1939 and 1958. Reductions to the service principally applied in the evenings and at weekends have reduced the miles per annum to below pre-war figures. Attention is drawn to the extent of the subsidy necessary from electricity consumers for the maintenance of the tramways, the aggregate of average fare paid by passengers and the average loss per passenger is the real average fare that would be necessary to cover today's service at cost. Any additional capital charges to the present overall costs would, of course, necessitate still higher fares.

Fares and Fare Revisions 1935 to 1958

The fare scale from 1935 to 1937 was the same as obtained with the Electric Supply Company. The Gardens, Lydiard Street North, Victoria Street and Mt. Pleasant Routes comprised two 2d. fare sections with a through fare of 3d. for adults (children half price). The Sebastopol Route to the City boundary at Rubicon Street also comprised two 2d. fare sections with a through fare of 3d. The extension beyond Rubicon Street to the terminus at Sebastopol comprised two 1d. fare sections with a through fare of 2d. and for travel between Sebastopol and Ballarat the fare was 3½d. for one Sebastopol section and 4d. from the Sebastopol terminus. Day returns of 4d. were available on the Sebastopol route to 9.0 a.m. and on the Ballarat routes Weekly Tickets covering a daily return journey cost 2/-d.

From 1937 to 1949 the Ballarat routes retained the same section and through fare value but sectional travel at 2d. was limited to prepaid strip tickets @ 6 for 1/-d. The 3½d. section to Sebastopol was deleted and all fares south of Rubicon Street became 4d. Day returns were also deleted and Weekly Tickets applied to all routes. The concession was 50% as follows - 12 rides on 3d. sections for 1/6d. and 12 rides on 4d. section or 24 rides on 2d. sections for 2/-d. City section fares covering the shopping centre were 1d.

From 1949 (Sept.) to 1951 (July) the foregoing scale was increased by one penny all round. Penny sections to 2d. 2d. strip ticket sections to 3d. cash and route fares of 3d. and 4d. increased to 4d. and 5d. The concession on Weekly Tickets was reduced also to the same extent.

From July 1951 to November 1955 a revision of fares was effected in which the short lines to Lydiard Street North, Victoria Street and Mt. Pleasant remained unchanged, the Gardens route was divided into three 3d. fare sections with 2 sections for 4d. and 3 sections 5d. and the Sebastopol route into ^{four} 3d. sections with a through fare of 6d. A surcharge of 1d. was applied on Sundays and Public Holidays, but the principle revision incorporated the cessation of concession fares in the form of Weekly Tickets and Transfers.

From 1st November 1955 to the present time the three short routes are of two sections @ 4d. with through fare of 5d. The Gardens route comprises three 4d. fare sections with two sections 5d. and a through fare 6d. and the Sebastopol route four 4d. fare sections with two sections 5d., three sections 6d. and through fare 7d. There is no surcharge on Sundays and Holidays. From 1949 to the present a city shopping section of 2d. has been retained.

For comparison purposes, the following shows the relative present day fares in other tramway systems, the average fare section in each case being approximately one mile.

	<u>Ballarat</u>	<u>M.M.T.B.</u>
One Section	4d.	5d.
Two Sections	5d.	7d.
Three "	6d.	
Four "	7d.	
Five "	-	
Six "	-	
Seven "	-	
<u>Staff and Employees</u>		

The following table sets out the variations in the number of employees wholly engaged in tramway operations and maintenance at Ballarat from 1935 to the present. There are other officers

(Cont'd.)

and employees engaged in Commercial and Workshop activities of the Branch whose duties have concern to the Commission's Electricity Distribution and Power Generation as well as tramways.

<u>Year</u>	<u>Staff</u>	<u>Employees</u>	<u>Total</u>
1935			
1936			
1937			
1938			
1939			
1940			
1941			
1942			
1943			
1944			
1945			
1946			
1947			
1948			
1949			
1950			
1951			
1952			
1953			
1954			
1955			
1956			
1957			
1958			

The segregation of personnel as at 30th June, 1958 is as follows:-

Branch Tramways Superintendent	1
Senior Traffic Inspector	1
Traffic Inspectors	3
Motormen/Conductors	
Traffic Clerks	

Rolling Stock Maintenance

Track

Overhead

Trams required for services (Normal)

The morning service commences with tramcars augmented to during the school/business traffic between 8.0 a.m. and 9.0 a.m. Until noon the service requires trams and from 12.0 noon to 6.0 p.m. tramcars are used. For the night service a reduced service of 7 tramcars is used.

The variations as applied to the various routes are as follows:-

	Start Street East	Out	In	Total
Gardens - Victoria Street	A.M.	PEAK	NOON	P.M. PEAK NIGHT
Gardens - Mt. Pleasant	"	"	"	" "
Sebastopol - Lydiard Street North	"	"	"	" "
Daily Route Mileage Run				

The normal daily mileage in each service is as follows:-

	<u>Weekdays</u>	<u>Saturdays</u>	<u>Sundays</u>
Gardens			
Victoria Street			
Mt. Pleasant			
Lydiard Street North			
Sebastopol			

TotalAverage Speed of Route Services

The average speed of each route service including stopping and terminal standing times is as follows:-

Gardens	
Victoria Street	
Mt. Pleasant	
Lydiard Street North	
Sebastopol	

Frequency of present Route Services (Brief Summary)

Gardens Routes	
Victoria Street	
Mt. Pleasant	
Lydiard Street North	

Sebastopol

(Cont'd.)

Passenger Density

The average passenger density per hour on each route on ordinary weekdays (Mondays to Fridays) is computed as follows:-

	Max. per hour	Min. per hour	Average
Gardens Sturt Street West	"	"	"
" Drummond St. North	"	"	"
Victoria Street	"	"	"
Mt. Pleasant	"	"	"
Lydiard Street North	"	"	"
Sebastopol	"	"	"

Average Daily Passengers Per Route (normal weekday)

	Out	In	Total
Gardens - Sturt Street West	"	"	"
" Drummond St. North	"	"	"
Victoria Street	"	"	"
Mt. Pleasant	"	"	"
Lydiard Street North	"	"	"
Sebastopol	"	"	"

11. Review of Present Conditions

Maintenance of the tramways is becoming an increasing problem with regard to tracks and rolling stock by reason of the extended age of the system. It has been necessary to place a limitation on expenditure in order to restrain the annual loss on tramway operations at Ballarat. Of recent years maintenance has of necessity been limited to essentials sufficient only to ensure the reasonable safe working of the service. As the tramways have consistently been operated at a substantial loss, there is no Renewals Reserve Fund to draw on for replacements. The rolling stock is of nearly 50 years vintage and as a consequence maintenance expenditure on bodies, electrical equipment and trucks is utterly uneconomic. Seventy-five per cent of the tram rails have now been in use for more than 50 years and are absolutely worn out with normal size wheel flanges running on the bottom of the groove. As a result of this condition, wheel flange wear is accentuated, resulting in a substantial reduction in the life of wheel tyres and a considerably higher maintenance cost in more frequent re-machining of tyres to keep operations reasonably safe. The untreated hardwood sleepers under

the rails have depreciated ^{deteriorated} very considerably and each year increasing numbers of sleepers have to be renewed to hold the tracks. This work is only a palliative, as on a long term basis a more comprehensive renewal of track sleepers (using timbers with longer service life) would be justified in view of the high costs of paving reinstatement. Most of the loop and crossing castings are also at the end of their life. The limited population served by the Ballarat tramways provides only light traffic in other than very restricted peak periods and can only sustain a low fare and low operating cost system service, because most of the travel distances are relatively short.

For this reason it is considered that the ultimate system at Ballarat must be completely provided by one-man operated units in order to reduce operation costs and enable the maximum frequency of service. From the start of the Commission's tramway experience, it has been made aware of this feature and it has throughout within the limits of reasonableness endeavoured to make this economy. The practice of one-man operation is strongly opposed as a matter of policy by the Tramway Employees Union, and of recent years the source of supply of secondhand trams suitable for one-man operation has dried up. It is realised that the provincial tramways which comprise mostly single tracks and secondhand rolling stock retired by Metropolitan systems has at no time provided a suitable basis for the creation of completely one-man operated services. The position of the Commission throughout has been that it has operated acknowledged uneconomic tramways somewhat on a caretaker basis, simply to provide cover for a limited period during which the municipality could make an unhurried decision on the best ultimate system to be introduced. It is the opinion of the Commission and confirmed by the trend overseas that tramways cannot be sustained in small communities, and even in Metropolitan centres such as Sydney and Perth worn out tramways are decided as uneconomic to renew in the light of modern transport facilities and the reduced demand by reason of private motor cars.

12. Prospective Cost of Continuation of Tramways

As previously expressed, the Ballarat system is at the end of its ability to give a satisfactory service and is now in a condition of accelerating deterioration with regard to cars and tracks. It can only be continued in existence by a substantial increase in maintenance expenditure by patching which is a sheer waste of money having regard to the fact that sooner or later it must be scrapped. Such expenditure cannot be permitted in view of the existing high annual loss incurred and the magnitude of the accumulated loss which has all been paid by consumers of electricity.

In view of the high costs of removal of tram tracks and the restoration of roadways, the practice today in the few cases where tramways are being reconditioned for their potential last period of service is to lay the tracks in a mass concrete bed. By the elimination of all timbers a reinforced concrete roadway is being provided so that a simple sheeting over with bitumen will provide a super road for an indefinite period of years to come. The cheapest system of rehabilitating the Ballarat Tramways would be by using the present system of sleeper construction, with treated sleepers giving a life expectancy of about 30 years. The Ballarat system comprises 16.17 miles of track when expressed as single track. 75% of this consists of rails now completely worn out after over 50 years service. In the Borough of Sebastopol the rails are over 70 years old. All the special work comprising points, crosses, mates and crossings are either over 50 years old and worn out or have been fabricated by the Commission from old rails. It is therefore visualised that 12 miles of track needs new rails and all the special work is beyond economic maintenance. It would be uneconomic to renew rails without putting in new sleepers as the existing sleepers are rotting out fast. Therefore a completely new track comprising rails, special work and sleepers would be the cost of continuing this tramway system any longer. With an estimated cost of £65,000 per mile to renew single track in its present location the overall expenditure would be roundly $\frac{3}{4}$ million pounds. To replace the present fleet of 25 tramcars with modern

units suitable for one-man operation would need new trams as such type is not available in Australia. If £10,000 each is a reliable estimate of cost the aggregate cost of continued tramway operations would necessitate the expenditure of about one million pounds of capital which is unthinkable. This amount simply preserves the existing lay out and track locations, ^{including} and does not provide for track duplications to improve service flexibilities and eliminate the annoying waiting time on loops or the tortuous slowing down and bumping of cars negotiating track loop installations. At the conclusion of whatever life span would be given to a tramway so rehabilitated an expenditure of an additional £300,000 would be faced in removing the tracks and reinstating the roadways.

The cost of new double track on sleeper bed with bitumen penetration paving is about £125,000 per mile and this is quoted simply to show that new routes or extensions of routes are entirely out of the question.

To maintain the Ballarat Tramways to a standard comparable with the Commission's principal assets would increase the annual loss by at least £20/30,000 per annum. Such additional expenditure is completely unsound in view of the ages of the equipment and the high annual loss incurred in its operation. The withdrawal of tramways operations at Ballarat would enable the planning of passenger transport facilities better sited to suit developmental trends and better routed to give better facilities to the users. As an example it is suggested that a road service between the City and Sebastopol using the Skipton Street route would nearly halve the present tramway schedule via Drummond Street with its long section of single track limitations.

Aggregate loss as at 30th June, 1958

Year Ended 30th June	Income	Expenditure	Profit	Loss
	£	£	£	£
1935	23,188	24,995		1,807
36	22,647	26,448		3,801
37	21,799	26,352		4,553
38	24,218	43,499		19,281
39	25,262	45,343		20,081
40	25,244	45,915		20,671
41	29,783	44,637		14,854
42	38,604	44,086		5,482
43	51,178	49,074	2,104	
44	50,944	53,707		2,763
45	51,509	54,267		2,758
46	51,726	50,779	947	
47	49,853	57,668		7,815
48	50,915	71,493		20,578
49	52,257	81,343		29,086
50	58,728	90,511		31,783
51	58,807	103,857		45,050
52	61,101	124,943		63,842
53	64,272	135,351		71,079
54	64,451	138,820		74,369
55	63,877	136,554		72,677
56	65,298	142,055		76,757
57	65,246	145,542		80,296
58	x	x		x

Aggregate Loss as at 30th June, 1958 x

BALLARAT TRAMWAYS

STATEMENT "B"

SEGREGATION OF EXPENDITURE 1935 TO 1958

Year Ended 30th June	Power	Operation	M'Tenance	Administ.	Interest	Deprec.	Loan Red.	Total
1935	3,670	10,922	7,347	3,056	-	-	-	24,995
36	4,591	12,394	6,248	3,215	-	-	-	26,448
37	4,779	12,820	4,623	4,130	-	-	-	26,352
38	5,872	16,987	5,490	6,177	4,178	973	3,822	43,499
39	4,012	18,096	6,875	6,219	4,390	1,642	4,109	45,343
40	2,587	18,777	7,745	6,492	4,186	1,802	4,326	45,915
41	2,469	20,650	5,511	5,868	3,841	6,298	-	44,637
42	1,921	22,849	5,050	5,836	2,803	5,627	-	44,086
43	2,294	26,903	6,177	6,014	2,872	4,814	-	49,074
44	2,141	29,656	7,992	6,710	2,243	4,965	-	53,707
45	2,306	30,016	8,430	6,367	1,979	5,169	-	54,267
46	2,217	31,426	7,917	7,320	1,899	-	-	50,779
47	2,705	35,023	10,244	7,854	1,842	-	-	57,668
48	3,111	44,950	11,906	9,558	1,968	-	-	71,493
49	3,522	51,587	13,551	10,694	1,989	-	-	81,343
50	3,945	55,951	14,000	14,577	2,038	-	-	90,511
51	3,921	66,448	21,382	11,451	655	-	-	103,857
52	4,554	80,117	24,332	15,132	808	-	-	124,941
53	5,566	85,128	28,540	15,201	916	-	-	135,243
54	6,064	85,407	29,652	17,044	653	-	-	138,820
55	6,080	86,865	26,345	16,607	657	-	-	136,554
56	5,342	90,024	30,797	15,218	72	403	-	142,056
57	5,691	91,811	31,064	15,776	45	1,154	-	145,542
58	x	x	x	x	x	x	x	x

BALLARAT TRAMWAYS

STATEMENTS "C"

OPERATION STATISTICS 1935 TO 1958

Year Ended 30th June	Passengers	Car Miles	Pass. per Car	Av. Fare per Passenger	Income per Car Mile	Exp. per Car Mile	Loss per Car Mile	Loss per Passenger
				d.	d.	d.	d.	
1935	2,276,538	530,222	4.3	2.436	10.496	11.314	0.818	0.190
1936	2,244,510	538,156	4.2	2.416	10.100	11.795	1.695	0.406
37	2,160,890	538,366	4.0	2.418	9.718	11.748	2.030	0.506
38	2,428,963	597,619	4.1	2.377	9.726	17.469	7.743	1.905
39	2,664,677	586,004	4.5	2.249	10.346	18.570	8.224	1.809
40	2,752,504	587,847	4.7	2.185	10.306	18.745	8.439	1.802
41	3,254,978	589,626	5.5	2.182	12.123	18.169	6.046	1.095
42	4,430,184	597,322	7.4	2.082	15.511	17.713	2.202	0.297
43	6,410,479	622,666	10.3	1.911	19.726	18.915	P.0.811	P.0.079
44	6,016,520	620,692	9.7	2.026	19.698	20.766	1.068	0.110
45	5,775,379	614,731	9.4	2.132	20.110	21.187	1.077	0.115
46	5,768,312	612,090	9.4	2.143	20.282	19.910	P.0.372	P.0.039
47	5,396,705	603,817	8.9	2.204	19.815	22.921	3.106	0.348
48	5,473,916	623,737	8.8	2.221	19.591	27.509	7.918	0.902
49	5,663,677	624,586	9.1	2.205	20.080	31.256	11.176	1.233
50	4,823,423	595,653	8.1	2.912	23.663	36.469	12.806	1.581
51	4,605,378	554,919	8.3	3.055	25.434	44.918	19.484	2.348
52	4,221,243	526,571	8.0	3.464	27.848	56.946	29.098	3.63
53	4,468,635	562,159	7.9	3.441	27.439	57.784	30.345	3.81
54	4,480,958	575,576	7.8	3.443	26.874	57.884	31.010	3.98
55	4,516,485	574,551	7.9	3.384	26.683	57.041	30.358	3.86
56	4,149,847	515,766	8.0	3.762	30.385	66.102	35.717	4.439
57	3,896,039	490,064	8.0	4.007	31.953	71.276	39.323	4.946
58								