

Depot Foreman

ANNUAL REPORT 1957/58

WORKS SECTION

TRAMWAYS

A. Depot Operation

- (1) General
- (2) Personnel

B. Maintenance

- (1) Rolling Stock
- (2) Mechanical Equipment
- (3) Electrical Equipment
- (4) Depot Equipment

C. Permanent Way

- (1) Personnel
- (2) General

D. Statistics

- (1) Segregation Track Gang Man Hours
- (2) Maintenance Report Form - Permanent Way
- (3) Maintenance Report Form - Ancillary Equipment
- (4) Maintenance Report Form - Rolling Stock

WORKSHOPS

- (1) Personnel
- (2) Schedule of Man Hours
- (3) General
- (4) Transport Maintenance
- (5) Fire Control
- (6) Safety

---000---

Total Fleet Strength

TRAMWAYS

A. Depot Operation

(1) General - Maintenance of Rolling Stock was confined to repairs and replacements, essential in the interests of public safety.

During the year the general appearance of the fleet gradually deteriorated, due to the complete absence of external preservation. The abnormal weather conditions during the early part of the winter, when little rain fell but frosts were prolonged and severe, accelerated the deterioration of the paintwork, particularly adjacent to the timber joints of the coach work.

A new system for recording tramcar mileages was implemented. Formerly daily mileages were tallied by traffic inspectors. Under the new system mileage cards have been replaced by a pre-determined daily mileage form, which is initiated by the Depot Foreman as the cars leave the Depot, and completed by the Works Clerk.

One single truck car was fitted with Used Ticket Boxes. To date, results are not conclusive but early indications suggest the experiment will be successful.

The total mileage covered by the fleet was 490,727 miles an increase of 663 miles compared with the previous year's figures.

(2) Depot Personnel - The directed retrenchment policy was implemented. 50% reduction in the strength of coach painters and coach builders was effected.

At the 30th June, 1958, the number of employees directly employed on maintenance and operation at the Depot was as follows:-

Controlled by Depot Foreman		Controlled by Building Maintenance Foreman	
Shed Mechanic	1	Coach Builders	1
Shedmen	3	Coach Painters	1
Shed Assistants	6		
Car Cleaners	2		
	12		2

TOTAL 14

B. Maintenance

(1) Rolling Stock - The fleet strength as at 30th June, 1958, was as follows:-

<u>Single Truck Cars</u>	<u>Double Bogie Cars</u>
Nos. 11	Nos. 34
12	35
13	36
14	38
17	39
18	40
19	41
20	42
21	43
25	
26	<u>9</u>
27	
28	
30	
31	

Total Fleet Strength - 27 units

The total number of derailments which occurred was 17, 6 of which necessitated assistance from the Depot Staff.

Breakdowns in traffic caused by traffic accidents, mechanical failures or electrical faults totalled 89, the details of which are as follows:-

Accidents		Mechanical		Electrical	
Traffic accidents	14	Brakes	17	Motors	9
		Life guards	4	Controllers	6
		Roofs	1	Lights	2
		Wheels	1	Resistance	2
		Trucks	10	Trolleys	6
		Brake valves	4	Tail lights	1
		Bodies	4	Governors	3
		Windows	5		
	14		46		29

(2) Mechanical Equipment

Brakes - The number of brake gear assemblies overhauled by the General Workshop was 4 sets and 15 brake gear levers were replaced with reconditioned spares; also 4 brake valves and control handles were completely reconditioned.

Tyres - 8 sets of 4, 33" wheels were fitted, the average mileage obtained was 101,842.

To reduce the number of man hours expended upon tyre reconditioning the cross sectional area of the flanges of several cars have been increased. Results to date are as follows:-

Car No.	Flange	Mileage at 30/6/58
32	7/8"	28,000
26	13/16"	19,439
19	"	14,577
11	"	12,894
31	"	14,165
35	"	13,320
12	"	9,615

Lubrication - Molybond GA.10, a lithium based grease containing an appreciable percentage of molybdenum disulphide, the coefficient of which is only half that of graphite (0.03) was tested upon tramcar bearings and wearing surfaces and also upon the flange contact surfaces of curves on the permanent way.

Tests on the wearing surfaces of undercarriages were highly successful, and the lubrication of undercarriages, which formerly was carried out weekly was extended to four weekly periods.

(3) Electrical Equipment

The performance of the equipment was satisfactory. Only minor defects required attention.

(4) Depot Equipment

No equipment was procured for the Depot but a band saw which was borrowed by the General Workshops in 1934 was returned to the Depot in good order and condition.

Buildings - Some progress was made in sealing the inspection pits against water seepage. Extensive repairs to the roof of the Depot, to the East surface drain, to extension of dry sand locker and premix mixing shed were deferred because of the uncertainties associated with the duration of tramway operations.

C. PERMANENT WAY

(1) **Personnel** - The strength of the track gang was reduced by 33.3%. Comparative lists as at 30th June, 1957, and 30th June, 1958, are as follows:-

1 9 5 7		1 9 5 8	
Track Foreman		Track Foreman	
Leading Hand	1		
Roller Driver	1	Roller Driver	1
Truck Driver	1	Truck Driver	1
Track Welder	1	Track Welder	1
Track Repairers	6	Track Repairs	4
Track Cleaners	2	Track Cleaners	1
TOTAL	12	TOTAL	8

(2) **General** - As in previous years, it was impossible during the reported period to lay down any planned programme of preventive maintenance. Repairs were tackled upon a straight priority basis.

Difficulties were experienced with the bolted check rail on all major curves. This type of rail, which was highly regarded in the past, being in the "good cheap job" category has proved, with the passage of time, a costly improvisation. Securing bolts continually tend to slacken back and the wear on the rail is rapid. Continuity of service was achieved by extensive building up of the check rail by electric welding, to counteract excessive wear and spot welding the check rail to the main rail, to off set the tendency of the securing bolts to slacken back. During urgent repairs to curves of necessity two welding units were utilized.

The superelevation of all major curves received attention. Subsequent to a derailment on the Hamilton Ave/Sturt Street curve the superelevation was inspected and found to be a negative quantity in certain section. The complete curve was surveyed and superelevation corrected.

In Bridge Street, where 270 ft. of double rail was installed 18 months ago, the welded joins have proved 100% successful.

The experimental 20 ft. section of concrete blocks laid down in the roadway adjacent to the tram tracks at the Mair Street/Lydiard Street North intersection during 1957, were extended to cover the complete intersection.

On the Sebastopol track the work of renewing every fourth sleeper (approximately) and installing tie rods at 15 ft. intervals was completed.

At the Sebastopol terminus 200 ft. of 75 lb. rail was reclaimed and used elsewhere along that route. 50 lb. rail ex Geelong was used to replace the reclaimed rail.

The general condition of this track has greatly improved due firstly, to the completion of urgently required maintenance and secondly to the operating of single truck cars in place of double bogies.

Subsequent to a survey of special works, the replacement of three major items were regarded as a matter of urgency in the interest of safety. The castings in question were inspected by the Works Manager, and representative from Geelong Branch who unanimously agreed that replacement be effected immediately.

Two of the items have been replaced and fabrication of the third in the Branch Workshops is under way and will be installed as soon as possible.

A characteristic of manganese steel cast special works is that there inevitably comes a time when further "repairs" by welding is quite ineffective and replacement is the only sound proposition.

Several castings, one of which contains no less than five fractures, appear to be approaching this stage of their life and will require close observation, if accidents are to be prevented, in the immediate future.

The percentage of the track gangs total productive man hours expended upon work other than tram tracks, was 7%, in which was included clearance of abnoxious weeds from E.S.D. and P.P.D. properties and construction of an additional parking area at Wendouree Parade for Distribution vehicles.

Segregation of Track Gang's Productive Hours 1957/58

<u>D.1.</u>			<u>Productive Hours</u>	<u>Percentage</u>
31809	Cleaning and oiling tracks	1	4,192	21.500
31810	Depot area services	1	78.5	.400
31820	Carting bicycles	1	714.5	3.660
31830	Permanent Way	1	13,061	67.030
31832	Rolling Stock	1	78	.400
314	Distribution	3	448	2.300
308A	P. P. D. "A" Station	2	81.5	.420
308B	" " "B" "	2	209.5	1.070
	Miscellaneous E.S.D. jobs	3	627	3.220
	Total Productive Hours		<u>19,490</u>	<u>100.000%</u>

Summary

Tramways	18,124	92.990
P.P.D.	291	1.490
E.S.D. Head Office & Miscellaneous	1,074	5.520
Total	<u>19,490</u>	<u>100.000%</u>

No. of Tie Rods removed -

Location	Section	No.
Sebastopol	Sebastopol terminus to Walker St.	55
Bridge Street	Main Rd. Bridge St. corner	2
Lydiard Street	Provincial Hotel area	6
Sturt Street West	Durham Street	2

Major work carried out on loops and crossings- (i.e., special works)

A new fabricated cross was placed at the Drummond-Sturt Sts., intersection North side opposite Service Station; 3 joints Maxx welded; 2 joint plated and welded. A considerable amount of building up on worn check rails was done at the "S" curve Sebastopol. Macarthur St./Wendouree Pde. Barkly St., Hamilton Ave. Drummond Street North/Macarthur Street, Lydiard Street/Sturt Street and Sturt Street into Bridge Street North track.

Miscellaneous information

Approx. 11 miles of track was top dressed with bitumen cut back and sand. As Sebastopol tracks are of gravel formation no sealing was required. 700 concrete bricks were placed adjacent to tram lines at Hair Street, Lydiard Street corner to form a solid traffic crossing. 1 pair of new stop up plates used at Drummond Street South. 17 rail joints have been Maxx Welded. Sand for tram brakes was carted screened and placed in shed at tram Depot. Asphalt was mixed as required.

ELECTRICITY SUPPLY DEPARTMENT - PROVINCIAL CITY TRAMWAYS

MAINTENANCE REPORT - PERMANENT WAY

BALLARAT BRANCH

YEAR ENDING 30/6/58

Length of single rail renewed -

Type	Route	Section	Length
50 lb. T. Rail	Sebastopol	Terminus	187'
90 lb. B.S.S.I.C.	Sturt-Drummond cr.	Opposite Service Stn.	17'6"
A. Rail	Bridge Street	Stones' corner	38'
A. Rail	Sturt St. West	Ascot St. Nrth. side	10'
B.H.P. Check rail	Sebastopol	S curve	16'
" " "	Sturt Street	Grenville St. shelter	22'

Length of single rail raised, packed and resealed -

Route	Section	Length
Sebastopol	St. St. to Sebastopol terminus	4976'
Sturt Street	Lydiard St. to Hamilton Ave.	1160'
Wendouree Parade	Hamilton Ave. Wendouree Pd. to Macarthur Street	968'
Mount Pleasant	Barkly St. bridge to Gladstone St.	536'
Lydiard Street	Sturt Street to terminus	110'
Victoria Street	Bridge Street to terminus	130'

No. of sleepers renewed -

Route	Section	No.
Sebastopol	Sebastopol	78
Wendouree Parade	Hamilton Av. to Macarthur St.,	10
Sturt Street West	Talbot St. to Durham Street	6

No. of Tie Rods renewed -

Route	Section	No.
Sebastopol	Sebastopol terminus to Walker St.	55
Bridge Street	Main Rd. Bridge St. corner	2
Lydiard Street	Provincial Hotel area	6
Sturt Street West	Durham Street	2

Major work carried out on loops and crossings:- (i.e., special works)

A new fabricated cross was placed at the Drummond-Sturt Sts., intersection North side opposite Service Station; 3 joints Murex welded; 1 joint plated and welded. A considerable amount of building up on worn check rails was done at the "S" curve Sebastopol. Macarthur St./Wendouree Pde. Barkly St., Hamilton Ave. Drummond Street North/Macarthur Street, Lydiard Street/Sturt Street and Sturt Street into Bridge Street North track.

Miscellaneous information

Approx. 11 miles of track was top dressed with bitumen cut back and sand. As Sebastopol tracks are of gravel formation no sealing was required. 708 concrete bricks were placed adjacent to tram lines at Mair Street, Lydiard Street corner to form a solid traffic crossing. 1 pair of new step up plates used at Drummond Street South. 17 rail joints have been Murex Welded. Sand for tram brakes was carted screened and placed in shed at Tram Depot. Asphalt was mixed as required.

ELECTRICITY SUPPLY DEPARTMENT - PROVINCIAL CITY TRAMWAYS
MAINTENANCE REPORT - ANCILLARY EQUIPMENT

BALLARAT BRANCH

YEAR ENDING 30/6/58

(Road Roller, Tower Waggon, Welding Truck, Workshop Tools and Machines, and other miscellaneous equipment).

Extensive repairs were carried out to Road Roller including cylinder head gasket renewed three times. Cracked water jacket welded. Exhaust parts decarbonized. New key in gear box pulley. Repairs to water tank. Alterations to Breather Pipe. New trip on impulse starter. New Governor spring also painted.

Tip truck mudguard straightened. Chassis and tray body painted also normal maintenance.

Two welding units and concrete mixer required normal maintenance.

Two track cleaners bicycles received general overhaul.

Air receivers tested	Car Nos.	30, 39, 34, 29, 33
Air compressors overhauled	Car Nos.	33, 28, 41
No. of brake blocks fitted	By	150
	Average Mileage	4,100
		2,576
No. of new type fitted		2,500
No. of air hoses fitted		2,500
No. of new trailing cables fitted		2,500
No. of alterations repaired		2,500
No. of structures changed due to electrical breakdown		2,500

one structure shaft broken ME.225

NOTE: Any additional information considered of value should accompany this form or an attached sheet.

ELECTRICITY SUPPLY DEPARTMENT - PROVINCIAL CITY TRAMWAYS
MAINTENANCE REPORT - ROLLING STOCK

BALLARAT BRANCH

YEAR ENDING 30/6/58

BODY SECTION:

Repainted completely (Externally and Internally)	Car. Nos.	N11
		Cream work around doors
"Refresher" coat only	Car. Nos.	20, 35, 30, 25
Work performed on roofs -		
(1) Recovered	Car. Nos.	N11
(2) Painted	No. of cars	6
(3) Patched	No. of cars	3
Accident Repairs -		
(1) Major (Necessitating re- building of portion of the body structure)	Car Nos.	33, 25, 38
(2) Minor (i.e. footsteps, stanchions, bumpers, etc.)	No. of cars	14

TRUCK SECTION:

Overhauled completely	Car Nos.	39, 21, 31, 20
No. of wheels sets trued -		
(1) In situ	20 _____	(11) In Lathe 20 _____
	26 1/2 _____	26 1/2 _____
	33 _____	33 _____
	19 sets	11 sets
Air receivers tested	Car Nos.	20, 39, 34, 25, 33
Air compressors overhauled	Car Nos.	33, 28, 41
No. of brake blocks fitted	20" 159	Average Mileage 4,104
	26 1/2" _____	" " _____
	33" 211	" " 2,556
No. of new tyres fitted	20" 1 set of 4	" " x Geelong
	26 1/2" _____	" " _____
	33" 8 " " 4	" " 101,842
No. of new centres fitted	20" _____	
	26 1/2" _____	
	33" 1 S.H.	
No. of new trolley wheels fitted	17	Average mileage 21,322
No. of armatures rewound	2	Make of motor GE.202
No. of armatures changed due to electrical breakdown	5	" " " WH.225

one Armature shaft broken WH.225

NOTES: Any additional information considered of value should accompany this form on an attached sheet.

ADDITIONAL INFORMATION

15 worn brake levers were reconditioned.

4 complete sets of brake gear reconditioned.

1 worn brake cylinder reconditioned.

4 brake valves reconditioned.

All bogie brake pull rods were repaired and annealed.

2 broken bogie side frames were repaired by welding.

4 trolley buses were reconditioned.

1 lightning arrester was renewed.

All lightning arresters were tested.

4 saloon seats were covered with plastic cloth.

Angle iron horn block keeps were renewed on 6 bogie cars.

2 Destination scrolls were renewed.

Gear case suspension bolts were renewed on all cars with WH.225 equipment.

Damaged ends of trams Nos. 25 and 33 were completely repainted.

Boxes for used tickets were fitted to No. 25 tram.

Molybond grease lubrication is being used on undergear of all double bogie tramcars.

ANNUAL REPORT 1957/58

Works Section

Workshops

1. (a) Personnel, General Engineering, Building Maintenance and Transport Workshops.

The comparison of Workshops strength 1956/57 and 1957/58 was as follows:-

		1956/57	1957/58	+ or -
WAGES	Fitters and Turners	7	6	- 1
	Elec. Fitter and armature winder	1	1	
	Blacksmith	1	1	
	Welder	1	1	
	Machines 3rd class	1	1	
	Carpenters	4	3	- 1
	Plumber	1	1	
	Bricklayer	1	1	
	Painters	3	4	+ 1
	Trades Assistants	7	7	
	Coach Builders	2	1	- 1
	Coach Painters	2	1	- 1
	Apprentice Fitters and turners	2	2	
	" Elec. fitters and arm. winders	1	1	
	" carpenter	1	1	
STAFF	Works Superintendent	1	1	
	" Technical Asst.	1	1	
	" Clerk	3/8	1/2	+ 1/8
	" Foreman	1	-	- 1
	Foreman (Engineering)	-	1	+ 1
	" Building Maintenance	-	1	+ 1
	" Transport "	1	1	
	TOTALS:	39 3/8	37 1/2	- 1 7/8
SUMMARY				
	Wages	35	32	- 3
	Staff	4 3/8	5 1/2	+ 1 1/8
	TOTALS:	39 3/8	37 1/2	- 1 7/8

In accordance with the Departmental directive of 13th March, 1957, entitled Employees Provincial Cities, the number of employees in the Works Section was under constant review. At the 30th June, 1958, the total percentage reduction in the Works Section, since the retrenchment policy was implemented, was 12½%. One result of the enforcement of the policy was a greater than normal movement of personnel.

A carpenter resigned, to accept a position which offered continuity of employment with the State Education Department.

The leading hand fitter was promoted to Foreman Engineering and the leading hand carpenter to Foreman Building Maintenance.

With the segregation of workshop personnel into two groups, directly controlled by an Engineering Foreman and a Building Maintenance Foreman respectively, supervision of tradesmen and trades assistants was greatly improved.

The overall result of the new arrangement was increased productivity.

Availability of skilled and unskilled labour was plentiful in Ballarat, particularly at the end of the financial year 50% of the enquiries received at the Branch office (which probably averaged 3.4 per working day) were from New Australians of Southern European origin.

2. The schedule of the segregation of Workshop Productive Man hours shown in terms of actual and percentage man hours for 1956/57 was as follows:-

			<u>Hours</u>	<u>Percentage</u>
H.O.	1	Head Office and capital works	3,087	6.140
114	4	Distribution capital	1,616	3.210
121	5	Building capital	80	.157
2200	5	Manufactured jobs	926	1.845
2201	5	Chargeable works	158	.311
2202	5	Work in Progress	514	1.020
2203	5	Other work in progress	84	.165
308A	2	P.P.D. "A" Station	715	1.420
308B	2	" " "B" "	4,950	9.830
314	4	Distribution Maint.	9,654	19.210
316	5	Sales and Showrooms	737	1.460
318	3	Tramways	11,759	23.350
421	5	Admin. Office Maint.	4,702	9.350
422	6	Welfare etc.	4,592	9.150
427	5	Stores	1,037	2.060
430	5	Garage building maint.	267	.530
432	5	Vehicle Maint. and servicing	1,960	3.890
444	6	Telephone Communication Expense	16	.032
446	6	Misc. Equipment and Facilities	85	.170
447	6	Area Services	3,369	6.700
		TOTAL	50,308	100.000%
Summary	1	Head Office	3,087	6.140
	2	Power Production Department	5,665	11.250
	3	Tramways	11,759	23.350
	4	Distribution	11,270	22.420
	5	Other E.S.D. Branch functions	10,465	20.688
	6	Miscellaneous	8,062	16.052
			50,308	100.000%

Summary Departments -

E.S.D.	44,643	88.750%
Others	5,665	11.250%

The total productive man hours 50,308 was 3,594 above the man hours for 1956/57.