

ELECTRICITY SUPPLY DEPARTMENT - PROVINCIAL CITY TRAMWAYS

MAINTENANCE REPORT - ROLLING STOCK

BRANCH

Ballarat

YEAR ENDING

June 1956BODY SECTION:Repainted completely
(Externally and Internally)

Car Nos.

Nil

"Refresher" coat only

Car Nos.

18.26.27.31.33

Work performed on roofs -

(1) Recovered

Car Nos.

Nil

(2) Painted

No. of cars

13

(3) Patched

No. of cars

3

Accident Repairs -

(1) Major

Car Nos.

(32)?(necessitating re-
building of portion of
the body structure)

(2) Minor

No. of Cars

18(i.e., footsteps,
stanchions, bumpers,
etc.)TRUCK SECTION:

Overhauled completely

Car Nos.

35.39.40.41.42.30

No. of wheels sets trued -

(1) In situ

20

26 1/2

33

(ii) In lathe

20

26 1/2

33

8 sets17 sets

Air receivers tested

Car Nos.

35.39.40.41.42.

Air compressors overhauled

Car Nos.

17

No. of brake blocks fitted

20"

26 1/2"

33"

146

Average mileage

"

"

484827622336 1/2

No. of new tyres fitted

20"

26 1/2"

33"

4-16

Average mileage

"

"

96.577-107.970

No. of new centres fitted

20"

26 1/2"

33"

Nil-Nil

No. of new trolley wheels fitted

28

Average mileage

17.163

No. of armatures rewound

1

Make of motor

"

"

"

G.E. 201G.E. 202W.H. 225No. of armatures changed
due to electrical
breakdown113

Make of motor

"

"

"

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

1956

Extra road on Depot.

Depot roof repainted. ^{Concrete} front of Depot building & apparatus repainted.

Feeling frame.

Washed from feeling.

Car Cramps for Carpenter, 5¢. 2 4¢.

Body No 16 sold & truck dismantled.

Weather, blots, dots & eyes. removed.

1. Repairing machinery shaft.

Supply Control equipment removed from 10 cars (all completed)

4 structure bugs removed. Average 79.666

4. Spline plate, around with plate.

Boze Car No 39 x Guling. number changed to 41. Trucks overhauled and repaired, lubricators filled on side bearings. Alterations to body to conform with National type completed and car ready for service.

Boze Car No. 37 x Guling. number changed to 42. Trucks overhauled and repaired, lubricators filled to side bearings, position of side bearing slides altered to correct position. Alterations to body to conform with National type in progress.

Boze car No 40 x Guling. number changed to 43 alterations to body in progress.

Brush gear reconditioned 3 (3) sets

Grake rings, 1.1.1.2.1.2. (8) (2)

2. Spline shaft

2. Spline 2.4.1.2. (8)

Brush drums. 2.1.1.1. (5) 1. Collector 1. Lip guard damaged, 3 Dismantled.

Boze car on lay by at Grumlett St.

Trucks gates & footbed edges painted aluminum

STATE ELECTRICITY COMMISSION OF VICTORIA

COPY

for

DEPOT FOREMAN

WORKS SUPERINTENDENT

MANAGER, BALLARAT BRANCH:

15th August, 1955.

ANNUAL REPORT 1954 - 1955:TRAMWAYS - DEPOT OPERATION AND MAINTENANCE.A.1. General:

In accordance with directed policy "expenditure should be subject to the consideration that there is no worsening of the financial results compared with 1953/54" of necessity, the curtailed maintenance policy which prevailed during that period, was continued. From the figures available at the time of writing, the financial objective has been achieved, but the fleet, in general condition and appearance, is gradually deteriorating.

The total mileage covered by the fleet was 574,551, a reduction of 1,025 miles compared with 1953/54.

The number of derailments necessitating the calling out of Depot personnel totalled three (3), and minor derailments, six (6). The extremely low figures are attributed to the following :-

- (i) Vigilance of depot and track personnel in detection and prompt rectification of defects which cause derailments.
- (ii) Possibly, the duration of deliberations, prior to the settlement of the new Tramway Award, resulting in careful driving over curves, points and crosses, by the Traffic section.

Double bogie tramcar No. 37, which was seriously damaged during the previous year is now being broken up for spare parts. It is expected the body will be sold in the immediate future and the dismantling completed. A schedule of re-usable spare parts already removed has been compiled and is in the hands of the Works Manager, Richmond, for pricing.

Personnel - The movement of personnel was normal. One shedman was transferred to Workshops due to indifferent health. The vacancy was satisfactorily filled.

To cover the Long Service Leave of a car cleaner, a temporary arrangement was effected with the Workshops whereby a fitters mate was made available as part time cleaner. Depot personnel consisted as follows :-

	<u>1954/55</u>	<u>1953/54</u>
Depot Foreman	1	1
Shed Mechanic	1	1
Shedmen	3	3
" Assistants	5	5
Car Cleaners	2	2
Painters	2	2
Coach Builders	2	2
Total complement	<u>16</u>	<u>16</u>

B.1. Rolling Stock:

Interiors - Maintenance was confined to repairs and replacements considered essential for safe operation.

Exteriors - Four cars received a refresher coat of Dulux clear varnish.

Accidents - The number of accidents necessitating repairs to rolling stock totalled 31, consisting of 5 major and 26 minor.

Breakdowns in service caused by mechanical or electrical faults totalled 74, details of which are as follows :-

<u>Mechanical -</u>		<u>Electrical -</u>	
<u>Fault or Defect</u>	<u>No. off</u>	<u>Fault or defect</u>	<u>No. off</u>
Brakes	11	Motors	6
Wipers	2	Tail lights	4
Poles	8	Lighting	2
Governors Air	4	Controllers	10
Roofs	4	Resistances	2
Sanders	3	Line Breakers	2
Points & crossings	4		<u>26</u>
Life guards	2		
Windows (broken)	1		
Brake valves	1		
Axle boxes	1		
Compressors	1		
Damage due to accident	6		
	<u>48</u>		

During the year Dulux products used on tramcar painting continued to give satisfaction. Details of maintenance work carried out on Rolling Stock are shown on the attached Form "Maintenance Report - Rolling Stock".

B.2. Electrical Equipment:

2 W.H.225 motors were completely reconditioned in the Workshops. A total of 6 armatures failed in service, due to electrical breakdown.

B.3. Mechanical Equipment:

Brakes - The number of brake assemblies reconditioned by Workshops was 2 sets. 13 brake levers and 6 brake valves were reconditioned.

Tyres - Replacement of tyres was 100% increase on the previous year and then average mileage of tyre life was lower. The reason for both adverse results is to be found in the condition of the tracks. No hope exists under present conditions for improved mileages.

Plant, General - The front of the Depot and the east wall of the Motormen's Room, both visible from Wendouree Parade, received a coat of paint.

To re-rail cars, which had been involved in accidents, as expeditiously as possible, two hydraulic jacks were procured. It is anticipated the future will prove the expenditure well warranted.

Additions to existing Depot plant was nil. Normal maintenance of tools and appliances was carried out,

C. Permanent Way:

General - Track maintenance, to a large extent, was based upon keeping the rolling stock on the rails upon a day to day principle. Planned maintenance was not practicable.

Several well noted worn sections of rail were not renewed because they had not quite reached the possible derailment stage, which, at the present time, is regarded as the end of their useful life.

During the month of May, Mr. Reynolds of the Victorian Railways, inspected the Sebastopol track. His report is awaited with interest. Shortly after the inspection was made, Car No. 18 was derailed 125 yards from the terminus. Cause for concern exists in the general condition of the last $1\frac{3}{4}$ miles of the section due to the following :-

- (i) The original 75 lb/yd. rails laid down for horse drawn trams are still in use (turned end for end during reconstruction) and now weigh 62 lbs/yd.
- (ii) The light rails require frequent re-dogging, to retain track gauge, resulting in weakening of sleepers.
- (iii) The edge of the foot of the rail has corroded and insufficient thickness of metal remains to re-dogg in the normal manner.

An attempt was made to overcome 2 and 3 by re-positioning the sleepers laterally and securing the rails by special clamp and coach screw.

- (iv) Assuming the clamping method is 100% successful which it has been to date, approximately 25% of existing sleepers require renewal in the immediate future. The replacement programme suggested is 250 per year for five years.

The track repair gang was made available at the urgent request of the Power Production Department to clear storm water channels at "B" Station; to lay 2,000 sq. feet of concrete at the request of Civil Construction, and worked overtime excavating cable trenches for the Distribution Section.

The rail profile survey progressed considerably and is now 80% complete.

Attached is the Maintenance Report - Permanent Way form which gives in detail, repairs and replacement to the tracks.

Also attached is a schedule of Track gang productive man hours indicating in percentages the amount of work performed for other sections.

Personnel - The official strength of the track gang remained constant during the year, but the productive strength was considerably less due to the long service leave of the truck driver and prolonged illness (nine months) of a track repairer.

Foreman	1	Truck Driver	1
Leading Hand		Welder 1st Class	1
Track Repairer	1	Track repairers	6
Roller Driver	1	Track cleaners	2

TOTAL 13

The movement of personnel was Nil.

Maintenance Work - Blockages in track drains, due to roots and sand, were considerable and time did not permit completion of repairs.

In Lydiard Street North, the drainage problem on the top of the concrete raft was further improved by the installation of two short drains at 45° to the tracks leading into a deep sump and from thence to an adjacent culvert. But the drainage continues to be unsatisfactory.

The quantity of rail renewed was 80 ft; check rail, new 72 ft. and check rail, second hand 187 ft.

8,246 feet of rail was re-aligned and re-gauged.

Ten miles of track was re-sealed 9" adjacent to the rails.

The total number of sleepers renewed was 7.

Maintenance of special work, fractured rail, fractured joints and rampings continued to tax the welding unit.

Details of work are shown upon form "Permanent Way".

Plant and Equipment - Additions to plant were nil. Maintenance to plant and equipment was normal with the exception of the Road Roller. The gear train casting, which in the past had been repaired by welding, fractured beyond repair, and was replaced with a new casting.

Power Production Department

TOTAL:

22,657 Hours

100.00%

Summary -

Works Superintendent.

Tramway

19,620

86.50%

P.P.D.

1,411

6.23%

Miscellaneous & other E.S.D.
Functions

1,626

7.27%

22,657

100.00%

Enclos.

SEGREGATION OF TRACK GANG'S PRODUCTIVE HOURS:

A/c Number		Total Hours	Percentage
31809	Cleaning & Sanding Tracks	4378	19.30
08	Cleaning and Oiling Tramcars	40	.18
10	Depot, etc.,	333	1.50
20	Carting bicycles (Traffic Section)	788	3.50
30	Permanent Way	13,492	59.40
31	Line Equipment	576	2.54
32	Rolling Stock	13	.06
	Miscellaneous Jobs -	1,251	5.50
314	Distribution	405	1.80
R1590	Design & Construction Department	991	4.36
308	Power Production Department	420	1.85
TOTAL:		22,687 Hours	100.00%
Summary -			
	Tramway	19,620	86.50%
	P.P.D.	1,411	6.20%
	Miscellaneous & Other E.S.D. Functions	1,656	7.30%
		22,687	100.00%

ELECTRICITY SUPPLY DEPARTMENT - PROVINCIAL CITY TRAMWAYS

MAINTENANCE REPORT - ROLLING STOCK.

BRANCH BALLARAT YEAR ENDING 30TH JUNE, 1955

BODY SECTION:

Repainted completely (Externally and Internally) Car Nos. NIL
"Refresher" coat only Car Nos. 25, 11, 17, 12
Work performed on roofs (1) Recovered Car Nos. NIL
(2) Painted No. of Cars 11
(3) Patched No. of Cars 6
Accident Repairs - (1) Major
(Necessitating re-building of
portion of body structure) No. of Cars 26
(2) Minor
(i.e., footsteps, staunchions,
bumpers, etc.)

TRUCK SECTION:

Overhauled completely Car Nos. 34
No. of wheels sets trued -
(1) In situ 20 -- (ii) In lathe 20 2
26 1/2 -- 26 1/2 --
33 13 33 33
Air receivers tested Car Nos. 12, 20, 17, 39
Air compressors overhauled Car Nos. 20
No. of brake blocks fitted 20" 168 Average mileage 3296
26 1/2 -- " " --
33" 1,040 " " 2208
No. of new tyres fitted 20" -- Average mileage 82,660
26 1/2 -- " " --
33" -- " " 110,275
No. of new centres fitted 20" --
26 1/2 --
33" 2 Second Hand
No. of new trolley wheels fitted 32 Average mileage 19,383
No. of armatures rewound 2 Make of motor WH. 225
2 " " " GE. 202
2 " " " GE. 67
No. of armatures changed 2 Make of motor WH. 225
due to electrical 2 " " " GE. 202
breakdown NIL " " " GE. 201
2 " " " GE. 67

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

Brake levers reconditioned	13
Brake cylinder leather buckets renewed	1
Brake valves reconditioned	6
Brake rods broken	2 (pony)
Main side frames broken	1 small car 2 bogie
Piston rings renewed on W.H. air governors	6
Floors covered with malthoid, Cars No. 25 and 27.	
Number of destination signs renewed	8
Saloon seats covered with plastic	2
Front of Depot building, offices and conveniences painted.	

Plant :- One 5 tons and one 10 tons
Hydraulic Jacks were procured.
One leather driving belt on
lathe motor was renewed. Fire
hose reel was reconditioned.

Break down requiring calling out
of Depot personnel.

No. 14 Car derailed in collision with tanker,
Cnr. Lydiard and Mair Streets.

1 Line breaker defect.

No. 18 Car derailed at Sebastopol.

2 special trolley wheels,	1 removed 9-6-54,	Mileage
	1 removed 13-8-54	23,825

2 - WH.225 Motor Cases were reconditioned.

12 - Traction Motors had armature bearings re-lined with
Microid No. 9 Bearing metal

ELECTRICITY SUPPLY DEPARTMENT - PROVINCIAL CITY TRAMWAYS

MAINTENANCE REPORT - PERMANENT WAY

BRANCH BALLARA T YEAR ENDING 30-6-55

Length of single rail renewed -

Type	Route	Section	Length
Check rail	Sebastopol	Albert St. crossing	187'
"	Sturt St.,	Sturt & Grenville intersection	30'
"	Mt. Pleasant	Barkly St. & Main Road curve	42'
90 lb. grooved	Mt. Pleasant	Barkly St.,	67'
96 lb. B.S.S.I.C.	Lydiard St.	Railway crossing	12'

Length of single rail raised, packed and resealed -

Route	Section	Length
Sebastopol	Drummond St. Nth.	1319'
Sebastopol	Rubicon St. to Albert St. crossing	6457'
Mt. Pleasant	Barkly Street	135'
Lydiard St. Nth.,	Seymour St. loop	435'
		TOTAL: 8,246

No. of sleepers renewed -

Route	Section	No.
Sebastopol	Rubicon St. to Vickers St.,	Seven

No. of tie rods renewed -

Route	Section	No.
Mt. Pleasant	Barkly St. bridge	Four
Sebastopol	Albert St. crossing	twelve

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

Fitted new point blade north track Lydiard & Sturt Street intersection.

Fitted new point blade, south side of Sturt Street Drummond Street south.

Miscellaneous information:-

17 new fish plates were renewed on 70 lb. "T" rail, Sebastopol. As the line in Sebastopol is of gravel formation, no resealing was required in that area. Ten miles of track were top dressed with sand and bitumen cut back.

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

BRANCH BALLARAT YEAR ENDING 30-6-55

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

Extensive repairs were carried out on road roller including renewal of gear train casting, gears and pinion.

Normal maintenance was carried out on welding outfit and two additional tool cupboards were built into vehicle.

Bitumen Boiler was completely overhauled.

New pistons and trigger valves were fitted to track beater packers; miscellaneous minor, but essential repairs were necessary to keep the packers in operation. Inspection hand hole was fitted to track air compressor reservoir and general maintenance of the machine carried out.

Track tip truck received normal maintenance.

ELECTRICITY SUPPLY DEPARTMENT - PROVINCIAL CITY TRAMWAYS

MAINTENANCE REPORT - ROLLING STOCK

BRANCH

Ballarat

YEAR ENDING

30th June 1955

BODY SECTION:

Repainted completely
(Externally and Internally)

Car Nos.

Nil

"Refresher" coat only

Car Nos.

25. 11. 17. 12.

Work performed on roofs -
(1) Recovered

Car Nos.

Nil

(2) Painted

No. of cars

11

(3) Patched

No. of cars

6

Accident Repairs -

(1) Major

Car Nos.

14. 30. 27. 11. 19.

(necessitating re-
building of portion of
the body structure)

(2) Minor

No. of Cars

26

(i.e., footsteps,
staunchions, bumpers,
etc.)

TRUCK SECTION:

Overhauled completely

Car Nos.

34

No. of wheels sets trued -
(i) In situ

20

26 1/2

33

(ii) In lathe

20

26 1/2

33

2

-

9

Air receivers tested

Car Nos.

12. 20. 17. 39

Air compressors overhauled

Car Nos.

20

No. of brake blocks fitted

20"

26 1/2"

33"

168

Average mileage

3296

"

"

"

"

2208

No. of new tyres fitted

20"

26 1/2"

33"

2

Average mileage

82,660

"

"

"

"

110,275

No. of new centres fitted

20"

26 1/2"

33"

-

-

2 second hand.

No. of new trolley wheels fitted

32

Average mileage

19,383

No. of armatures rewound

Make of motor

"

"

"

No. of armatures changed
due to electrical
breakdown

4

Make of motor

"

"

"

W.H. 225

G.E. 202

G.E. 201

NOTE:

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

1955

- x Brake levers reconditioned. 1.1.1.2.1.2.1.2.1.1. (13)
- x Brake Cylinder leather bushes renewed. 1. (1)
- x Brake Pads reconditioned, * 6 (4)
- x Brake rods broken. P.P. (2)
- x Side Frames broken. i.2. 1 small car, 2 B.gies (3)
- x Driver wheels ^{emboss.} replaced spars 2. 24. (2)
- x Cracked spars on driver wheels 2. replaced.
- x Armatures with elec. brush drum. 4. 2 ~~rotted~~ 6 4-225, 1-202, 1-201
- x Piston rings renewed W.H. Lammers 6. (6)
- x Reprover cross Cars No. 25. 11. 17. 12. (4)
- x Pumps painted. 25. 11. 17. 12. 19. 32. 28. 31. 33. 14. 18. (11)
- x Pumps painted. 25. 12. 24. 21. 14. 35. (6)
- x Cars extensive damage. 27. 14. 30 11. 19 ⁵ found repaired 27. 30. 19
- x Floors covered with malthoid. ^{Car.} 27. 25 (2)
- x Air runners ^{Car.} tested. 12. 20. 17 34 (4)
- x No recurring minor injury. ~~26~~ (26)
- x No Disturbance scrolls renewed. 2. 4. 2. 2. (Complete) (10)
- x No seats renewed with plaster covered cloth 2. (2)
- x Air compressors overhauled ^{Car.} 17 (11)
- 2 Special Bentley wheels. One removed 9-6-54 ofilage 24, 26H, One 13-8-54. 28, 28
- x Outside Depot buildings painted
- x Dismantling No 37. ~~partially~~ completed with exception of anchors.

Planet Mach. Tools ~~At~~ One driving belt ^{Little 1/2 car.} renewed. 24" of 4"
Fire hose reel fitted with water pump.

Total ofilage all cars. 574, 551.

" " Bogies 137, 567.8

Call out Depot Personnel 14 Detailed in collision another
1 Pine Crusher Depot.
18 Car dismantled scrapped.

1955

Brake Blocks.

Standard	Pony		
86	18	1040	168.
96	15		
73	17		
90	10		
74	6		
113	17		
84	7		
81	9		
83	22		
110	12		
81	20		
951	152		
86	1.0		
037	162		
3	6		
1040	168.		

Trailer wheels (28)

(32)

35.15H	23319	23766	27040	20.704
22.43H	13596	28803	21520	12.231
23.908	21708	19755	16954	25.202
22.878	12574	16965	10796	14.209
11.782	12636	21258	26277	72346
28.479	25724	29069	14390	
22.727	12620	11725	106977	
10.303	112077	151221		
177665				

177665
112077
151221
106977
72346
620286

Milage. (19,383.)

Replanted Dinner	Pony	Wheels Tapered Pony	Replanted Dinner	Replanted Pony
1		1	1 set 115762	1/2 pair (82,660)
2		1	1 " 115665	(1)
1		1	2 " 113322	
1		1	1 " 110470	
1			1 " 109775	Grinder
2			1 " 96660	1 set
8	1	3	65 661654	2
9			average (110275)	3
				4
				12 + 1 = 13

Amature Bearings.

94345	
61738	
69725	
145369	
23936	
395113	average (79022.6)

un ins Year ending 30th June 1955

Car.

- 31 Mash brakes (adjustment)
- 12 Pawl spring controller broken
- 21 Mash brakes (adjustment)
- 31 Finger in controller bent
- 31 Mash brakes (3 hard blocks removed)
- 21 " " (2 " " " ")
- 13 Jumped points (Loose type)
- 14 Life guard damaged on (Railway crossing)
- 12 Biting brakes (Lugs removed from blocks)
- 13 Life guard damaged.
- 35 Broken window cabin door
- 32 Stiff brake valve (Lubricated)
- 13 Blowing circuit breaker (Rough commutator)
- 38 Broken axle box
- 14 Broken bridle harp
- 14 Bent bridle pole
- 11 Motor Def. (One band off)
- 28 Spring in controller broken
- 14 Mash brakes (2 hard blocks removed)
- 28 Compressor not operating (Broken lead)
- 20 Motor Def. (1 band off)
- 39 Controller def. (Loose contacts)
- 25 Bent bridle pole
- 12 Mash brakes (Pawl pin broken)
- 26 Tail lights def. (Relay adjusted)
- 33 " " " (" " ")
- 25 Motor Def. (No fault)
- 17 Not armature bearing
- 25 Jumped points (Points)
- 35 Brakes not releasing. (No fault)

- 39. Biting brakes (Loose gear)
- 28 Pole drawing (Bent pole)
- 21 Governor def. (out of adjustment)
- 18 Motor def. (Armature burnt out)
- 26 Controller def. (Finger fusing)
- 26 Glaze in controller burning (No fault)
- 14 Def lighting (1 Lamp burnt out)
- 39 Governor def. (Leather valve seat worn)
- 26 Bent bridle pole.
- 39 Sanders blocked (Lichens)
- 39 Controller def. (Loose contacts)
- 12 Roof slaking. (Painted)
- 25 Resistance def. (One broken grid)
- 39 Slaking roof (Painted)
- 26 Controller def. (Finger catching)
- 22 Jumping points (Thick flanges)
- 17 Tail lights def. (Relay adjusted)

Booms.	Yobs.	Tailights.	Lighting.	Wipers.	Poles during	Forwards.	Controller.	Wings.	Amidships.	Aft.
$\frac{11}{11}$	$\frac{6}{6}$	$\frac{4}{4}$	$\frac{2}{2}$	$\frac{2}{2}$	$\frac{8}{8}$	$\frac{4}{4}$	$\frac{10}{10}$	$\frac{4}{4}$	$\frac{3}{3}$	$\frac{2}{2}$

Jumping jacks	Life guard	Windows	Stiff valves	Stale boxes.	Compass	Line bucket	Damaged
$\frac{4}{4}$	$\frac{2}{2}$	$\frac{1}{1}$	$\frac{1}{1}$	$\frac{1}{1}$	$\frac{1}{1}$	$\frac{2}{2}$	$\frac{6}{6}$

74

(Total 74)