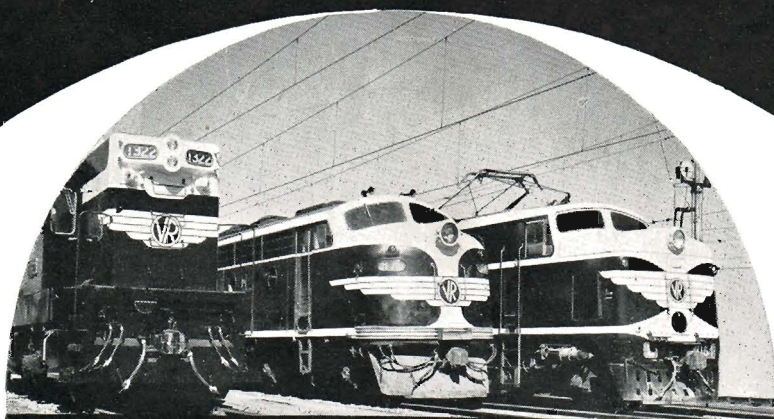


VICTORIAN RAILWAYS



New Look

*With the Compliments of
The Victorian Railways Commissioners*

RAILWAYS HEAD OFFICE,
SPENCER STREET, MELBOURNE.

NEW LOOK

To appreciate the true significance of improvements in railway service over the past five years and of the plans for still greater improvements to be made in the next five years, it is necessary to go back to the decade before the last war. During that period, the Victorian Railways were very short of money for improvements, and very little rolling stock was built. After the war with its heavy demands on the railways, much of the rolling stock had exhausted its economic life and was approaching the breaking-down stage.

Furthermore, maintenance of tracks was also very much in arrears.

It was realized that something had to be done, and done quickly, to improve the situation if the partial collapse of railway service was to be avoided.

Early in 1949, the Government invited Mr. (now Sir John) Elliot, of the British Railways, to come and report on the Victorian Railways. In his report he said "a very considerable programme of rehabilitation and re-equipment must be taken in hand without further delay, if a serious breakdown is to be avoided. The Commissioners have shown me their general plans, and they seem to me sound and sufficiently far-reaching to serve the main purpose for which they are designed. I can only affirm with all the emphasis at my command that, if these orders are not placed as soon as possible for steady delivery over the next 10 years, the ultimate price which the State and the people of Victoria will pay in transport inefficiency, delays, and, in final breakdown of railway transport, will be still heavier."

Following this report "Operation Phoenix," providing for the expenditure of £80,000,000 over 10 years, was born.

This booklet aims to tell of the improvements which have been made, of the new rolling stock and works which have come into being ; of the further plans which are being implemented and those that will be carried out during the next few years.

When, in 1950, the general plan of "Operation Phoenix" was prepared, its aim was "to make Victoria's railway services more efficient than they have ever been ; to re-establish them in public confidence and to restore in them the full measure of railwaymen's own pride." The following pages show the extent to which this aim has been achieved ; such an extent, indeed, as is not fully realized by the general public.

THE BEGINNING

The year 1950 was one of serious concern to all railway administrations in the Commonwealth. No mainland railway system was able to handle the traffic offering ; little developmental work had been done ; manpower and materials were in short supply and increasing costs were seriously affecting the railway finances.

So great were the staff and material shortages that the first stages of " Operation Phoenix " could only be implemented by placing orders with outside manufacturers for urgently needed locomotives and other rolling stock. These orders included the following :

Main-line diesel-electric locomotives	...	26
Diesel-electric shunting locomotives	...	10
Main-line electric locomotives	...	25
Steam locomotives	...	170
Diesel rail-cars	...	39
Diesel rail-car trailers	...	15
Open goods trucks	...	3,000

With progressive deliveries of this rolling stock, rail services were steadily restored and improved.

PASSENGER SERVICES

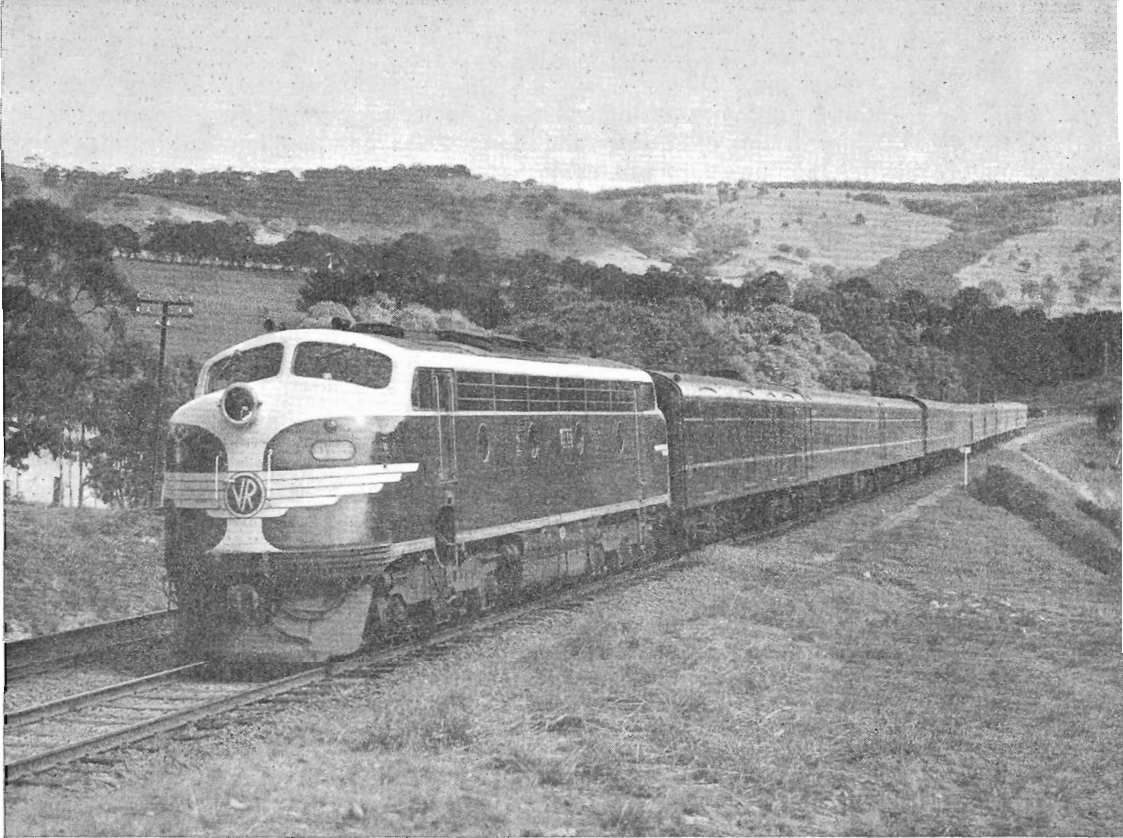
The introduction of the diesel rail-cars on country lines was the main improvement in the first year or so. The use of these rail-cars practically eliminated mixed trains, the mileage of which was reduced by 90% to less than 1,000 miles weekly. Rail motor mileage rose to more than 36,000 miles weekly, and the service given was speedier and more comfortable. Today, 40% of country passenger service is provided by the rail motor fleet.

Since mid-1952, when industrial conditions improved and the acute coal shortage eased, country passenger train mileage (apart from rail motors) has increased from 49,000 to 55,200 miles weekly, an increase of 12½%. Over 60% of this mileage is now being operated by the new diesel-electric and main-line electric locomotives, and most of the balance by the new R and J class steam engines.

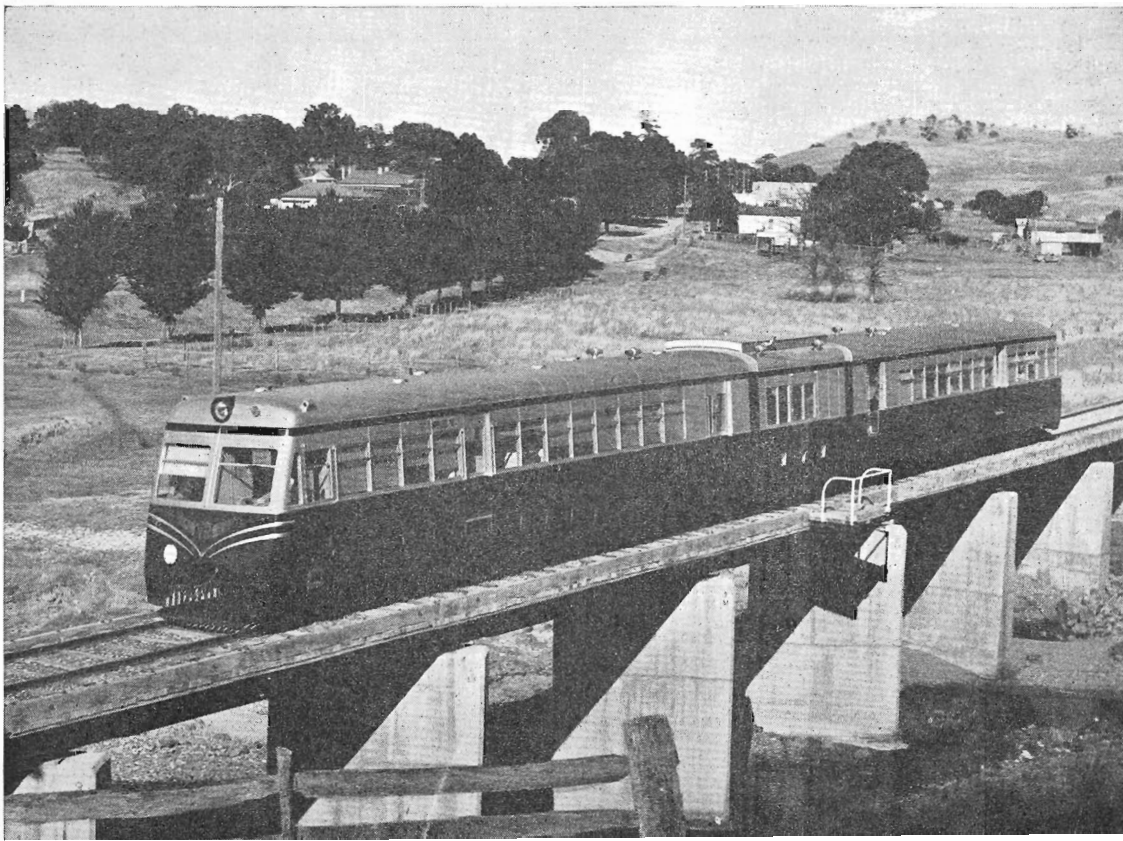
The steady programme of increased and accelerated service has resulted in more frequent and faster running on many lines. More express running, with better time-keeping has reduced travelling time as follows :

Melbourne-Bendigo	...	by up to 45 minutes
Melbourne-Mildura	...	" " 75 "
Melbourne-Dimboola	...	" " 95 "
Melbourne-Adelaide	...	" " 75 "
Melbourne-Port Fairy	...	" " 80 "
Melbourne-Albury	...	" " 40 "
Melbourne-Numurkah	...	" " 50 "
Melbourne-Bairnsdale	...	" " 115 "
Melbourne-Wonthaggi	...	" " 84 "

"Spirit of Progress"



*280 h.p. Diesel
Rail-car*



Sunday cheap excursion trains—a popular pre-war feature—began again in April 1953, after a lapse of 12 years, and special trains for school excursions, trade and other picnics, race meetings and conferences were progressively restored and are now available on demand.

Modernization of "The Overland" was achieved by the introduction of roomette and twinette sleeping cars and sitting cars with reclining seats. These cars were built by the South Australian Railways as joint stock. A popular breakfast tray service is now supplied on the roomette and twinette cars. In recent months travelling comfort on "The Overland" has been further improved by the introduction of better riding bogies.

A new "Daylight" express train service now runs between Melbourne and Sydney on three days a week. The trains consisting of air-conditioned carriages and a buffet car, are hauled by diesel-electric locomotives in 13½ hours, the fastest time for any surface public transport, between the capitals.

An air-conditioned block, comprising modern first and second class sitting cars and a buffet car, forms the nucleus of "The Gippslander," which runs between Melbourne and Bairnsdale. Air-conditioned sitting and sleeping cars are included in the composition of Mildura passenger trains.

The main developments in suburban service have been the completion of double track between Alphington and Heidelberg, duplication of the Ashburton line (almost completed), the through running of trains to Glen Waverley, and the extension of a number of trains to outer area terminals.



*Steel
Containers*

GOODS SERVICES

An all-round improvement in goods transit accompanied the introduction of diesel-electric traction and modern steam locomotives on main lines ; and electric traction is being employed between Melbourne and Traralgon, and Melbourne and Yallourn.

These improvements combine in achieving greater line capacity by enabling longer and heavier goods trains to run to faster schedules ; the overall average rate of goods train movement throughout the system is nearly 10% higher than in 1950.

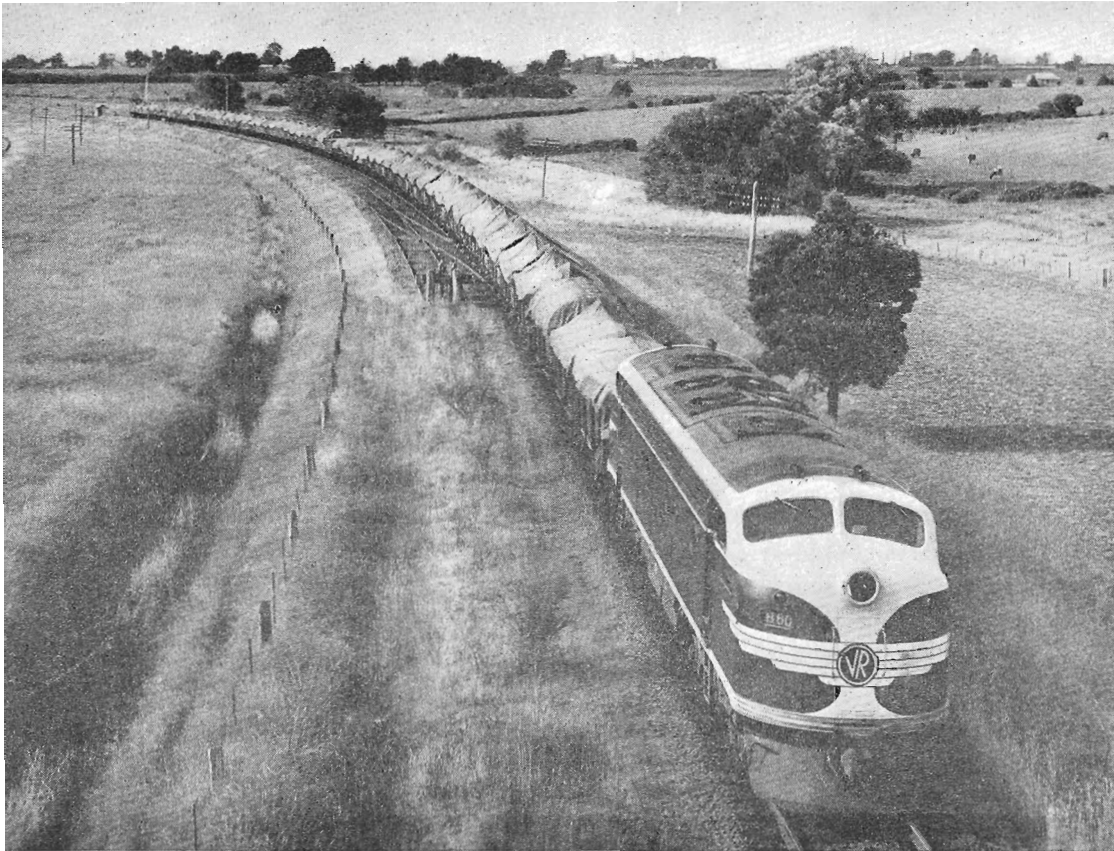
Spectacular savings in time have been effected on the Adelaide and Mildura fast goods trains. On the Melbourne-Adelaide run there has been a reduction of almost 17 hours westbound and 16 hours in the opposite direction. Similar results were obtained between Melbourne and Mildura. Overnight delivery of goods is now being given to a larger number of country towns.

To meet road competition between capital cities, specially low freight rates were introduced for goods handled by Forwarding Agents who collect the goods and load them into trucks and then deliver to the consignee's door. This, coupled with the speedier goods trains, enables delivery between Melbourne and either Sydney or Adelaide to be given within 48 hours. The special contract rates now apply to Sydney, Brisbane, Adelaide, Kalgoorlie, Perth and Darwin. Special contracts for the carriage of a minimum annual tonnage have also been arranged with merchants who desire to forward their own traffic.

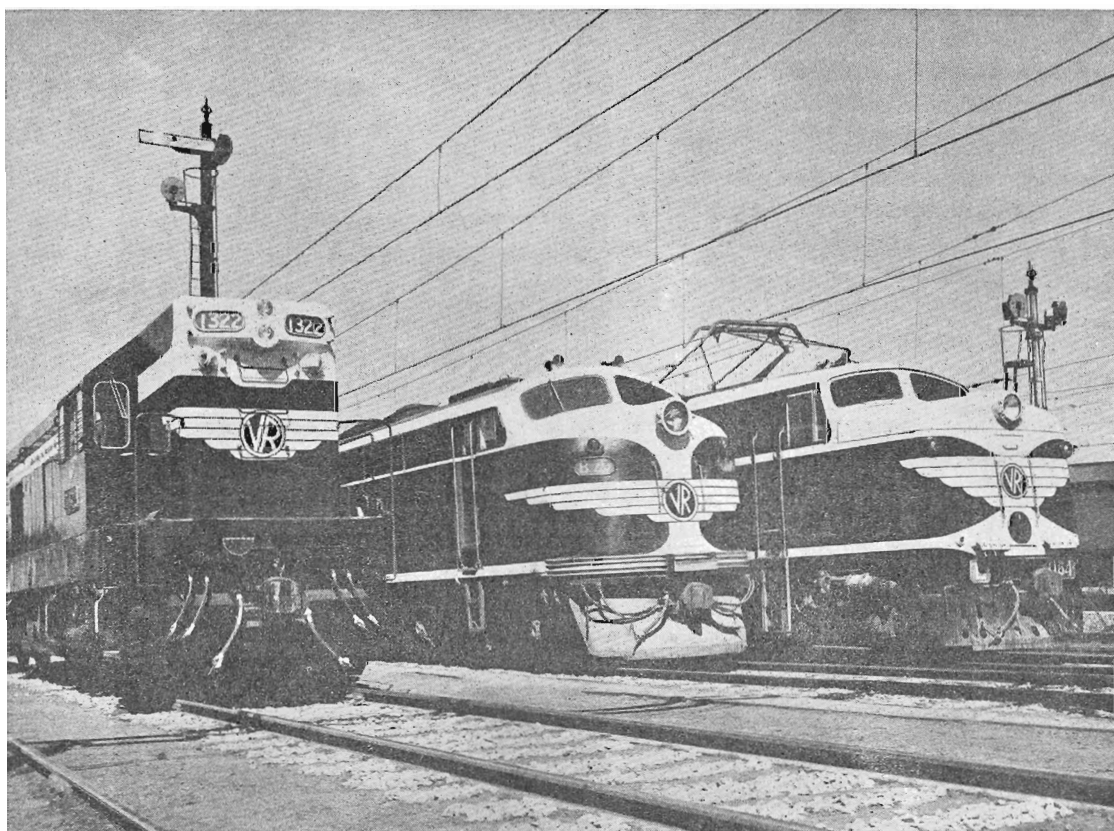
Two hundred and fifty steel containers are now in use between Melbourne and Sydney and Brisbane. These not only facilitate transfer at Albury, but provide an excellent safeguard against damage and pilfering, and enable consignors to effect substantial saving in packing costs. Fifty of the containers are insulated, and they are particularly suitable for semi-perishable goods such as confectionery and polishes. Special freight rates apply to containers.

Regular contact is being maintained with consignors and consignees, both in the city and country, by the augmented staff of Commercial Agents who are the equivalent of the sales staff of a business organization. Clients appreciate the personal contacts whereby railway matters of all descriptions can be discussed and details of freights, etc., given on request.

To promote the safe carriage of goods, additional Claims Prevention Officers have been appointed. These officers advise rail users on better packing methods and problems associated with carriage in railway trucks.



1,600 ton
Wheat Train



T and B class
Diesel-electrics
and L class
Electric
Locomotive

MODERN LOCOMOTIVES

The diesel-electric locomotives have proved their high availability and their efficiency of operation. The 26 main-liners now operate about 60% of the country passenger services and 30% of the goods services at an estimated annual saving in running costs of well over £1,000,000.

The high availability of these locomotives is shown by the fact that they each operate an average of 145,000 miles a year, which is four or five times greater than the performance of steam locomotives. The diesel-electric shunters operate continuously in marshalling yards for two weeks between servicings, whereas steam shunting locomotives have to be serviced every 16 hours of operation.

Electric traction is in use on the Gippsland line for trains between Melbourne and Traralgon, and between Melbourne and Yallourn. The use of electric locomotives results in greater efficiency and economies in running costs.

The acquisition of new steam locomotives, of the R, J and N classes, has enabled the scrapping of obsolete engines to be accelerated, and has also resulted in substantial reductions in maintenance costs.

An order has been placed for 27 diesel-electric locomotives of 900 h.p. for use in shunting and branch line service. A number of these have been delivered, and are giving very satisfactory service. The balance will be delivered at approximately fortnightly intervals.

RAIL MOTOR FLEET

Thirty-nine modern diesel rail-cars and fifteen trailers were purchased for main and branch line operation. These vehicles have replaced the majority of mixed trains and antiquated rail motor passenger vehicles, resulting in speedier and more comfortable travel. They have proved very popular on the fast day trip from Wangaratta in enabling passengers to make a day return trip to Melbourne.

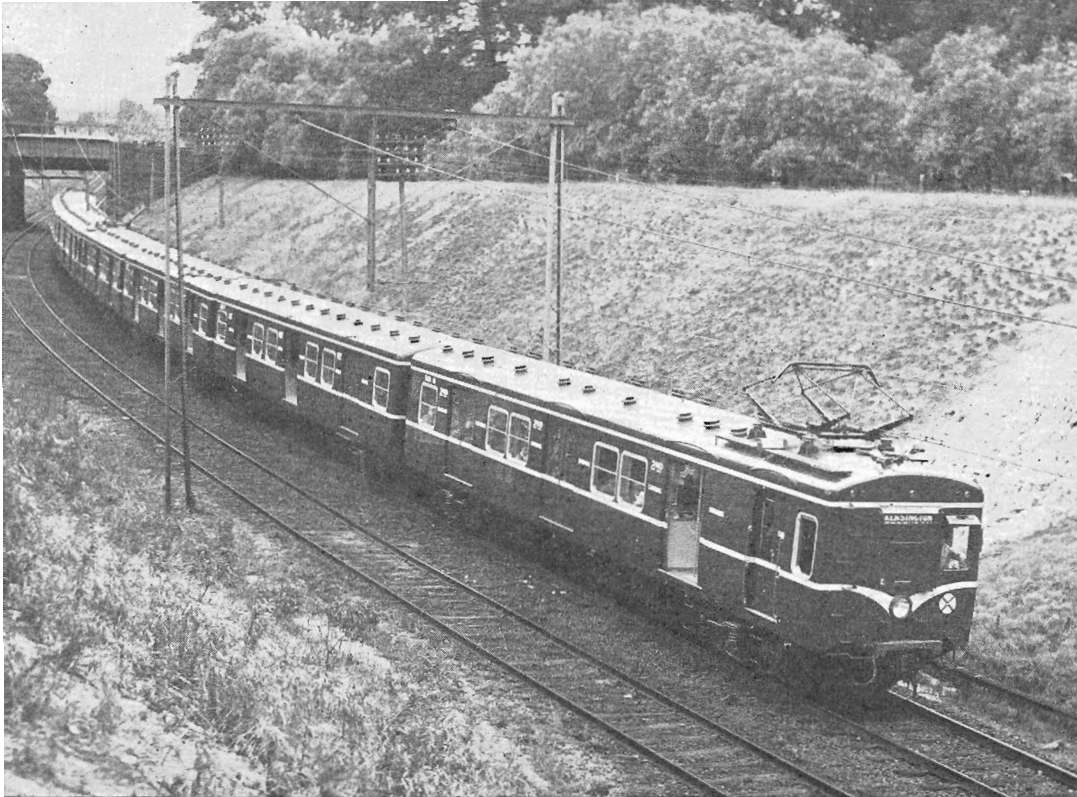
Ten petrol-electric rail-motors which have been in service for a number of years have been modernized in departmental workshops. They have also been re-powered with diesel engines, which prolong their useful life.

NEW AND IMPROVED CARRIAGES

Thirteen modern country cars have been built in departmental workshops and production is continuing at the rate of four cars a year. The new cars have all-metal bodies, air-conditioning, fluorescent lighting and improved bogies for better riding.

Maintenance of country cars has also been improved. Car repair shops have been enlarged and equipped with modern machines and power tools to increase output. Cars are being repainted at more frequent intervals and improvements incorporated. These include the fitting of modern seating, improved lighting, streamlining of exteriors, and renewals of wheels and bogies.

The provision of a large number of modern air-conditioned cars for country services is being planned to follow the completion of the suburban train replacement programme.



*New
Suburban
Train*

NEW SUBURBAN TRAINS

Thirty new 7-car suburban trains are at present being built under contract, delivery to begin this year and to be completed by the middle of 1958. The 90 motor coaches will be manufactured in Great Britain. Two have been delivered complete. The balance will be delivered in a "knocked down" condition for assembly at Newport Workshops. The 120 trailer cars will be delivered complete from local contractors.

The new cars incorporate streamlined all-steel construction, pleasing colour schemes, improved bogies, safety glass throughout, increased acceleration and smoother braking, wide door openings to facilitate the flow of passengers, insulation against heat and vibration, fluorescent lighting, improved ventilators and Dunlopillo cushion seats.

The first of the new trains is now in service.

In addition to obtaining the new trains, a vigorous policy of rehabilitation of existing cars is being carried out. Six cars are being overhauled every week. Modern ventilators are being installed in sliding door cars and strap hangers are being fitted.

The cleanliness of suburban cars has greatly improved since the introduction of the washing plant at Jolimont.

MORE GOODS TRUCKS

About 4,000 new goods trucks have been acquired at a capital outlay of more than £7½ million, and a further £1 million will be spent in the near future.

The new vehicles include open goods trucks, sheep and cattle trucks, bulk cement trucks, powder vans and refrigerator trucks.

The provision of these new vehicles has enabled the automatic coupler conversion programme to be accelerated. Buffers are now being removed from trucks with a resultant saving in tare weight and improved operating results.

Truck maintenance has been accelerated. Suitably equipped covered areas have been set up at North Melbourne, Bendigo, and Ballarat Workshops to increase output. Repair centres have also been established at some country depots so that light repairs can be carried out with a minimum out-of-service delay.

In addition to normal maintenance, 7,000 trucks a year are being spray painted; internal lashing rings to provide for firmer stowage are being fitted, as well as improved door catches and the output of new and repaired tarpaulins has been increased.

The overall result of this has been a marked improvement in the condition of goods vehicles generally.

THE GIPPSLAND LINE

The duplication, regrading and electrification of the Gippsland line at a total estimated cost of £7,750,000 was undertaken to provide increased track capacity and to enable bigger trains to be hauled at higher average speeds to cope with the increasing traffic from the Latrobe Valley. The construction of a new spur line between Moe and Yallourn eliminated the use of assisting engines between these points and facilitated the handling of brown coal and briquette traffic.

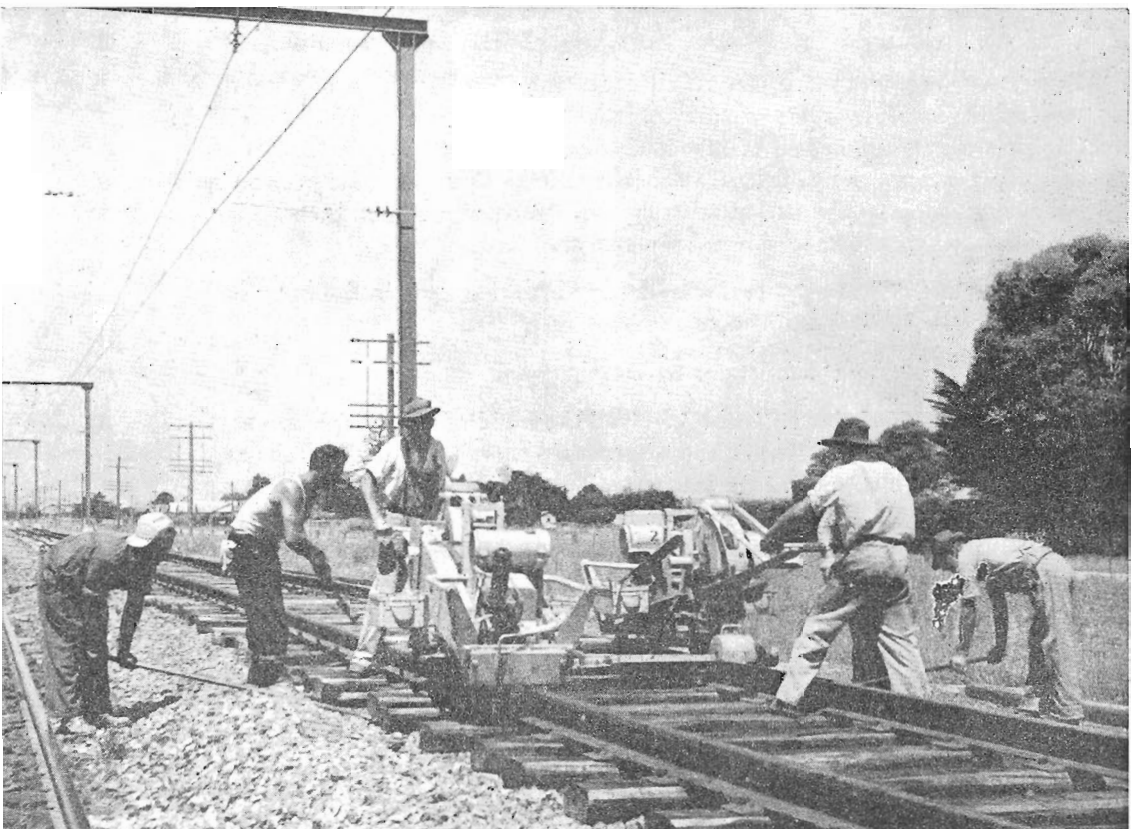
The duplication and regrading necessitated a large amount of earthworks as well as the provision of new bridges and the rearrangement of station yards.

Today, electric locomotives haul trains to Traralgon and Yallourn.

The complete scheme of electrification involved the building of a power operations room, 16 sub-stations to convert the alternating current at 22,000 volts to direct current at 1,500 volts, and 12 tie stations. The converting equipment comprises pumpless, air cooled, mercury arc rectifiers. These were among the first in the world to be used for a large main-line electrification. A new type of overhead structure was evolved and this resulted in a saving of both steel and cement as well as in painting costs. Another innovation is the use of stainless sheathed cable for the control of sub-stations and tie-stations, for feeder switchgear protection, signalling, and communications.



*Laying New
Suburban
Track*



*Dogspike Drivers
on Gippsland
Line*

OTHER TRACK WORKS

During the past five years, since labour and material have become more readily available, considerable progress has been made with track improvement work including relaying and reconditioning. In that period, 2½ million sleepers have been replaced and 168 miles of track have been relaid. This work has made possible increases in speed and a greater degree of riding comfort.

During the last five years it has been practicable to accelerate the programme of replacement of timber bridges with bridges of steel and concrete.

To handle the increasing traffic from the outer suburban areas, duplication works have been undertaken on several lines. The Alphington-Heidelberg line duplication was completed, and only one section (Camberwell-Riversdale) remains to be done on the Ashburton line. Duplication of the Eastmalvern line is in hand, and portion has been opened for traffic.

Train crossing facilities have been provided at Macleod and Mount Waverley. On the Ferntree Gully, Lilydale, and Glen Waverley lines, the construction of long crossing loops is in hand. These crossing facilities will improve suburban train running.

Duplication of the Geelong line is planned, and this will be commenced when finance and labour become available.

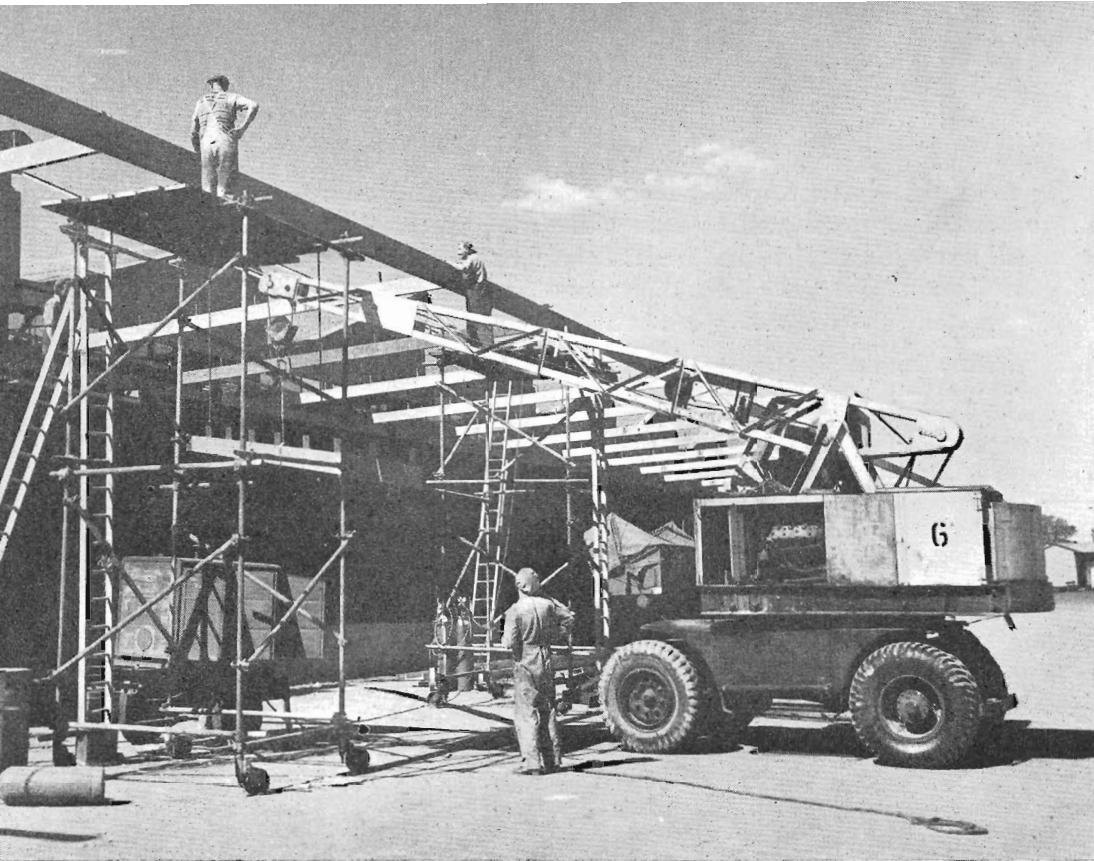
NEW STATIONS AND OTHER WORKS

The provision of a new station at Richmond, which is in hand, is necessary to provide for the extra tracks to cope with the increasing traffic on the Caulfield and Box Hill groups of lines and to permit more express running of long distance trains. This also necessitates the building of new bridges over Swan Street and Punt Road.

Four new stations are to be built in the suburban area. These are at Patterson Road, between Bentleigh and Moorabbin ; at Snell Grove (Oak Park) between Pascoe Vale and Glenroy ; at Laburnum Street, between Box Hill and Blackburn ; and at Heatherdale Road, between Mitcham and Ringwood. These are necessary to cater for the increasing settlement in the areas concerned. Work is in progress at the first three.

New station buildings and platforms have been erected at Macleod, at Riversdale, Willison and Burwood in connexion with the Ashburton duplication, and at Kooyong as part of the Eastmalvern duplication.

To enable staff to be housed at locations where residences are unobtainable and to provide for housing of staff from abroad, the Department has erected 1,406 pre-cut houses imported from Great Britain, and 120 pre-fabricated houses. Forty-eight more are in course of erection. In addition, hostels and camps for single men have been set up at strategic points. Improved amenities, such as locker and meal rooms, wash and shower rooms, and covered accommodation at workshops have been provided throughout the State.



*Building Dynon
Goods Terminal*

IMPROVED GOODS HANDLING

To cope with the increasing goods traffic at Melbourne, additional terminal facilities have been provided at Dynon. Spacious sheds are available for goods traffic, and handling is accelerated by fork lifts, high capacity gantry cranes, trucks and mobile cranes. There are 13 rail tracks in the depot and loading and unloading to and from trucks on the open roads is facilitated by the provision of wide vehicular roadways throughout the area. The new depot has relieved congestion in adjacent streets, the Melbourne Goods area and in the Melbourne Yard. Work in connexion with the provision of a new inward shed is in progress on the opposite side of Dynon Road.

Additional modern handling equipment has also been provided at the Melbourne Goods Depot and modern fixed and mobile cranes have been provided at many stations. Orders have also been placed for additional mobile units for use in country areas.

These works, together with track duplication, improved signalling, modern locomotives, new goods trucks, freight containers, etc., have been instrumental in increasing the capacity of the system and raising the standard of goods service.

SIGNALS AND COMMUNICATIONS

Without modern signalling and communication systems, maximum use could not be obtained from the track and rolling stock improvements. Consequently, increased provision has been made for more power signalling, carrier telephone services and teleprinters wherever practicable.

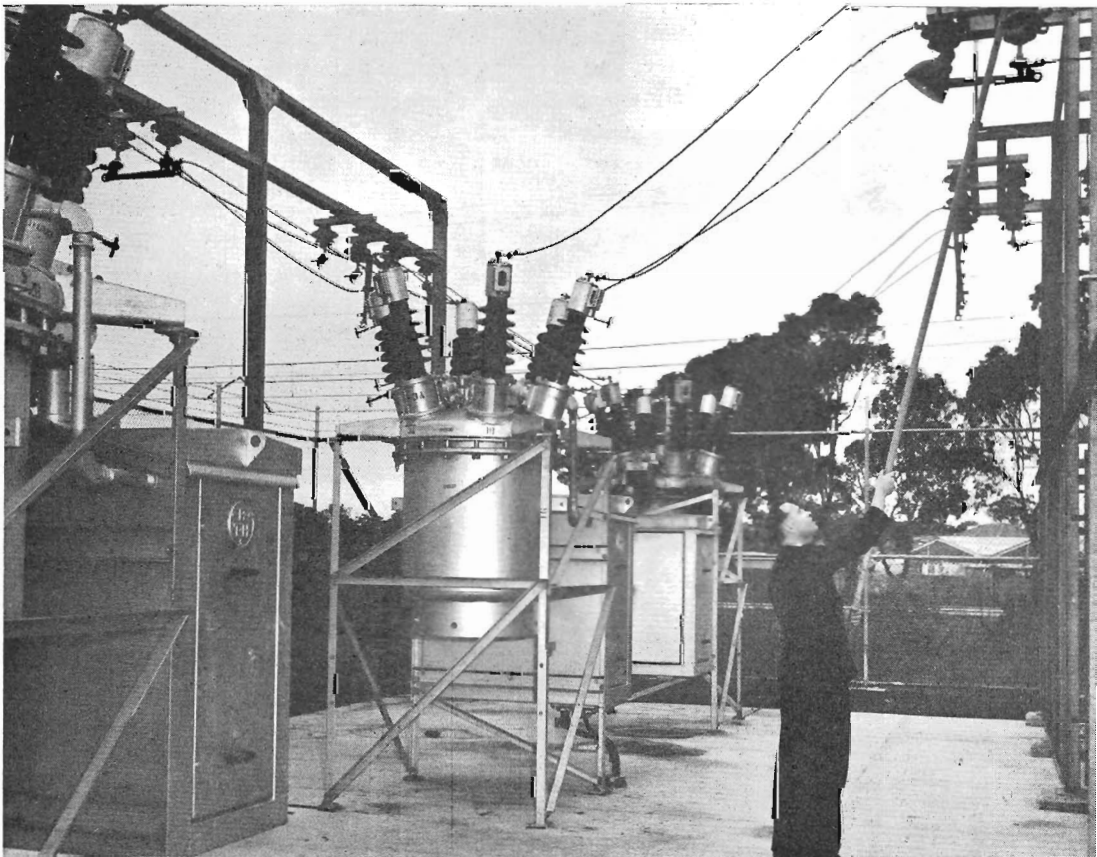
Power signalling on the Gippsland line is being carried out in conjunction with the duplication, regrading and electrification, to ensure the efficient handling of the heavy traffic on that line.

Teleprinters are in service between Melbourne and Sydney and main country centres such as Ballarat, Bendigo, Seymour, Shepparton, Ararat, Geelong, Warragul and Albury.

SUBURBAN POWER SUPPLY

To meet the growing demand for power due to improved train services particularly in the outer suburban area, and to provide for the replacement of equipment nearing the end of its useful life, a scheme is in progress for the installation of new converting plant over several years.

At the time of the original electrification of the suburban system, 25 cycle equip-



*New Suburban
Sub-station*

ment was installed. As 50 cycle frequency is used on the State Electricity Commission's transmission system, the 25 cycle equipment is being replaced.

The system has been divided into six areas for this changeover. The Caulfield to Dandenong and Frankston group will be completed early next year when ten 50-cycle sub-stations will replace four 25-cycle sub-stations now operating. The second group is the Camberwell-Eastmalvern area where peak traffic has grown substantially. The new sub-stations on the Glen Waverley line will be completed this year, and on the Box Hill-Ringwood section by 1957. Meantime a temporary sub-station has been built at Ringwood to provide necessary additional power in the interim.

All the new sub-stations are unattended, but are under the control and supervision of the power operations room at Jolimont.

MECHANIZATION

In addition to the use of fork lifts and mobile cranes to speed up goods handling, increased mechanization has taken place in workshops and on the track.

Up-to-date equipment has been installed in workshops for the production, repair and maintenance of rolling stock and other railway equipment. Six electrically-operated turntables have been installed at country locations to replace hand-operated turntables.

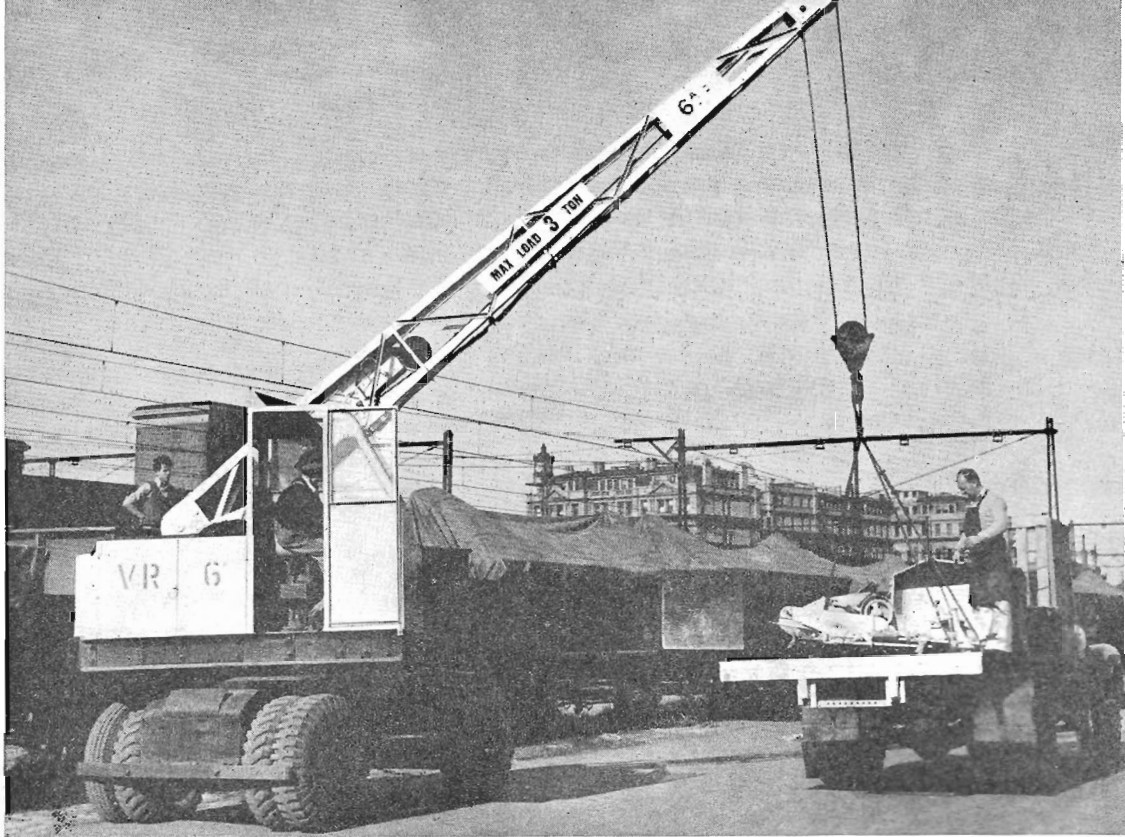
Track work has been expedited by the use of machines of various types. Dog-spike drivers, wood borers, rail drilling machines and rail saws are used for laying track, tie tampers and power jacks for ballasting, and cranes and concrete mixers for constructing bridges and erecting overhead structures. For the regrading and duplication of the Gippsland line, the concentration of mechanical earth-moving equipment was the biggest ever employed on a Victorian Railways undertaking.

REFRESHMENT SERVICES

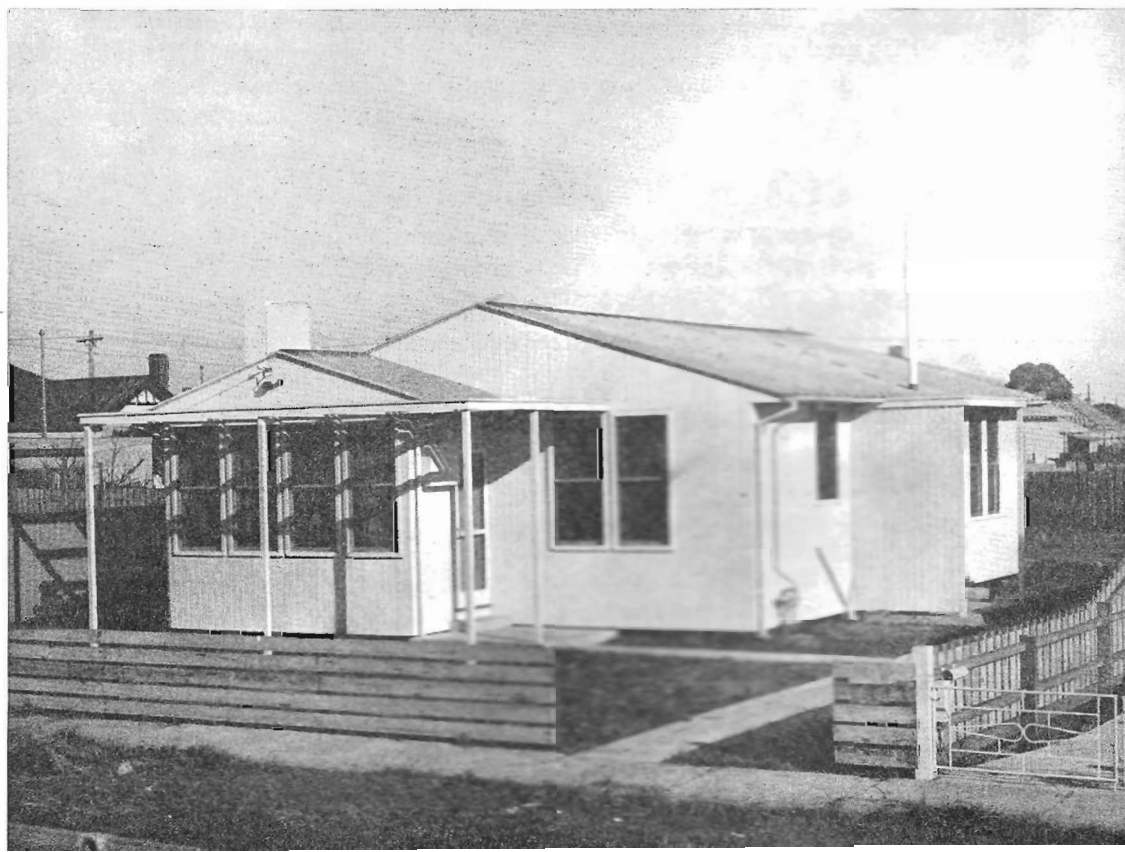
A buffet car service between Melbourne and Bairnsdale was introduced at the close of 1952, and this has been most successful. Buffet cars are also used on the new "Daylight" expresses between Melbourne and Sydney, Bendigo line trains and the Albury Express. Combined restaurant and sitting cars are now in service between Melbourne and Warrnambool and Melbourne and Horsham. All these cars are air-conditioned.

The influx of migrants brought with it the need for housing and feeding young men to be trained for railway service. To accommodate these recruits, hostels were built at Newport and Spencer Street, and well fitted batching camps at 17 places.

The feeding of migrants bound for the Bonegilla Migrant Hostel has been regularly undertaken at the Seymour Refreshment Rooms. In the last 12 months, about 24,000 migrants have been fed there.



*Mobile Crane
at Melbourne
Goods Depot*



*Pre-cut House
for Railway
Staff*

STORES HANDLING

Within the past five years, two gantry cranes, a mobile crane, and modern storage racks have been provided at the iron and steel yard, Newport, and this area is now being re-arranged to provide a most efficient layout.

At the new boiler shop area at Newport Workshops, two gantry cranes have just been installed to enable the storage and movement of heavy locomotive material to be efficiently handled. These cranes are being used to handle the new suburban cars.

At Spotswood, a storehouse with overhead cranes and railway access, built for the Department of Aircraft Production in 1939, has been acquired by this Department. It has been converted into a modern bulk store to relieve congestion at the Spotswood General Storehouse.

ACCOUNTING AND STATISTICS

The Powers punched card accounting machines installed in 1925 are being replaced by modern machines. The first instalment of the new equipment, comprising punching machines, sorters and tabulators, is expected to be in service by the end of the year.

STAFF SHORTAGE

In common with other industries, the Department has been handicapped by chronic shortage of staff. To overcome this disability staff have been and are still being recruited from Great Britain and the Continent.

PLANS FOR THE COMING YEARS

Major works which it is planned to carry out during the coming years, and the financial year during which each is expected to be completed, are as follows :

1955-56

New station between Pascoe Vale and Glenroy.

1956-57

Duplication of track, Dandenong-Trafalgar.

Power signalling, Dandenong-Trafalgar.

Duplication of track, Camberwell-Ashburton.

Duplication of track, Heyington-Eastmalvern.

Train crossing facilities between Ringwood and Lilydale, and Ringwood and Upper Ferntree Gully.

Sidings at Corio Quay, etc.

New stations between Box Hill and Blackburn and between Bentleigh and Moorabbin.

1957-58

Terminal facilities at South Dynon.
New station between Mitcham and Ringwood.

1958-59

Additional tracks, Hawthorn-East Camberwell.
Duplication of track, Trafalgar-Moe.
Re-arrangement of Moe Station Yard.

1959-60

Additional tracks and new station at Richmond.
Improved signalling, Oakleigh-Dandenong.

1960 onwards (dates indefinite)

New locomotive depot, South Kensington.
Modern hump shunting yard for Melbourne.
Power signalling, etc., Glenhuntly-Mordialloc.
Additional track, Caulfield-Moorabbin.
City underground railway.
New line, Alphington-East Preston.
Rearrangement of Morwell station yard.
Conversion to 5' 3" gauge and electrification, Upper Ferntree Gully-Belgrave.
Partial duplication, Newport-Geelong.

The contract for 30 new suburban trains is expected to be completed by 1957-58. Relaying of country and suburban lines will be continued as well as grade separation at road crossings, reconstruction of bridges, additions and improvements to way and works etc. More country cars, various types of trucks and diesel-hydraulic and diesel-electric locomotives will also be acquired.

* * * *

All the additions and improvements to rolling stock, tracks and equipment that have been made during the past few years, have enabled the Department to overtake a substantial portion of the arrears of renewals and replacements which occurred in the earlier years. Standards of railway service have been greatly improved and the capacity of the system has increased substantially. Much remains to be done, but it is hoped that money, men, and materials will be available in sufficient volume in the years immediately ahead to enable the Department to continue its improvement programme on a scale which will ensure that the additional transport demands resulting from primary and industrial developments will be adequately met.

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