

VICTORIAN RAILWAYS TO '62

BY LEO J. HARRIGAN

PUBLISHED BY THE VICTORIAN RAILWAYS
PUBLIC RELATIONS AND BETTERMENT BOARD
BY DIRECTION OF
THE COMMISSIONERS

PRODUCED AT THE
VICTORIAN RAILWAYS
PRINTING WORKS

REGISTERED AT THE G.P.O. MELBOURNE FOR TRANSMISSION BY POST AS A BOOK

1962 opened auspiciously for the Victorian Railways. On January 3, when industry was virtually at a standstill in the customary Christmas-New Year close-down, hundreds of men of commerce gathered in a brand-new section of the mighty rail freight terminal at Dynon. There was an air of expectancy; never before had so many newspaper and radio reporters, Press and television photographers, gathered for a railway event. Bright sunshine made more brilliant the fluttering flags, and a large white banner, with its significant message "It's Thru'" in bold red letters, stretched across one of the railway tracks.

The track itself was new—both in construction and gauge. It was only 4' 8½" wide compared with the usual 5' 3" of Victoria's railway system; it was part of the multi-million standard gauge line to link Melbourne that day direct by rail to Sydney and Brisbane.

"A dream come true", the Chairman of the Railways Commissioners (Mr. E. H. Brownbill) told the representative gathering as the first freight train pulled in.

Three months later, Melbourne welcomed the Governor-General (Viscount De L'Isle) when he arrived from Sydney in the new stainless-steel "Southern Aurora". The missing link in luxury intercapital travel had been forged.

Before the year's end, two more platforms were being built at the scene of the January 3 celebrations—so great was the growth of interstate rail traffic.

Passenger traffic between states, too, surged up during the year. The railways specialities—the long hauls, the mass movement—were coming into their own. 1962 started a new era for Victorian Railways—the rail way was being increasingly recognized as modern, efficient.

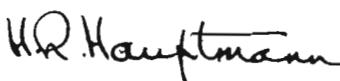
No more appropriate year could there be than this to tell the story of the Victorian Government Railways.

Railroading is a strange business, its complexities made more difficult by political pressures and dependence on an annual grant by the government of the day for additions and improvements, which permitted of no sure long range planning and commitments for consequent economies.

Painstakingly researched and compiled over many years by Mr. Leo J. Harrigan, with the help of officers of the Public Library and encouragement by a number of railway enthusiasts, this history is as accurate as it is possible to determine from the records and contemporary writings available.

Mr. Harrigan was born at Williamstown, cradle of the Victorian Railways. With his grandfather, father, brothers and uncles all railwaymen, he joined the Railways in December, 1914, as a junior clerk. Even at this early age he had a keen personal interest in general history; this interest narrowed to Australian, and finally Victorian history. In 1930, he turned to Australian railway history, with the accent on his own Department.

The story of the Victorian Railways is partly the story of Victoria itself.



CHAIRMAN,
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The history of Victoria as a political community began when the Hentys made the first permanent settlement at Portland in 1834. John Batman on June 8, 1835, marked as "the place for a village", the site of Melbourne, followed immediately by John Pascoe Fawkner's party, who established a settlement on the spot. Within the next year the pastoral, or "squatter," era commenced with the influx of the Port Phillip Association and others.

In Sydney, the Government regarded all these persons as trespassers; but the settlers ignored official warnings and remained in possession. As the result of favourable reports on the character and conduct of the settlers, Governor Sir Richard Bourke visited Port Phillip in March, 1837; satisfied with local conditions, he officially established Melbourne and William's Town. Subsequently, the "Port Phillip District of New South Wales" was declared, comprising the area south of the Dividing Range in the vicinity of Port Phillip Bay.

By 1842, the District population totalled 23,000; 1½ million sheep and cattle were at pasture; a Town Council for Melbourne was elected; post offices were in operation at Melbourne, Geelong and Portland. The Port Phillipians, still under Sydney administration, agitated for a local authority, but their ambition was not achieved till 1850, when the British Parliament granted separation from New South Wales and established the Colony of Victoria as from July 1, 1851, with self-Government. Charles Joseph La Trobe (Superintendent of the District) was appointed Lieutenant-Governor, and a Legislative Council elected, meeting for the first time on November 11, 1851, at Melbourne.

However, before the election of the new legislative authority, the public discovery of gold in July, 1851, caused great excitement, and within a few months a quiet pastoral community was submerged by an inrush of gold seekers and adventurers. In hundreds, in thousands, artisans, labourers, scholars, merchants, shepherds, sailors, staid officials of government service, police, ticket-of-leavers from Van Diemen's Land, Britishers, Europeans, Americans, Asians, — the best and the worst — passed through Melbourne to the El Dorados of Ballarat and Bendigo.

During 1852, 94,000 persons arrived by sea; for week after week more than 100 ships, many deserted by their crews, lay at anchor in Hobson's Bay.

Traffic to the goldfields was chaotic on unmade tracks which were quagmires in wet weather. Food at the mining centres was scarce and at famine prices; as many fortunes were made by shrewd retailers of commodities as by gold diggers. Disappointed and disillusioned, miners struggled back to Melbourne, adding to the overcrowding of that city, to which immigrants were still flocking in 1853-54 at the rate of more than 1,000 a week.

The Government, new to responsibility and caught in a state of affairs probably unequalled anywhere, floundered in bewilderment in attempts to attack the problem of creating order.

Roads were planned and their construction expedited; proposals for railways were formulated in 1852 by groups of investors whose extravagant optimism was a symptom of the time. Money seemed to be available in unlimited supply; the plans and estimates of the promoters of railway schemes were as unsound as the promises made to coax subscriptions for the projects. But, despite the need and the urgency for railway communication, it soon became apparent that the private resources of the Colony were not sufficient to meet the expenditure required in building railways of any magnitude. Failure and financial loss, early or ultimate, was, with one exception, the lot of private railway ventures in Victoria.

Though generous support was given to the private syndicates by the Government, some members of the Legislature believed that it was the responsibility of the Government to build railways. The collapse of the Melbourne, Mt. Alexander and Murray River Railway Company, that had been given a virtual monopoly to build railways anywhere in the Colony, was primarily responsible for the establishment of the Victorian Railways Department, the history of which, over the past century, portrays a record of service to the community not to be measured in terms of profit or loss on operations.



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CHAPTER ONE

Robert Hoddle

RAILWAYS IN VICTORIA APPROVED

Early proposals ; The need becomes urgent ; Companies formed ; Government policy

First proposed railway for Victoria was as early as March, 1839, when Robert Hoddle, Government Surveyor at Port Phillip, marked out a town site at The Beach (Port Melbourne) and planned a line from Melbourne.* Exactly seven years later, residents of Geelong discussed a scheme to construct a line to the vicinity of Portland and Hamilton. Desultory talks on the possibilities of railways from Melbourne to The Beach and to Geelong arose during 1850, but the propositions were merely wishful thinking.

On September 7, 1851, at a public meeting in the Mechanics' Institution (now the Melbourne Athenaeum) a plan was submitted to build a railway from Sandridge — as The Beach was then known — to the city. The line, 1 mile 63 chains long, was to be worked by two 16 h.p. engines with one 1st-class and two 2nd-class carriages, and 12 wagons; the whole cost, £60,000. The proposal, however, lapsed.

As was the case earlier in England, considerable opposition to railway projects was offered in Victoria. Objections were based on the damage that was thought might occur to property when a railway line went through. Also, interested opinion favoured canals as a means of improving transport from Hobson's Bay to the city. The construction of a sea wall, along which goods vehicles could travel across Hobson's Bay to Williamstown, was a suggestion that gained support and received some careful planning.

The combination of extravagant financial prosperity and chaotic transport conditions that followed the gold rush forced the community to realize the urgent need for railway communication. By 1852, the carriage of merchandise in horse drays and bullock wagons was outmoded ; the pastoral somnolence of the Colony was interrupted, never to recur, and a "railway boom" set in.

Every possible encouragement was given by the government to railway projects, as the authorities were fully aware of the benefits the young colony would gain from railways. Government construction and ownership, however, was not then contemplated or even considered necessary.

* *Map, P.3*

Concessions offered were liberal. At first, a grant of land 100 yards wide along the whole length of line was contemplated — it was later reduced — with ample space at terminal and intermediate locations for station buildings; financial aid for preliminary surveys and guaranteed interest payments on investments were other concessions. Authority to build a private railway was obtained by the syndicate submitting an application to the Legislature for a Bill of Incorporation. The application, if approved, was referred to a Select Committee to examine the proposal : if considered satisfactory, the Bill then proceeded through the necessary stages for the passing of an Act incorporating the company.

The Act contained stringent conditions and severe penalties for regulating the conduct of the company and the working of the railway, specifying among other things that the line had to be completed within two years of the passing of the Act. Failure incurred liability to a penalty of £5,000 plus £20 for each day beyond two years the line remained uncompleted. Also, the Government took power to purchase the line at any time after 10 years, at a fixed valuation.

During 1852 and 1853, eight separate and distinct private railway ventures were submitted to the people of Victoria for financial backing. Grandiloquent statements as to the ease and economy with which the projects could be completed and the extravagant promises of opulent dividends — anticipated at a minimum of 20 per cent — were features of the prospectuses issued to entice investors, by the various groups of promoters, many of whom were associated with each scheme.

Plans for railways were prepared by inexperienced engineers, on inadequate surveys of the areas to be traversed, and without sufficient knowledge of local economics. But the Colony was not yet equipped, financially or industrially, for the tasks, despite the meteoric inflation of wealth from the newly discovered goldfields.

Frantic appeals by the syndicates for subscriptions to capital funds were, in the main, unavailing, and the proposals lapsed soon after their propagation.

Of the eight companies promoted, three gained Government approval to build railways :

<i>The Melbourne and Hobson's Bay Railway</i>	<i>January 20, 1853</i>
<i>The Geelong and Melbourne Railway</i>	<i>February 8, 1853</i>
<i>The Melbourne, Mount Alexander and Murray River Railway</i>	<i>February 8, 1853</i>

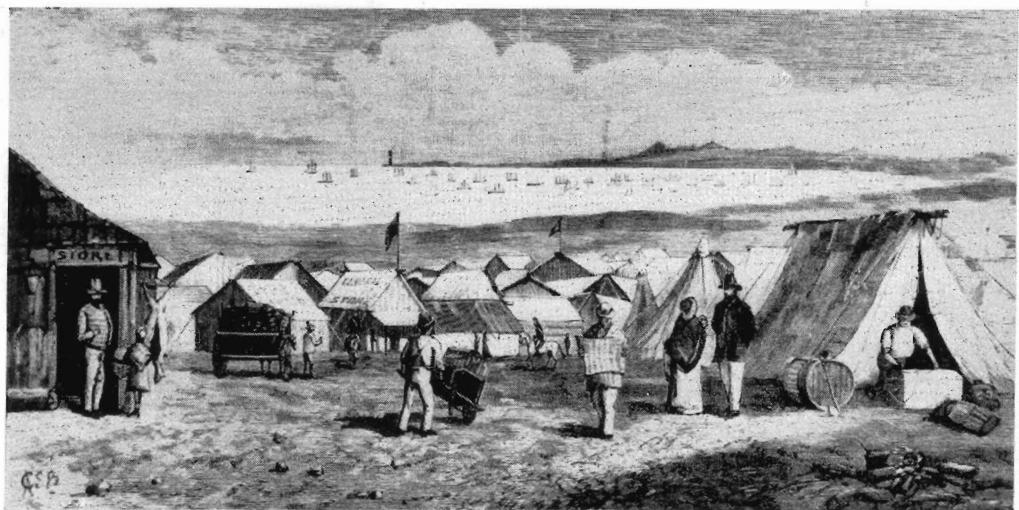
Another—the Melbourne, St. Kilda and Brighton Junction Railway—was disbanded in 1853, but reformed in later years as the St. Kilda and Brighton Railway.

The four that failed completely were :

<i>The Melbourne and William's Town Railway</i>
<i>The Geelong and Melbourne, Mount Alexander and Murray River Railway</i>
<i>The North Melbourne Railway</i>
<i>The Geelong, Ballarat and North Western Railway</i>

Promoted in May, 1852, to build a line approximately nine miles long, connecting Melbourne with shipping at Williamstown, the Melbourne and William's Town Railway Co. planned a route parallel with the west bank of the River Yarra,

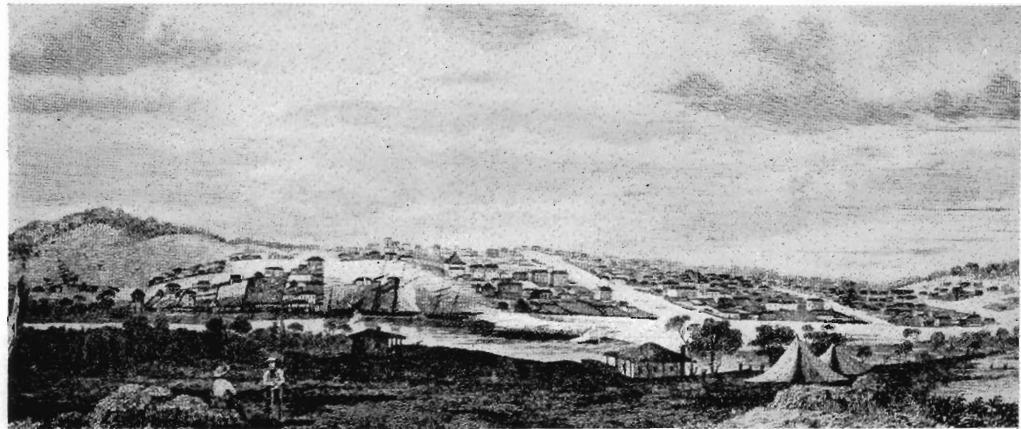
right : First planned line, 1839



above : "Canvas Town" in 1854, housed immigrants arriving at the rate of 1,000 a week

left : On the way to the "Diggings"

below : Melbourne from the south side of the Yarra, 1839



with warehouses at both terminals. Wharves at Williamstown were to be built in conjunction with the railway. The whole work would be financed on a capital fund of £50,000. The proposition received very little support, and other than some preliminary superficial survey work, no further action was taken by the promoters, and the company dissolved.

In June, 1852, the Geelong and Melbourne, Mount Alexander and Murray River Railway Co. announced its intention to apply to the Government for permission to build a railway from Geelong to Melbourne, continuing to Mount Alexander (between Castlemaine and Harcourt) and the River Murray either by a direct line from Melbourne or by joining the Melbourne, Mount Alexander and Murray River Railway Co.'s system* at some convenient point to be decided upon.

Such a scheme, traversing more than 200 miles, was apparently too dazzling even for the promoters. Other than a repetition of advertisements notifying the intention to seek Government approval, nothing further was learned of the proposal. No estimates of cost were given, and within one month, the company went into complete obscurity. There is no doubt that the Geelong to Melbourne portion of the plan was adopted by the Geelong and Melbourne Railway Co.* which arose in August, 1852.

The North Melbourne Railway Co. set out in June, 1853, to obtain £60,000 to construct a "cheap line of railway", to be worked by horses, from Melbourne to the penal stockade at Pentridge, five miles distant. The purpose was to carry stone from the quarries in the areas immediately north of the city. A great and increasing demand for stone for buildings and road-making had arisen, and the existing mode of transport by horse-drays was considered to be inadequate.

From Russell Street, at the rear of the Melbourne (now the Queen Victoria) Hospital, the line was planned to proceed between Lygon and Drummond Streets, Carlton, to the terminus at Pentridge on the east side of Sydney Road, with branches to the several quarries along the route, and also to the gaol enclosures at Melbourne and Pentridge for speedier delivery and removal of stone broken up by prisoners for road-making.

A Bill to authorize the construction of the railway was brought into the Legislative Council in September, 1853, but was withdrawn almost at once. Lack of financial support brought about the rapid dissolution of the company, the promoters of which turned to other railway projects for investment of their funds.

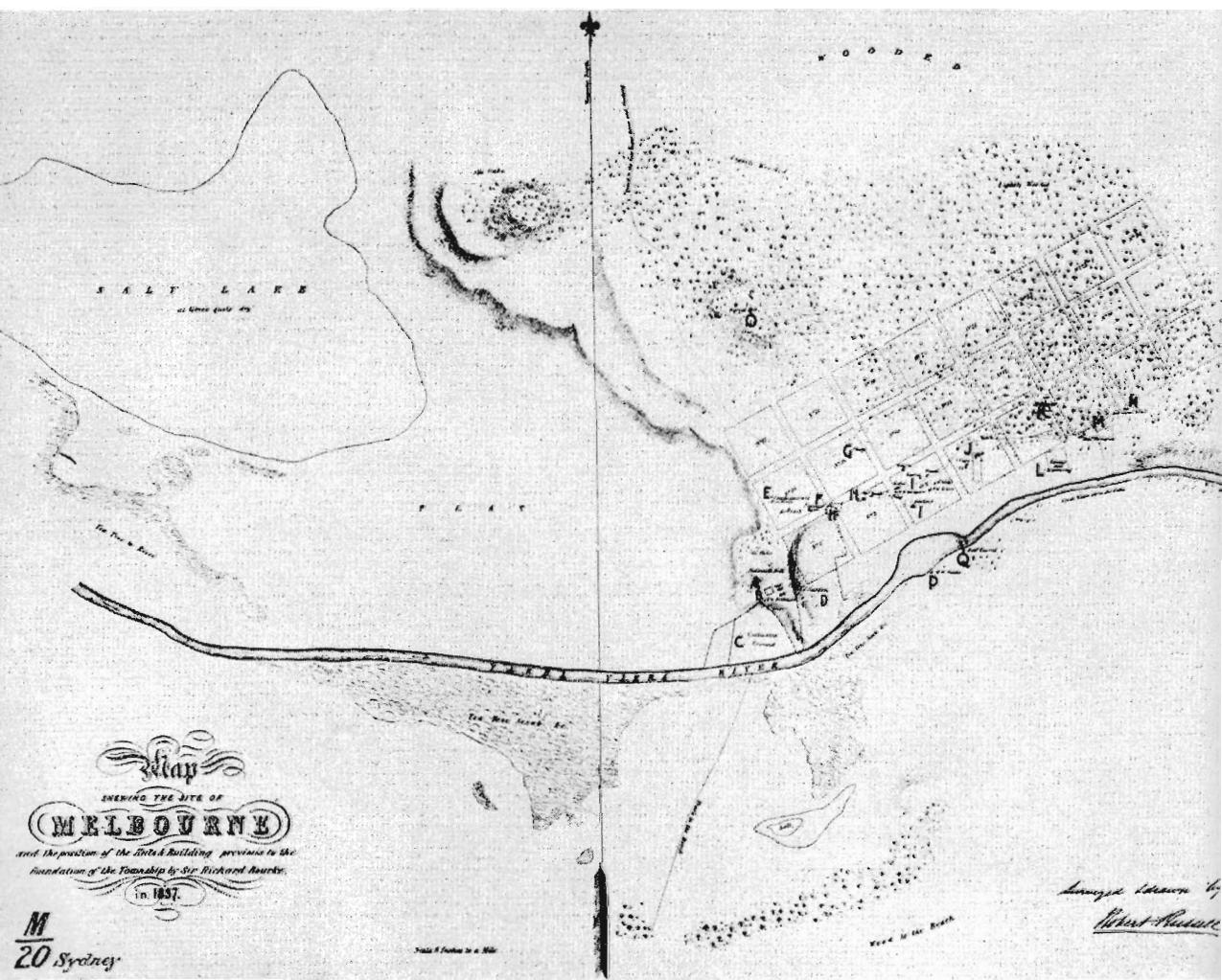
The Geelong, Ballarat and North Western Railway Co.—yet another group with an imposing plan and insufficient backing—first proposed in 1853 the construction of a railway 300 miles long from Geelong to Ballarat and Castle Donnington (Swan Hill) on the River Murray. A capital fund of £1,000,000, estimated in an extremely casual manner, was considered sufficient for the project. Despite recurring financial problems of other railway syndicates, the promoters applied for Government approval, but the request was rejected by the Legislative Coun-

cil on March 16, 1855. Five years later, the Government paid £3,586 to the sponsors of the railway as compensation for preliminary survey expenses.

Two other schemes advanced were:

A London Syndicate, The Melbourne Dock and Railway Co., claiming to have resources up to £1,000,000, made energetic but unsuccessful efforts in 1853 to amalgamate with local enterprises for building canals and docks as auxiliaries to railways.

A nebulous idea of connecting Portland and its shipping trade with the western area of the Colony arose in 1856 with a plan to construct a railway or tramway from that town to The Grange (Hamilton), on a route about 55 miles long, with possible extensions to the Wannon and Wimmera Rivers. Other than a report that the work of constructing the tramway was inaugurated by the cutting of the first turf on March 31, 1857, no further information appears to be available concerning the proposal, although in the early "seventies", plans to carry out the project were revived from time to time, but were not proceeded with.





Melbourne from the Domain, 1856

CHAPTER TWO

THE GOVERNMENT STEPS IN

Melbourne, Mount Alexander and Murray River Railway Co. fails ; Difficulties of Government planning : Proposals by Government Committees for establishment of new lines ; Government takes over Mt. Alexander Co.; Government survey and decision to build country lines ; Establishment of Cobb & Co. coach lines as feeders.

Of the three authorized railway companies, the Melbourne, Mount Alexander and Murray River Railway was the first to fail.

Colloquially known as The Mount Alexander Co., the syndicate was promulgated in June, 1852, to build a main line of railway from Melbourne to Mount Alexander and the River Murray at Echuca, and a branch line to Williamstown. Capital was fixed at £750,000, but was later increased to £1,000,000.

Negotiations with the Government obtained for the company the following concessions :

a Treasury grant of £5,000 to cover expenses of preliminary surveys ; 50 acres of land at Batman's Hill (Spencer Street) for a general railway terminus ; 30 acres at Williamstown ; and a strip of land 100 yards wide for the whole length of the railway.

Over the period 1853 to 1855 it is clear from a review of the actions of the Legislative Council that the authorities were continually made aware of the inability of private companies to construct railways of any magnitude.

For Victoria these years had been ones of unparalleled growth. The population had quadrupled to 364,000 ; gold production for 1855 totalled more than £11,000,000, while public revenue produced £2,700,000 against an expenditure of only £2,600,000.

Despite the Colony's prosperity, the Government hesitated to incur a loan liability to the extent of several million pounds for railways. In addition, the demand of other urgent public works had to be met. British capital was the only source of colonial borrowing, and prospects of support from London were not favourable.

Changing political conditions in the Colony prevented the development of cohesive planning. Further, opposition to Government ownership of railways came from the railway companies, many of their principal shareholders being members of the Legislative Council.

In January, 1853, the council allotted £30,000 to provide direct communication between Melbourne and Hobson's Bay as a public work if no action for the purpose was taken by private enterprise. However, the Melbourne and Hobson's Bay Railway Co.,* authorized in the same month, covered this plan.

Later in the year, the council considered a standard rail gauge following the extraordinary and vacillating conduct of the New South Wales Government in finally reverting to the 4' 8½" measurement without reference to the other colonies. Victoria, already committed to 5' 3," fixed this dimension as standard.*

During a debate in the council on November 18, 1853, relating to an amendment of the Melbourne, Mount Alexander and Murray River Railway Co.'s Act of Incorporation, the then Auditor-General (Hugh Culling Eardley Childers) expressed regret that Victoria had not adopted Lord Grey's principle, announced in 1846, that Governments in British territories should build the railways and finance the cost of construction by the sale of lands adjacent to the lines. Mr. (later Sir) John O'Shanassy, member for Melbourne Province, supported Childers and recommended that the Government should dissolve the Mount Alexander Co. and undertake the construction of lines to the country districts.

Arising from these comments and the company's inability to raise sufficient funds to commence construction, the Government, in March, 1854, opened negotiations to purchase its rights.

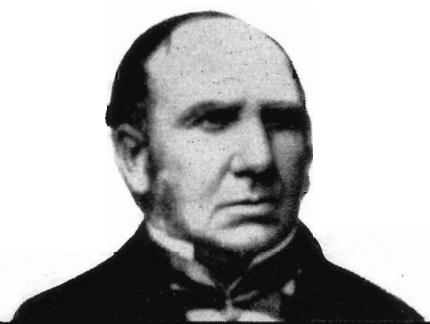
Agreement on price could not be reached at that stage. On April 10, 1854, the Legislative Council adopted a resolution submitted by O'Shanassy "that in the interests of Victoria it was desirable that the Government be empowered to purchase the rights and title of the Mount Alexander Railway Co. with a view to carrying out the undertaking".

Two months later, a commission composed of Mr. (later Sir) Francis Murphy, M.L.C., Captain Archibald Ross and Captain Charles Pasley, both of the Royal Engineers, commenced inquiries as to the best means of communication to the country areas of the Colony. The commission's report, presented on September 26, 1854, recommended that :

action be taken to remove any restrictions which would prevent the Government from constructing railways ;

surveys and estimates of cost be made for lines leading from Melbourne to Bendigo, from Geelong to Ballarat, and from Melbourne in the direction of Sydney (a railway from Geelong to Melbourne was then in course of construction by the Geelong and Melbourne Railway Co.) ;

the works be planned for double tracks, but for a start, a single track line to Bendigo only to be built; it was impossible for private enterprise to undertake the proposals, and that major works could only be carried out by the Government.



Sir John O'Shanassy



Sir Charles Hotham



Captain Andrew Clarke



G. C. Darbyshire

The committee examined the possibilities of tramways worked by either horses or locomotive engines, but rejected the system as unsuitable to the country. It was learned also that the carriage of goods to the interior by road cost between £2,000,000 and £3,000,000 annually, contributing largely to the famine prices charged for commodities on the goldfields.

This was the background to the efforts of the Mount Alexander Co. to construct a railway. Authority to commence work had been granted by Act of the Legislative Council on February 8, 1853, but a whole year passed with no further action than discussions on how to raise finance. A contract for building a pier was let in January, 1854; then, spurred on by insistent subscribers and Government threats, the directors organized a vast celebration for the official inauguration of the railway at Williamstown on June 12, 1854.

A lengthy procession traversed the streets of that town to a place near the time ball, which stood at the end of the present oil wharf ; here the cavalcade halted so that the Acting Lieutenant-Governor (the Honourable John Leslie Vesey Fitzgerald Foster) could cut the first turf of the new line. A contemporary report of the event records that " His Excellency went to work in good earnest, dug the ground, shovelled a load into a barrow, and trundled it merrily to the dumping point and back ; in fact, he seemed to have done quite as much work as he cared to do at one time."

To the accompaniment of music from the band of the 40th Regiment, lavish refreshments were served on board " Antelope" (flagship for the occasion) and other vessels at anchor in Hobson's Bay. In a pleasant glow of well-being induced by a copious flow of champagne and an abundance of rich fare, laudatory speeches were a feature of the occasion. A regatta on Hobson's Bay during the afternoon added to the gaiety of the event, and the guests returned to the shore, all happy and replete—except for the bandsmen of the 40th Regiment, whose needs were forgotten in the excitement of the day. A grand ball at night completed the celebrations, which cost the Mount Alexander Co. £1,149.4.7.

Construction of the line from Melbourne to Williamstown commenced at both ends, but progress was very slow due to inadequate funds. The impossibility of continuing with the work forced itself on the company, and negotiations for selling the undertaking to the Government resulted in disposal at a valuation of £68,102 plus £56,983 liabilities on work in hand. This was ratified by Act of the Legislative Council on March 19, 1856, and the project placed under the management of Government trustees, with authority to complete it. In this manner, without any further waste of public funds, the Victorian Railways Department came into being.

Many members of the Legislature were financially interested in the various railway undertakings, with the result that self interest was an important factor when the question arose as to whether railways should be privately or state operated.

In March, 1855, Sir Charles Hotham, Lieutenant-Governor, submitted the following principles to the Legislative Council for devising a system by which the Government might undertake the construction of railways :

*any scheme proposed must provide for the eventual liquidation of loans, presumably within 21 years ; only lines to be built that had prospects of paying working expenses and defraying interest charges ; that the routes selected would meet the probable future requirements of the Colony as well as the immediate wants, and only single track lines to be built at first ;
on completion of each section, the lines to be leased by tender for a term of years ;
loans to be repaid by the sale of lands adjacent to the lines and an interest fund of £300,000 yearly to be established until the lines became productive ;
loans and tenders for constructing railways to be invited from London not earlier than January, 1856.*

The council at once elected a Railway Committee to examine the Lieutenant-Governor's proposals. Reporting on May 21, 1855, the committee recommended that :

*main railways in Victoria should be controlled by the Government ;
the most desirable routes would be direct lines from Melbourne to Castlemaine, later extended to the River Murray, and from Geelong to Ballarat, with subsequent extension westward.*

Resulting from the report, the Surveyor-General (Captain Andrew Clarke, R.E.) was authorized to make surveys from which 200 route miles of railway might be selected. Sixteen parties, under the direction of George Christian Darbyshire, District Surveyor at Williamstown, examined the central portion of the Colony and, by the end of 1855, had surveyed 600 miles covering lines from Melbourne to Sandhurst and Echuca; Geelong to Ballarat, Melbourne to Ballarat, Ballarat to Maryborough and Castlemaine, all with deviations and alternative routes, and cross-country connexions from one line to another. A line from Melbourne to beyond Seymour was also marked out.

Another Railway Committee was elected from the Legislative Councillors in January, 1856, to examine the surveys. From these, the committee selected the routes :

*MELBOURNE to CASTLEMAINE, SANDHURST and ECHUCA ;
GEELONG to BALLARAT ;
MELBOURNE to BALLARAT, and
BALLARAT to CASTLEMAINE.*

The total 309 miles was estimated to cost £14,250,000 for double track lines, or £12,235,000 for single track.

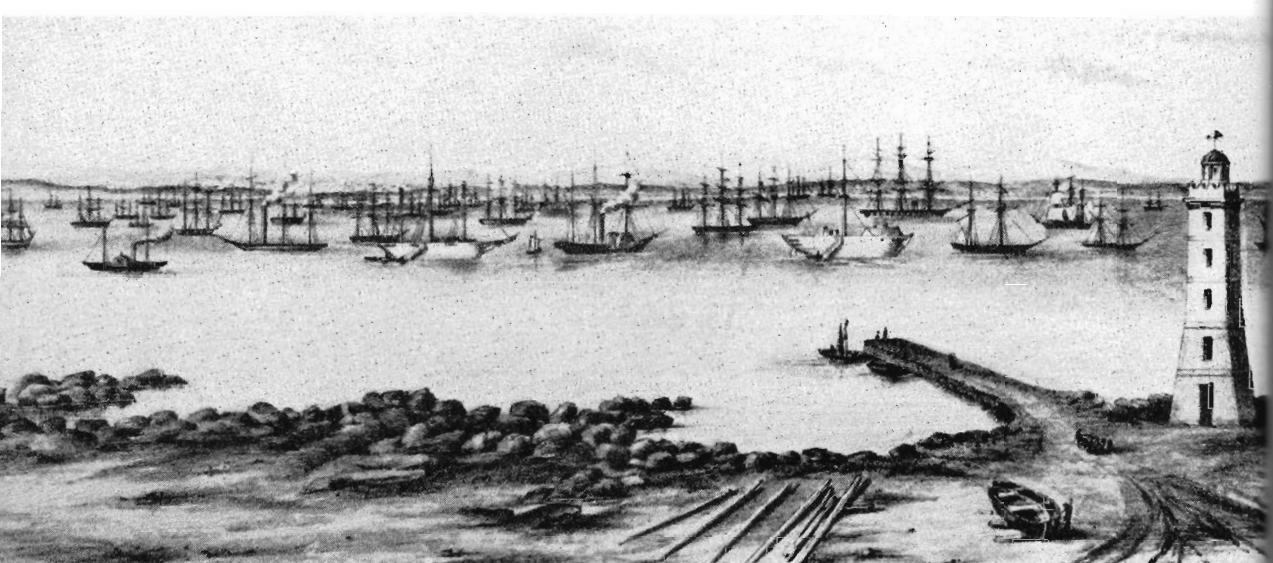
On March 19, 1856, the committee finally recommended that the Government be empowered to raise funds for the simultaneous construction of lines from Melbourne to Echuca and Geelong to Ballarat ; and that the building and working of these railways should be invested in a commission appointed by the Legislature.

The committee also advocated that, during the coming recess between the dissolution of the Legislative Council and the opening of the first Parliament (that is, from March 20 to November 21, 1856) the Government should have all essential details and decisions ready for the new Legislature to grant the necessary authority for carrying on the work.

Earlier, on March 13, the committee had recommended the purchase of the Mount Alexander Co., and urged that the Melbourne to Williamstown portion of the company's scheme be constructed at once as it would form the basis from which main lines to the country could commence.

The final decision of the Government in 1857 to built trunk lines was influenced not only by the failure of private enterprise to undertake the construction of railways, but by the desire of a section of the Legislature that railways should be built and owned by the State.

Possibly due to the failures and slow progress of the syndicates in establishing country railways, but more probably because of his knowledge on American conditions, Freeman Wills Cobb in 1854 commenced the famous Cobb & Co.'s coach lines which spread throughout Victoria as settlement grew. When the trunk railways were built, the coaches supplied a type of feeder service, the usefulness of which declined to extinction as the iron way gradually covered the Colony.



Hobson's Bay from Williamstown, about 1854, showing, at right, the Time-ball Tower and beginning of Breakwater Pier.

Peter Lalor



CHAPTER THREE

THE VICTORIAN RAILWAYS DEPARTMENT ESTABLISHED

Purchase of Melbourne, Mount Alexander and Murray River Railway Co. ; Railways Department created ; First staff ; Tenders for railway plant ; Construction of Williamstown line

The Victorian Railways Department was created in one of the last items of business of the Legislative Council. It was Act 19 Vic. No. 15, passed on March 19, 1856, authorizing the purchase by the Government of the Melbourne, Mount Alexander, and Murray River Railway Co.'s property and interests, and giving power for the Government to purchase railways at any time thereafter.

The council was dissolved the next day, to be replaced by the bi-cameral system (Upper and Lower Houses) adopted under the new constitution for responsible government in Victoria. The Colony's first Parliament assembled on November 21, 1856, at Melbourne.

In accordance with the terms of the Act of Purchase, the Commissioner of Public Works (Captain Charles Pasley) and the Surveyor-General (Captain Andrew Clarke) were appointed Trustees of the Melbourne, Mount Alexander and Murray River Railway. An examination of the company's works and finances was made by Messrs. G. C. Darbyshire, District Surveyor at Williamstown, and A. Galt, an accountant. On their report, a contract of sale was completed on May 23, 1856. Included among the property taken over from the company was one frying pan.

During 1855, extensive surveys for proposed Government railways were made by the Surveyor-General's Department in which, nominally, all railway matters were vested. As from April 1, 1856, management of the new Railway Department was transferred to the Commissioner of Public Works, with headquarters at the Assay Office in La Trobe Street, Melbourne. The respective Ministers, however, retained equal status as Trustees of the Mount Alexander Railway.

The first staff appointments to the Department were made on May 1, 1856. G. C. Darbyshire was chosen for the position of Engineer-in-Chief, located in the Mount Alexander Co.'s offices at Batman's Hill, Spencer Street. Darbyshire entered the Government service on August 12, 1853, in the Surveyor-General's Department. The original members of his railway staff were recruited from that Department, having been selected to carry out the railway surveys in 1855. James Ryan, the office messenger, had been a sergeant in the 40th Regiment.

Richard Woolley, selected as first Secretary of the Railway Department, had been Secretary of the Melbourne Chamber of Commerce. He took up duty at the Assay Office, La Trobe Street.

An appointment of interest was that of the Hon. Peter Lalor, M.L.C., C.E., as Inspector of Works. Lalor was the leader of the miners' rebellion at Eureka Stockade, Ballarat, on December 3, 1854, where he was severely wounded, losing his left arm as a result. A Government reward of £200 for his apprehension remained unclaimed. He was acquitted in absentia in March, 1855, of a charge of treason. In November, 1855, he was elected to the Legislative Council as member for Ballarat; twelve months later he entered Victoria's first Parliament as representative for Grenville North. He held the office of Speaker in the Legislative Assembly from 1880 to 1887.

First appointments to the Railway Department staff were :

ENGINEER-IN-CHIEF'S DIVISION

<i>George Christian Darbyshire</i>	<i>Engineer-in-Chief</i>	<i>1/5/1856</i>
<i>Robert Watson</i>	<i>Assistant Engineer and Surveyor</i>	<i>„</i>
<i>William Austin Zeal</i>	<i>„</i>	<i>„</i>
<i>William Bennett Hull</i>	<i>„</i>	<i>„</i>
<i>William Henry Greene</i>	<i>„</i>	<i>„</i>
<i>W. F. Hardie</i>	<i>„</i>	<i>„</i>
<i>Frederick Collier Christy</i>	<i>Draftsman</i>	<i>„</i>
<i>Robert Adams</i>	<i>„</i>	<i>„</i>
<i>W. E. Bryson</i>	<i>„</i>	<i>„</i>
<i>A. A. Jackson</i>	<i>„</i>	<i>„</i>
<i>Samuel V. Kent</i>	<i>„</i>	<i>„</i>
<i>James Ryan</i>	<i>Messenger</i>	<i>1/8/1856</i>
<i>Mary Ryan</i>	<i>Housekeeper</i>	<i>„</i>
<i>George H. Watson</i>	<i>Engineer and Surveyor</i>	<i>2/10/1856</i>
<i>J. Thorneloe Smith</i>		
<i>Peter Lalor</i>	<i>Inspector of Works</i>	<i>„</i>

SECRETARY'S OFFICE

<i>Richard Woolley</i>	<i>Secretary</i>	<i>1/5/1856</i>
<i>Archibald Dick</i>	<i>Accountant</i>	<i>12/7/1856</i>
<i>Henry St. John Jowers</i>	<i>Clerk</i>	<i>1/8/1856</i>
<i>Charles Curr</i>		<i>1/9/1856</i>

Immediately after the formation of the Railway Department, the Trustees began preparations for the completion of the Melbourne to Williamstown line. The Mount Alexander Co.'s efforts had been confined to local works only on a limited scale; consequently, the Department was confronted with a protracted delay by having to set up plans and specifications and place orders in England for rolling stock, bridges, rails and other materials.

Information Issued in 1854

V.



R.

Colonial Secretary's Office,
Melbourne, 18th December 1854

£400 REWARD

Whereas Two Persons of the Names of

Lawlor & Black

LATE OF BALLAARAT,

Did on or about the 13th day of November last, at that place, use
certain

TREASONABLE AND SEDITIONOUS LANGUAGE,

and incite Men to take up Arms, with a view to make war against
Our Sovereign Lady the Queen:

NOTICE IS HEREBY GIVEN

That a Reward of £200 will be paid to any person or persons
giving such information as may lead to the Apprehension of either
of the abovenamed parties.

DESCRIPTIONS.

LAWLOR—Height 5 ft. 11 in., age 35, hair dark brown whiskers dark brown, and shaved under
the chin, no moustache, long face, rather good looking, and is a well made man
BLACK—Height over 6 feet, straight figure, slight build, bright red hair worn in general rather
long and brushed backwards, red and large whiskers meeting under the chin, blue eyes
large thin nose, cuddly complexion, and rather small mouth.

By His Excellency's Command,

WILLIAM C. HAINES

By Authority: John Ferres, Govt. Printer, Melbourne

On May 3, 1856, the Victorian Railways issued its first call for tenders. Local agencies were requested to submit proposals for the importation of railway material on a commission basis. The contract was given to Messrs. Dalgety, Cleve and Hamill on June 21, at a two per cent premium on an estimated cost of £73,458.

Three months later, De Pass Brothers and Co. contracted to import five locomotives, 22 carriages, 60 goods wagons, and 16 other vehicles, priced in England at £42,621.

The Trustees requested the Board of Trade to appoint an Inspecting Officer to supervise the contracts in England. Captain Douglas Galton, R.E., was selected in October, 1856, but relinquished the office in December, when Mr. Isambard Kingdom Brunel took over, continuing until his death in September, 1859.

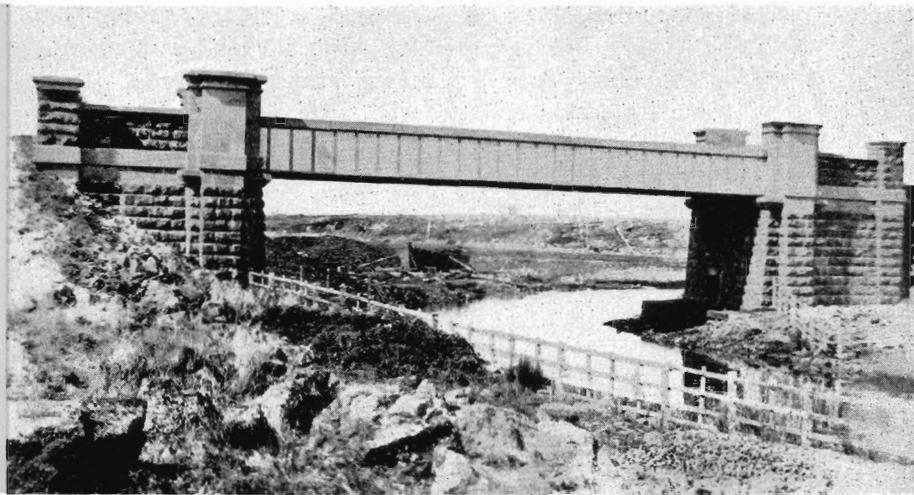
Contracts for excavations, embankments, ballasting, and fencing were either resumed with the original operators, or new agreements made. By November, 1856, commitments for the line totalled over £300,000.

Progress of work both at home and abroad proceeded slowly. Trouble and delay arose from failure of contractors to complete their obligations. Difficulty was experienced in making a path for the permanent way across the present West Melbourne swamp area (into which Moonee Ponds Creek flowed), from near the present Dudley Street, North Melbourne, to beyond Batman's Lagoon and Dirty Gully, about one and a half miles west from Spencer Street. The lagoon was filled in many years later. Excavations from Spencer Street to the Salt Water (now Maribyrnong) River totalled 164,000 cubic yards, the spoil being used for building embankments. Foundations for the bridge over the river required 600 piles driven to a depth of 60 feet. From the river towards Footscray, the line was carried on a wooden viaduct 1,150 feet long. This structure was dismantled later and an earth embankment built.

The lapse of time from sending orders to England, placing the orders with manufacturers there, the construction, inspection and shipment of materials, and ultimate arrival at Melbourne, added to local delay. Fifteen months appears to have been an average period for delivery of even the commonest articles. Some of the ships carrying railway plant were lost at sea without trace, which, of course, necessitated repeating the order. Mailing procedure to overseas countries in early years involved sending duplicates of letters, orders and plans by the following mail ship, which usually departed one month later than the original, and instances occurred of three years elapsing before material arrived.

The Trustees of the Melbourne, Mount Alexander, and Murray River Railway were considered to hold office only until the first Parliament elected a Commission to control the construction and working of Government Railways. This was expected to be done as soon as possible after Parliament assembled in November, 1856. But whatever the new Legislature may have planned, two changes of Ministry in March and April, 1857, shelved prospects of an immediate decision and action for the construction of country lines. Work continued, however, on the Williamstown railway.

Stony
Creek
Bridge,
1858

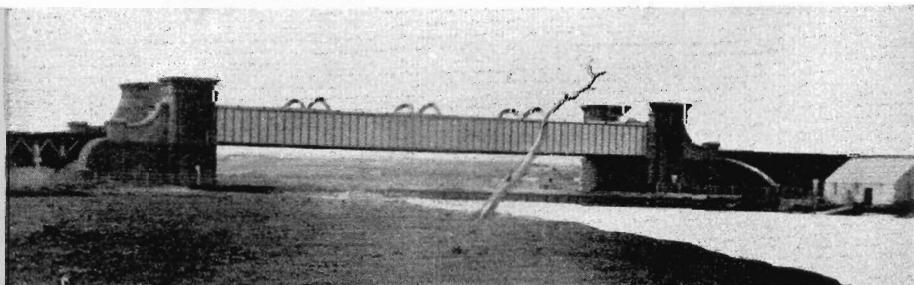


By June, 1857, the Geelong and Melbourne Railway Co. had a service running to Greenwich, a private village area of 90 acres between Melbourne Road and the River Yarra, now part of Newport. On October 3, their line having been connected to the Government line at Geelong Junction (now Newport), the Geelong trains ran to Williamstown. One, John Harvey, was posted as Station-master at the Government temporary station near Williamstown Pier. He was, in all probability, the first traffic man appointed to the Victorian Railways.

Work proceeded slowly on the remainder of the line. Thick reefs of bluestone close to the surface constituted an additional factor of delay. Towards the close of 1857, materials and equipment began to arrive from England. Rails, bridges, carriages, wagons, locomotives and machinery came in, and by June, 1858, most of the plant ordered had been landed, after which construction was accelerated.

On September 16, 1858, the Department's first passenger engine—No. 1—made a trial trip from Williamstown to Saltwater River. The bridge here was completed in December and tested on January 7, 1859. Two engines, each hauling six wagons loaded with iron rail chairs, were used for the test, which was entirely satisfactory.

Saltwater
River
Bridge,
1858



This bridge consisted of three iron tubular girders each 216 feet long and 14 feet 6 inches high, making a total weight of 511 tons, with a single span of 200 feet—the longest as yet on any railway bridge in Victoria. The deck was 37 feet wide and 25 feet above water level. The cost of the whole structure, including foundations and abutments, was £90,000.

The line was officially opened on January 13, 1859—the first Victorian Government Railway.

Principal contractors for the Melbourne and Williamstown railway were :

HOPE & MCKENZIE	Stone breakwater at Williamstown.
PORTER & ROBERTSON	Breakwater pier, Williamstown, £20,679.
EVANS, MERRY & CO.	Railway pier, Williamstown.
MUSSON & BOURNE	
J. & N. CAMPBELL	
WILLIAM TANDLE	
WILLIAM LIDDLE MCKAY	Earthworks, ballasting and laying permanent way, Melbourne to Williamstown.
KERR, HODGSON & BILLINGS	
A. K. SMITH	Fencing line.
DAVID BAILLIE	Building of Williamstown station, £12,064.
" "	Sheds at Williamstown, £2,874.
PIERCE & DALZIELL	Workshops, Williamstown, £6,789.
" "	Station and sheds at Batman's Hill, Spencer Street.
GEORGE HOLMES & CO.	Engine sheds, Williamstown, £5,395.
" " "	Abutments and foundations for Saltwater River bridge, £31,737.
" " "	Erection of Saltwater River bridge, £30,331.
CRAGG, DALE & ROSS	Foundations and erection, Stony Creek bridge, £14,580
PETO, BRASSEY and BETTS, ENGLAND	Bridge at Dudley Street, £3,877.
WILLIAM FAIRBAIRN & SONS, ENGLAND	Viaduct from Saltwater River bridge, £18,826.
	Ironwork for Stony Creek bridge (96 tons) £2,034.
	Ironwork for Saltwater River bridge (511 tons), £11,820.

The total cost of the Williamstown line at the time of opening amounted to £697,000, comprising:

Earthworks	...	...	£106,000
Permanent way	...	...	108,000
Bridges	...	...	123,000
Stations and sheds	...	...	145,000
Williamstown piers	...	...	113,000
Rolling stock	...	...	68,000
Other items	...	...	34,000
			£697,000

Of this expenditure, £94,000 was charged to the construction of the main line to the River Murray, reducing the cost of the Williamstown railway to £603,000.

During the course of construction in 1857, 27 yards of " De Bergue's Patent Permanent Way " were laid down near Geelong Junction. This was done at the request of John Cairns, Melbourne agent for the patentee, without cost or liability to the Government. This type of permanent way consisted of cast iron cellular blocks, 18" x 16" x 4", laid longitudinally, to which cross members were fixed as spacers, and overall a clamping device for holding the rails by means of slotted bolts. The section was removed in 1861, as being unsuitable for railway requirements.

Sir Henry Barkly



CHAPTER FOUR

MAIN TRUNK RAILWAYS AUTHORIZED

Construction of Government trunk lines authorized ; Board of Land and Works formed ; Financing the works ; Contracts allotted ; The works commenced

In fulfilment of the third Railway Committee's recommendations to the Legislative Council on March 19, 1856, the Trustees of the Melbourne, Mount Alexander and Murray River Railway prepared all essential information relating to proposed trunk lines for the guidance of the first Parliament when it assembled in November, 1856.

On January 21, 1857, Captain Clarke submitted the following proposals to the Legislative Assembly :

That it was advisable to proceed at once with the construction of lines from Melbourne to Sandhurst and Geelong to Ballarat. During the year £1,000,000 should be spent on the Sandhurst line, giving employment to 3,400 men, and £500,000 on the Ballarat line, employing 1,600 men. Construction should be financed by a loan at 6 per cent interest.

A Railway Committee (the fourth) of 15 members of the Assembly, with Captain Clarke as chairman, was elected to inquire and report on the proposals. The committee commenced taking evidence on February 5, but two changes of the Ministry within one month delayed proceedings for two months. Engineers and merchants, contractors and bankers, presented themselves before the committee, and to 4,069 questions of varying degrees of expertness and inanity gave 4,069 answers of like quality.

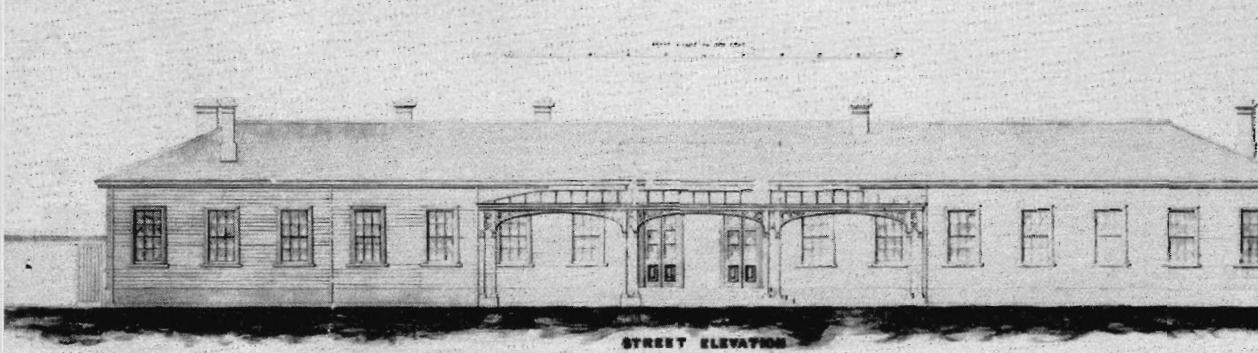
Although the subject had been fully examined and reported on by the three previous Railway Committees in 1854, 1855, and 1856, the Legislature hesitated to commit the Colony to the policy of Government ownership of a public utility — a policy to which British communities were averse. In addition, the very important matter of finding several millions of money to construct main railways was a problem for which the authorities had no easy solution. The

TEMPORARY STATION.

MELBOURNE.

VICTORIAN RAILWAYS.

MELBOURNE MOUNT ALEXANDER & MURRAY RIVER RAILWAY.

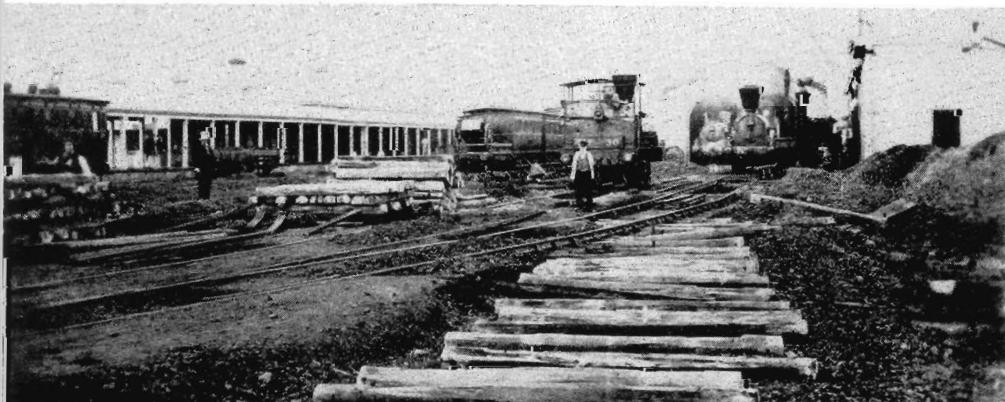


Government was reluctant to accept responsibility, even though official reports favoured the principle of public ownership, and the colonists were impatiently waiting for somebody to do something.

By its report, dated August 11, 1857, this fourth committee confirmed the recommendations of the previous commissions in all aspects. Features of the report included the recommendation that the proposed lines be of substantial construction, with double tracks, and capable of working a large traffic volume at an average speed of not less than 20 miles an hour. Further, that on completion of construction, the management and working of the railways ought not to remain in the hands of the Government.

In a significant comment, the committee gave a reminder that the effects of providing railway communication should not be measured exclusively by the commercial value of the undertaking. The same beneficial results which followed in other countries could be expected in Victoria.

The report was submitted to Parliament in September, 1857, together with a request that a loan of £8,000,000 be raised for railway construction. Without delay, the whole scheme was approved, and the following series of Railways Acts was passed on November 24, 1857 :



Spencer Street Station,
about 1863, showing
station as
originally built

ACT No. 31 : Provided for the establishment of a Board of Land and Works consisting of three to five members. The functions of the Board included the letting of all contracts for public works. (The Board, in effect, co-ordinated the offices of the Commissioner of Public Works and the Surveyor-General or Commissioner of Crown Lands and Survey and also abolished the office of Commissioner of Roads and Bridges. The two first-named offices had been abolished by the Governor's decree dated April 28, 1857, when a President of a Board of Land and Works was appointed. Act No. 31 gave covering approval for the establishment of the Board and defined its duties.)

ACT. No. 35 : Authorized the Government to construct main trunk lines of railway from Melbourne to the River Murray and from Geelong to Ballarat.

ACT No. 36 : Authorized the Government to raise £8,000,000 for the construction of the trunk lines, and to repay expenditure on the Melbourne to Williamstown Railway. The money was to be obtained by the issue of debentures bearing interest at 6 per cent and redeemable in 25 years : £7,000,000 to be allotted to London financiers in £100 bonds, and £1,000,000 to the Melbourne market in £10 bonds.

ACT No. 38 : Authorized the construction of railways, and defined the powers and duties of the Board of Land and Works in the construction of railways.

ACT No. 40 : Provided for the supervision of railways, whereby the Board of Land and Works was empowered to inspect, approve of, and exercise supervision over all railways, including those of private companies.

Having thus decided, after three years, on a definite action the Government wasted no time. On December 8, 1857, the Board of Land and Works invited tenders for constructing the lines, either as a whole or in sections, as under :

MELBOURNE AND MURRAY RIVER RAILWAY (from Footscray Junction)

CONTRACT	M. Ch.	CONTRACT	M. Ch.
1. Keilor Plains	17.60	11. Porcupine	7.10
2. Sunbury	5.22	12. Big Hill	3.65
3. Bolinda	8.78	13. Sandhurst	4.56
4. Gisborne	5.42	14. Bendigo Creek	8.00
5. Black Forest	5.61	15. Campaspe Plains	31.00
6. Woodend	8.10	16. Echuca	17.58
7. Kyneton and Malmsbury	10.43	17. Melbourne to Sandhurst	97.07
8. Taradale	2.15	18. Sandhurst to River Murray	56.58
9. Elphinstone and Forest Creek	6.65	19. Melbourne to River Murray at Echuca	
10. Castlemaine and Harcourt	10.40		153.65

GEELONG AND BALLARAT RAILWAY (from Cowie's Creek Junction)

Contract	M. Ch.	Contract	M. Ch.
20. Moorabool	8.20	24. Burnt Bridge	3.50
21. Lethbridge	8.05	25. Warrenheip	9.30
22. Meredith	12.05	26. Ballarat	4.37
23. Stony Rises	7.10	27. Geelong to Ballarat	52.77

GENERAL CONTRACT

28. Melbourne to River Murray and Geelong to Ballarat	206.62
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On March 29, 1858, at the Government offices, Mr. Charles Gavan Duffy, President of the Board of Land and Works, opened the tenders in the presence of Sir Henry Barkly, the Executive Council, contractors, and press representatives. One hundred and thirty-three separate quotations were submitted by :

PETTIT, SCITHERS & Co.	ROBERT RUSSELL & Co.	ALEXANDER ROSS
MUNGO PARK SMITH & Co.	W. C. CORNISH & Co.	RANDLE & HOLMES
EVANS, MERRY & Co.	JOHN BOURNE	YOUNG & Co.
PORTER & ROBERTSON	JOHN MUSSON & Co.	

94 Lonsdale St West —
Melbourne 16 April 1859

Sir

We have the honor to submit for your consideration that as we have given the Government possession of No 1 section of the Melbourne and River Murray Railway eight weeks and are prepared to give possession of the miles of No 2 section of said Railway one year and nine months before the time specified in our contract for the completion thereof whereby the Government have derived a revenue of ten thousand pounds and will then have access by rail to about 4000 acres of uncultivated land for ironmongery at Timbury. As we have been put to great additional expenses in completing the Works so long before the time required by the Contract and also the expense of maintenance of said Works.

We respectfully request that we be allowed to convey the plant and materials required for the construction of the Works on Contract No 17 free of cost on the line to the various sections we may require —

We have the honor to be

Sir

your most obedient Servants

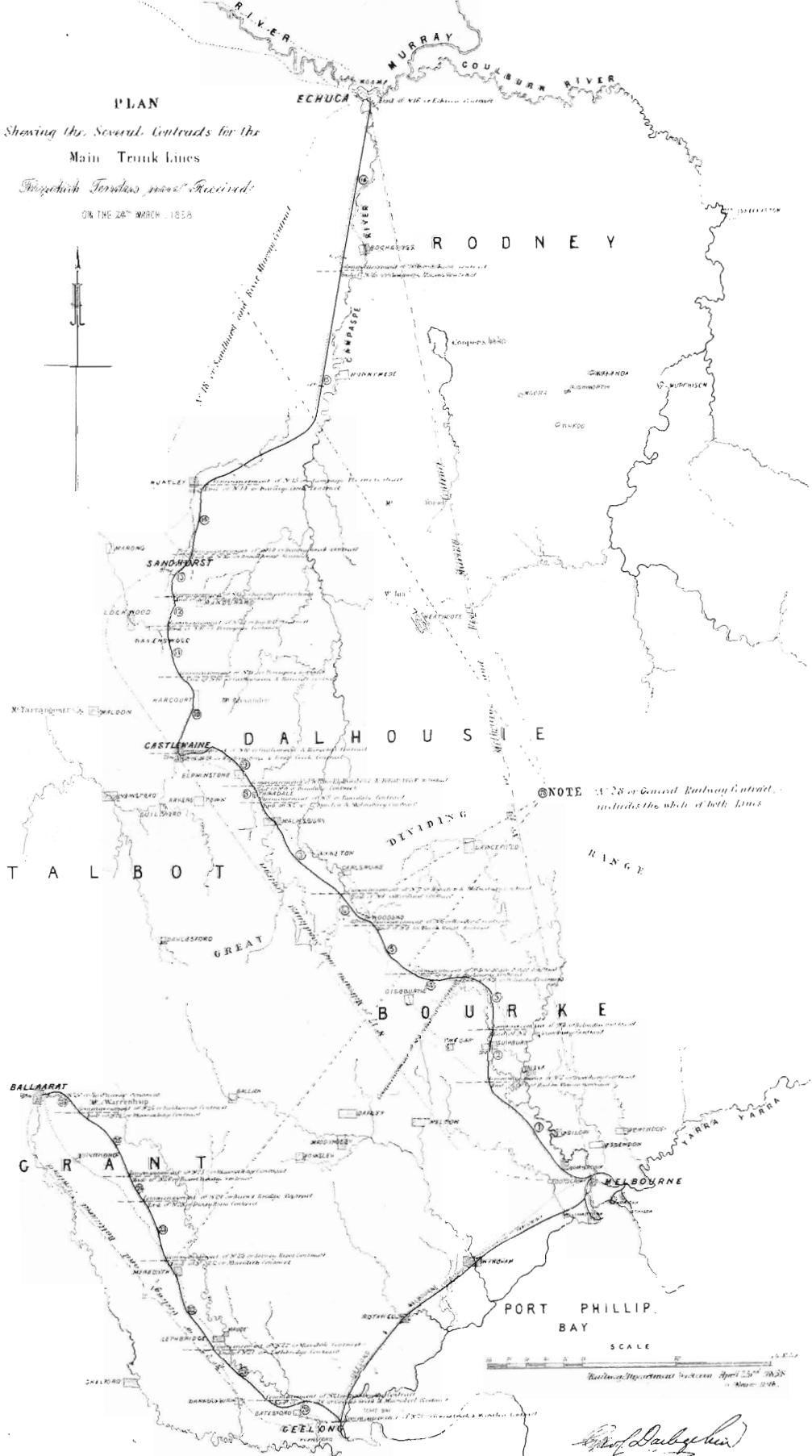
The Hon. G. W. Horne (Signed) Cornish & Bruce
Commissioners of Public Works

PLAN

Showing the Several Contracts for the
Main Trunk Lines

Proprietary Remedies now Received.

ON THE 24TH MARCH 1858



While the tenders were being opened, Mr. Antonio Gabrielli, of London, representing the great English railway contractors, Sir Morton Peto and Co., endeavoured to quote for the works on terms to be mutually arranged, but his proposals were rejected. Jackson and Co., another English firm, had sent representatives to the Railway Committee's inquiry in 1857 to negotiate a similar agreement. In anticipation of obtaining at least a big share, Jacksons dispatched large quantities of construction plant to Melbourne. Much of this was later acquired by Evans, Merry and Co. for building the Ballarat line.

The tenders were referred for examination by a Professional Board composed of Captain Charles Pasley, Messrs. Charles W. Ligard and G. C. Derbyshire. Subsequently contracts were awarded to :

*CORNISH & Co. for the Melbourne to Sandhurst line at a cost of £3,356,937.
MUSSON & Co. for the Geelong to Ballarat line, costing £1,310,797.*

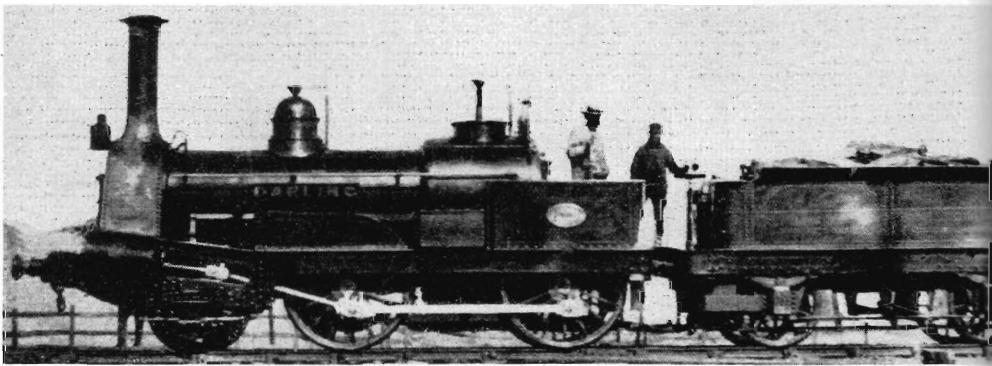
Construction of the Sandhurst to Echuca section was deferred.

As Musson and Co. were unable to provide the cash deposit of £30,000 required by the contract, new tenders were called for the Ballarat line. Mussons, with the lowest price—£1,270,218—were again successful, but once more failed to lodge the necessary deposit. The next lowest tender, that of Evans, Merry & Co. for £1,271,841, was accepted.

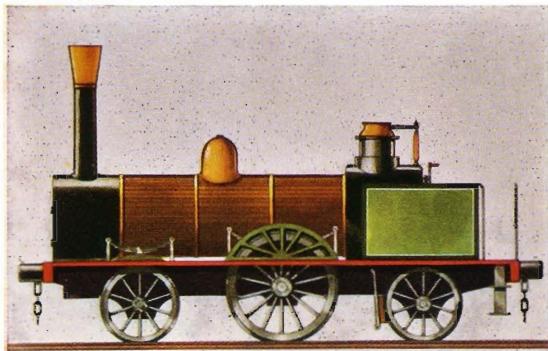
Cornish & Co., directed by the partnership of William Crocker Cornish and Jan Vans Agnew Bruce, paid £40,000 guarantee deposit and commenced work near Footscray on June 7, 1858. Contrary to custom, and despite the fact that it was the greatest public work in Australia up to that time, the contractors began operations with a complete absence of ceremony.

On August 26, 1858, Evans, Merry & Co. inaugurated construction of the Ballarat line by a most elaborate celebration at Geelong, which included the Governor (Sir Henry Barkly) cutting the first turf, a monster procession featuring a parade of aborigines, and the usual feasting.

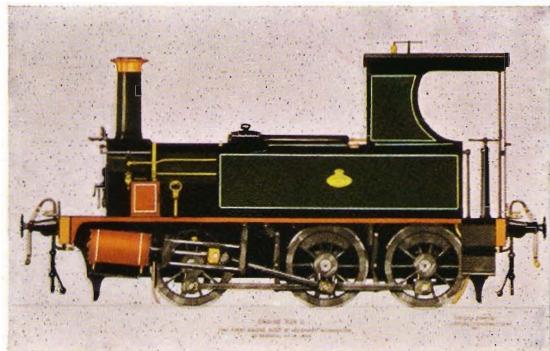
Concentrating on the section from Footscray to Sunbury—about 21 miles—Cornish and Bruce made rapid progress, completing a single track line by the end of December, 1858. With the Williamstown railway now ready for use, the Government decided to open that line and the Sunbury section simultaneously, on January 13, 1859. And what a day it proved to be ! The feasting, fun, and fatigue of that day marked the occasion as one to remember.



Contractor's engine, "Darling"

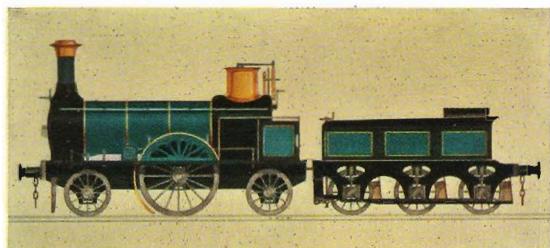


First orthodox locomotive built in Australia. It hauled the first Hobson's Bay Co.'s train when the line was officially opened.



Z class No. 526, first locomotive built at Newport Workshops; later converted to No. 3 Crane.

Original No. 1 locomotive of the Victorian Railways Department, and its first passenger engine.



"The Overland", hauled by R Class locomotive during 1951-52.



"Spirit of Progress" on its trial run, November 17, 1937.



"The Daylight" running on 5' 3" gauge with "Club Car" at rear—September 25, 1956, to April 16, 1962.

Last run of "Spirit of Progress" on 5' 3" gauge track, April 16, 1962.



"Southern Aurora", the nightly sleeping car train between Melbourne and Sydney.



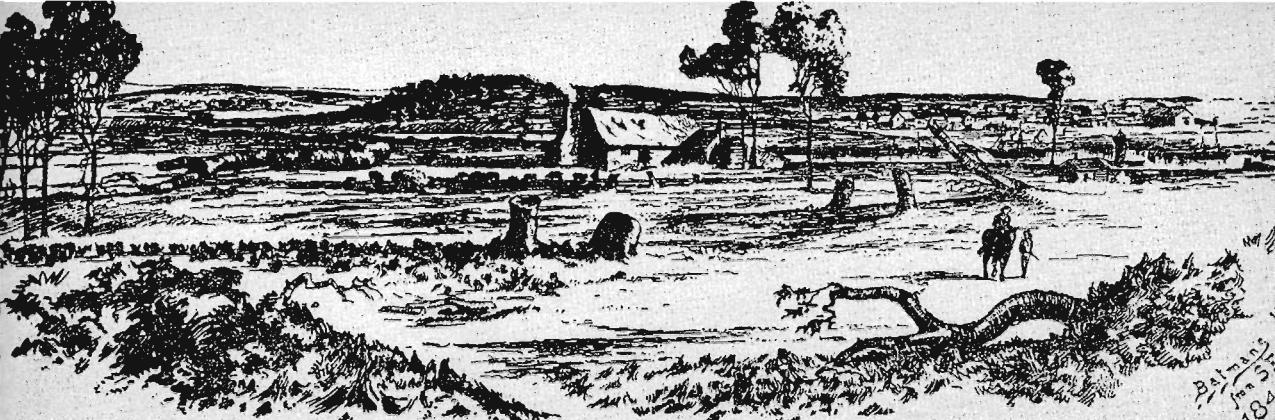
First standard gauge train arriving at Dynon Depot, January 3, 1962.



"Albury Express" on 5' 3" gauge (left) and "Spirit of Progress" on 4' 8 1/2" gauge heading for Melbourne.



First standard gauge freight train from Melbourne crossing the Jacana flyover, January 3, 1962.



Batman's Hill

CHAPTER FIVE

FIRST VICTORIAN GOVERNMENT RAILWAYS TRAIN

Batman's Hill station ; Governor's train ; Williamstown celebrations ; To Sunbury ; Jackson's Creek viaduct foundation stone ; Railway festival and ball ; Batman's Hill

Thursday, January 13, 1859 ! Bright sunshine, a mild breeze, moderate temperatures : ideal weather for a holiday. All public offices and most of the principal commercial houses in Melbourne were closed. Government, citizens and contractors apparently agreed that the inauguration of the first portions of the Victorian Railways was an event worthy of general rejoicing. In any case, the Sunbury line contractors, Cornish and Bruce, provided the main display, and most of the festival arrangements were organized by them.

* p. 30

From an early hour, people converged on Batman's Hill*, overlooking the station at Spencer Street, Melbourne. Before 10 o'clock, thousands had assembled in the area, to witness the Governor's arrival and to cheer the departure of the trains.

A special train had been dispatched to Sunbury at 7 o'clock, carrying members of the Volunteer Artillery Corps, with a half-battery of 1-pounder howitzers, the 40th Regiment Band, and the staff attending on the official luncheon, for which a Mr. Cleal was caterer.

Batman's Hill station was profusely decorated with flags, streamers and greenery. Erected in 1858, of timber and iron construction, and designed by Mr. Samuel V. Kent, of the Chief Engineer's Staff, as a temporary building to be replaced in future years by a more imposing edifice, it had no semblance of architectural adornment. An entrance lobby in Spencer Street, opposite Little Collins Street, opened into the booking hall containing five ticket windows, then on to the platform, 540 feet long, from which both departing and arriving trains were worked. Roofed over for its entire length, the platform was considered to be an "excellent promenade". It exists today as "No. 2 Platform, Spencer Street".*

* Ch. 28, p. 179

Opposite the booking hall were ladies' and gentlemen's waiting rooms ; next to these a large refreshment room "fitted in most elegant style with handsome mirrors and decorations of tasteful description without any appearance of gaudiness", and a coffee room where smoking was permitted. Beneath was a most ample cellar for storing foods and liquors. Messrs. Spiers and Ponds, of the Royal Hotel and Cafe de Paris, were the caterers.

On the left hand side from the entrance behind the booking hall were the offices of the staff and the stationmaster's residence. Cab and omnibus stands were set in a yard at the north end of the building. Across from the station lay engine and carriage sheds, with the goods sheds 300 yards further down.

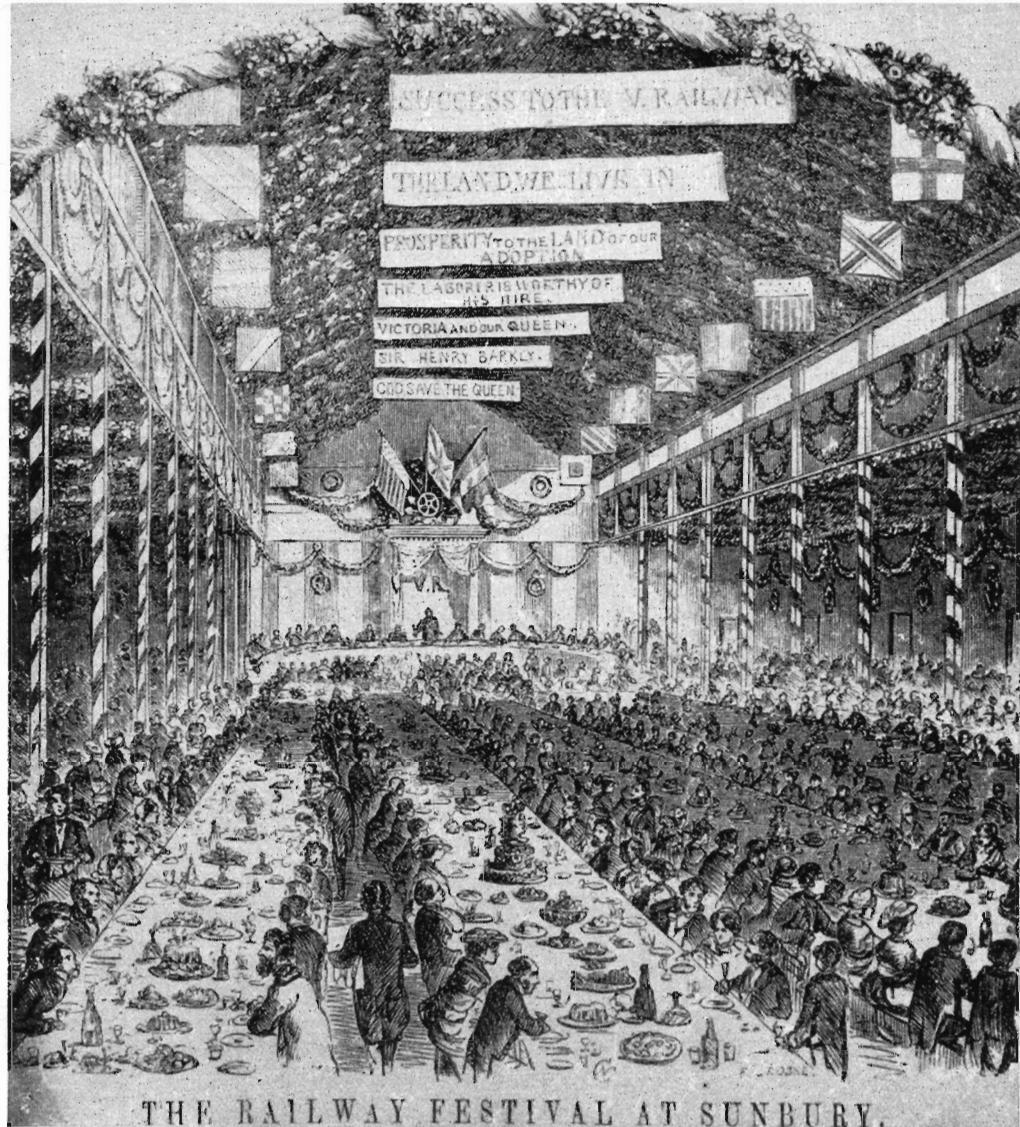
At 10 o'clock the Governor, Sir Henry Barkly, accompanied by Major-General Edward Macarthur, officer commanding the defence forces, and escorted by Mounted Police and the Victorian Volunteer Yeomanry Cavalry, was received at the station by the Commissioner of Public Works (George Samuel Wegg Horne), the Engineer-in-Chief of the Railway Department (G. C. Darbyshire), and the Mayor of Melbourne (Henry Sallows Walsh). The Town Clerk (Edward Gibbons Fitzgerald) in the presence of the Chief Secretary—now the office of Premier—(John O'Shanassy) and the Ministry, read an address to the Governor, who then entered the state carriage on the special train. This was a saloon car, sumptuously fitted with white furnishings. Engine No. 1, carrying the Union flag of the United Kingdom and the Southern Cross flag of Victoria, hauled the train of six carriages. The official guests followed the Governor to the train. Some gentlemen of the vice-regal escort were curtly ordered off by Mr. Horne. There is no record as to how His Excellency fared at Williamstown or Sunbury without his escort.

To the accompaniment of a salute from a Volunteer Artillery Battery on Batman's Hill, and lusty cheers from the large crowd at the station and along the Spencer Street embankment, the train departed at 10.20 a.m. Saltwater River bridge, decorated with flags and an arch of greenery, was crossed at 25 miles an hour. Gathering speed to 30 miles, the special raced past the village of Footscray and its few banners.

But Williamstown, gay with flags of every style, shape and colour, awaited the train with unbounded enthusiasm in celebration of "the day of promise"—the coming of the railway after six years waiting. Thompson Street bridge was a triumphal arch, covered with flags, flowers and evergreens, supporting a banner displaying in large letters the message—"WELCOME, SIR HENRY BARKLY".

Williamstown station, as yet uncompleted, had a flowery arch, topped with a gilt crown, at the entrance from the street. Over this hung a blue banner portraying in gold a ship under sail and a locomotive, surmounted by the motto "Advance Williamstown". Seventy or more ships of many nations, at anchor in Hobson's Bay, and numerous small craft, were dressed with flags; the crew of Her Majesty's Colonial Steam Sloop "Victoria" manned the rigging. The sloop's commander, W. H. Norman, was father of a later Chairman of Victorian Railways Commissioners, Charles E. Norman.

Twenty-two minutes after leaving Melbourne, the special train reached Williamstown. As it came in sight, the batteries at Point Gellibrand Fort fired a salute of 19 guns. Drawn up in grand array at the station, the Williamstown Artillery Corps, commanded by Captain (later Sir) George Frederick Verdon, M.L.A. for the district, formed a guard of honour as the Governor was received by the Municipal Chairman (Thomas Stewart).



THE RAILWAY FESTIVAL AT SUNBURY.

A large group of local leading citizens had assembled on a crimson-draped dais outside the station to greet His Excellency. While the Municipal Clerk (Frank Tattersall) was reading an address of welcome on the dais, portion collapsed with a crash, dumping many of the dignitaries. When order was restored, the clerk resumed his speech. But it was his unlucky day, for the remaining section of the stand also fell. After the shrieks of terrified ladies and the ejaculations of horrified officials had subsided, the oration was concluded on the ground.

The train then proceeded to the end of the track at the railway pier—the temporary terminus of the Geelong Co.'s line. The engine was reversed, an additional carriage attached for Williamstown guests, and the train set off for Sunbury via Footscray, while the guns of "Victoria" thundered a salute.

On arrival at Sunbury at 12.30 p.m., Messrs. Cornish and Bruce received the Governor. A salute was fired from the Volunteer Artillery Corps howitzers, but owing to the distance and a contrary wind, the guns were almost inaudible. The official party walked to Jackson's Creek, where His Excellency laid the foundation stone of the viaduct, in an excavation 30 feet deep. Coins and newspapers were placed beneath the stone, together with a scroll recording that :

"This Chief Foundation Stone of the Jackson's Creek viaduct on the Melbourne and Sandhurst line of railway was laid by His Excellency Sir Henry Barkly, K.C.B., Governor-in-Chief of the Colony of Victoria, 13th January, 1859, being the 22nd year of the reign of Her Majesty Queen Victoria.

MINISTERS

<i>The Hon. JOHN O'SHANASSY</i>	<i>Chief Secretary.</i>
<i>The Hon. HENRY SAMUEL CHAPMAN</i>	<i>Attorney General.</i>
<i>The Hon. GEORGE SAMUEL WEGG HORNE</i>	<i>Commissioner of Public Works.</i>
<i>The Hon. HENRY MILLER</i>	<i>Commissioner of Trade and Customs.</i>
<i>The Hon. CHARLES GAVAN DUFFY</i>	<i>Commissioner of Crown Lands and Survey.</i>
<i>The Hon. RICHARD DAVIS IRELAND</i>	<i>Solicitor General.</i>
<i>The Hon. GEORGE SAMUEL EVANS, L.L.D.</i>	<i>Post Master General.</i>

ENGINEER-IN-CHIEF GEORGE C. DARBYSHIRE

CONTRACTORS WILLIAM CROCKER CORNISH, JOHN VANS AGNEW BRUCE

The Melbourne and Sandhurst Railway was commenced on 7th June, 1858, and 23 miles completed 13th January, 1859."

The cavity beneath the foundation stone was covered with a brass plate engraved with the first portion of the scroll's message, and Mr. Bruce presented an inscribed silver trowel to the Governor.

The party then proceeded to the contractors' workshops nearby for lunch. By this time, about 2 p.m., anxiety was felt at the non-arrival of the other two trains from Melbourne. These had been scheduled to follow the Governor's special at quarter-hour intervals, and were due at Sunbury by 1 o'clock. A mounted messenger was sent to look for the trains, the first of which eventually arrived at 3 o'clock. It was delayed at several places along the line owing to the driver's lack of familiarity with the grades causing the engine to lose steam. It was reported that on three or four occasions the male passengers got out and pushed to assist the engine up a grade. The other train experienced similar trouble. By 4 o'clock all the hungry guests, numbering 1,500, were assembled and the luncheon commenced.

The workshop had been elaborately decorated, and the interior walls were hung with the flags of all nations. Banners displaying patriotic and other slogans were suspended across the roof.

During the business of consuming vast quantities of sumptuous foods and liquors, the following toasts were honoured, with musical selections by the 40th Regiment Band :

THE QUEEN

PRINCE ALBERT ; THE PRINCE OF WALES ; AND THE OTHER MEMBERS OF THE ROYAL FAMILY

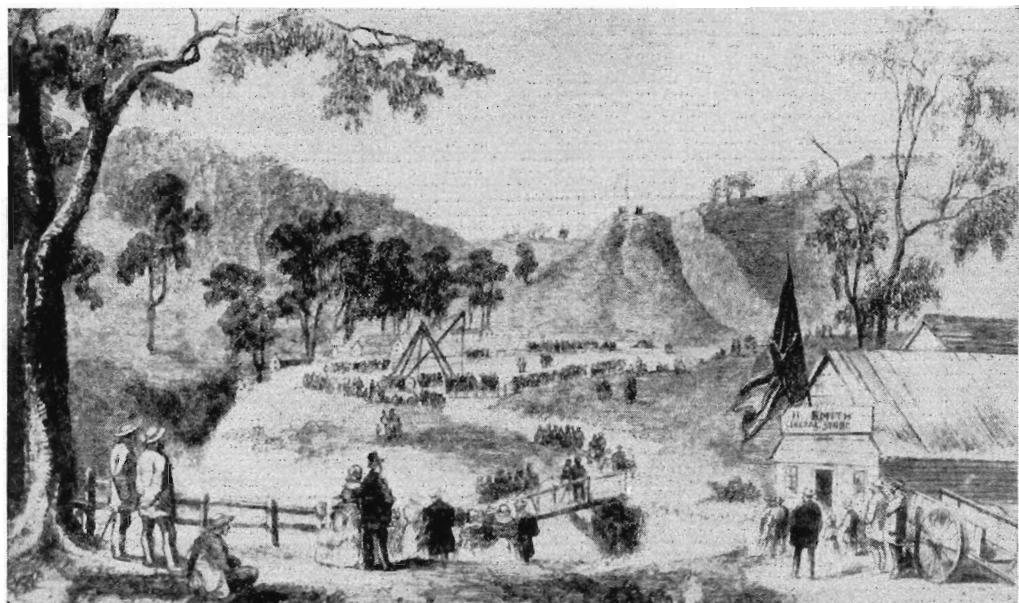
HIS EXCELLENCY SIR HENRY BARKLY
THE ARMY AND THE NAVY
THE PARLIAMENT OF VICTORIA
HER MAJESTY'S MINISTERS (received with hisses)
THE ENGINEER-IN-CHIEF
MESSRS. CORNISH AND BRUCE
THE WORKING MEN OF THE MELBOURNE AND MOUNT ALEXANDER LINE OF RAILWAY

At the conclusion of the official festivities, the Governor inspected the railway construction camp and watched the navvies enjoying themselves. A feature of their celebrations was the roasting whole of two bullocks.

Departing from Sunbury at 6.20 p.m., the Vice-Regal train arrived back at Spencer Street at 7.5 p.m.—the end of a great day and a great celebration. One chronicle of the day's events records that the only casualty due to the railway was a dog, run over by a train near Sunbury.

Cornish and Bruce were not parsimonious when dispensing hospitality. They concluded the inauguration of the Government Railways with a magnificent ball at the Exhibition Buildings in William Street, Melbourne, on Friday evening, January 14. More than 1,500 persons attended, and the 40th Regiment Band and a private orchestra alternately provided music for the dancers. At daylight on Saturday, sleepy coachmen assisted the exhausted revellers to their carriages.

The Victorian Railways having been joyously inaugurated, the next matter was to commence business.



Laying the foundation stone, Jackson's Creek Viaduct

Batman's Hill

Because of the association of Batman's Hill with the State's early railways, its history is briefly recorded.

The hill, a pleasant wooded knoll, 61 feet high, was situated on the north bank of the Yarra, west of Spencer Street. It extended over the area now occupied by the Railways Administrative Offices and portion of the Melbourne Goods Yards.

Charles Edward Grimes, Surveyor-General of New South Wales, and members of his exploration party, lunched at the hill on February 4, 1803—the first known visit by white men.

In 1835, Batman and Fawkner commenced the establishment of the City of Melbourne. The former built a house at the foot of the hill, and brought his family from Van Diemen's Land (Tasmania) the next year. From about this time, the spot became known as Batman's Hill.

On Sunday, April 24, 1836, the first religious service by an ordained clergyman at Melbourne was conducted in Batman's house by Rev. Joseph Orton, a Wesleyan Minister from Van Diemen's Land. The centenary of this event was celebrated on April 24, 1936, in an unique environment at a special ceremony, directed by the then President of the Victorian and Tasmanian Methodist Conference, in the office of the Chairman of Railways Commissioners. The Office is situated within a few hundred feet of the scene of the original service.

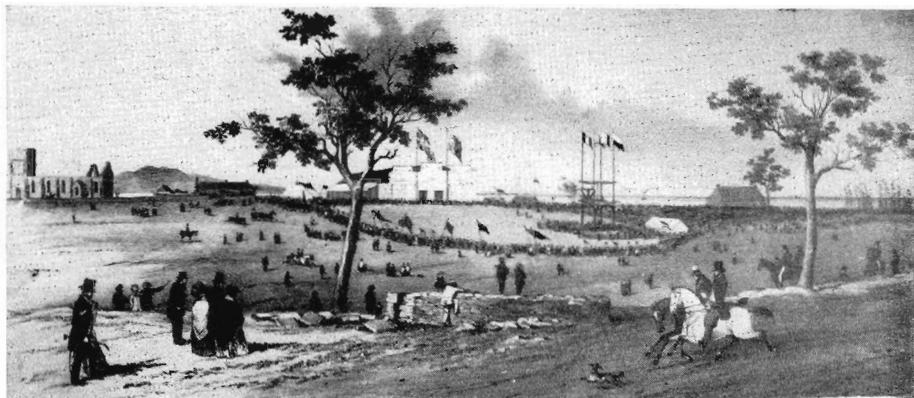
From Batman's Hill—a natural grandstand—the people viewed Melbourne's first race meetings. These were annual events in February, 1837, and March, 1838 and 1839. The "course" extended from the hill to near the present North Melbourne station.

Batman died in 1839. His home was requisitioned for Government offices in December, 1841. Melbourne's first Mayor and Councillors paraded there on December 13, 1842, to pay their respects to C. J. La Trobe, Superintendent of the Port Phillip District of New South Wales, after the swearing-in ceremony of the Mayor.

During the early 1840's, a trigonometrical station and river navigation beacons were erected on the hill top. Melbourne's first botanic garden was formed there about 1844, but the locality proved to be unsuitable. In later years, the spot became a popular resort, and from the middle 'fifties was a favourite promenade when the band of the 40th (2nd Somersetshire) Regiment played there on Sunday afternoons. A Government gunpowder magazine and an immigration depot were built at the base of the hill soon after the gold discoveries.

The hill formed part of the boundary of the general terminus for the railway companies authorized in 1853. Taken over by the Government three years later, the area became the Melbourne terminus of the Victorian Railways. Batman's Hill (Spencer Street) station was opened in 1859.

As traffic on the Victorian Railways increased, the necessity arose to extend the station yard for handling goods. On November 11, 1863, Messrs. Overend and Robb accepted a contract to cut down the hill, at a cost of £25,000. Demolition was completed by the middle of 1865, and Batman's Hill was no more.



Laying the foundation stone, Geelong station

CHAPTER SIX

THE GEELONG AND MELBOURNE RAILWAY COMPANY

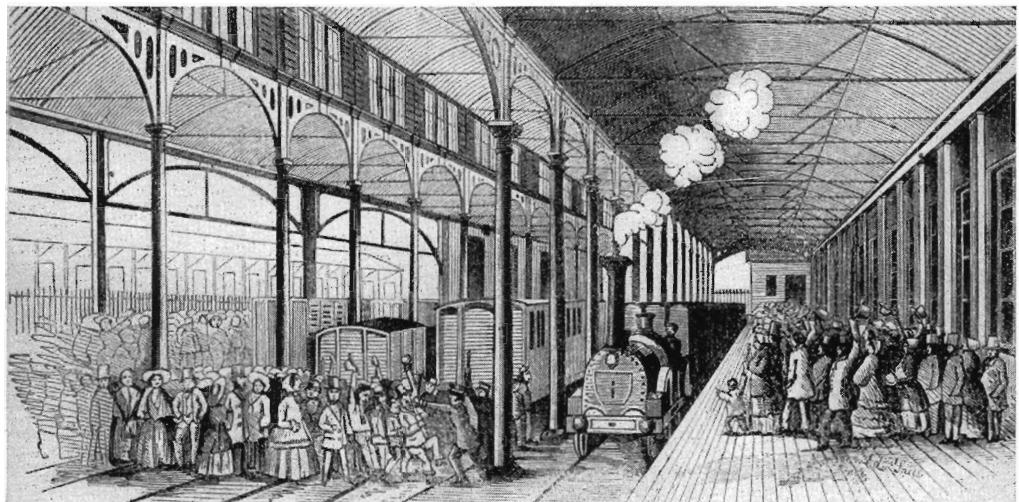
First plans ; Geelong and Melbourne Railway authorized ; Building the line ; Australia's first country line opened with tragedy ; Terminal changes ; Financial failure ; Sale to Government ; Locomotives

Opening of the Government railway line between Melbourne and Williams-town completed the last link of a direct service for the Geelong and Melbourne Railway Co., which paid a toll for running rights over the Government lines. The company was formed after several early local attempts to float railway companies.

Victoria's first country railway proposal came from Geelong, where, in 1846, residents planned a 200-mile wooden railway, worked by horses, from Geelong to the western portion of the State. The idea lapsed, being at least 25 years in advance of requirements, as the area was almost devoid of population. To assist financing the railway, supporters suggested the sale of settlement blocks along the line at cheap rates to recruited immigrants.

Four years later, in September, 1850, a company was formed to construct a steam railway from Geelong to Melbourne, to be completed within three years at an estimated cost of £42,000. Owing to lack of financial support, the company collapsed within two months.

Two months after The Geelong and Melbourne, Mount Alexander and Murray River Railway Co. announced, in June, 1852, its intention to build lines to the places named, a modification of its plan appeared in the prospectus of The Geelong and Melbourne Railway Co. which sought £350,000 capital. Application for an Act of Incorporation was approved by the Legislative Council on February 8, 1853, and the Government granted £1,000 to the Geelong and Melbourne Co. for preliminary expenses. It also guaranteed to pay interest at 5 per cent for 21 years on the paid-up capital. Seven of the company's executive committee were members of the Legislative Council.



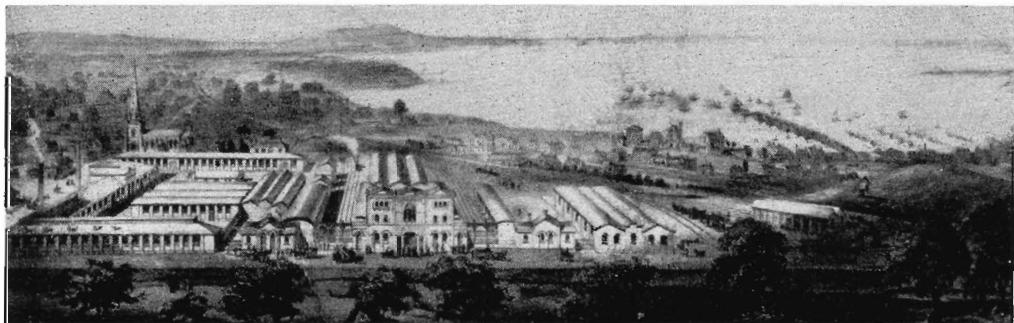
above: Geelong line opening, June 25, 1857

right: Watermark in letterhead



above: Sandstone tablet from original bluestone station at Werribee, destroyed by fire in 1927

below: Geelong terminus, pier and warehouses under construction, 1854



The company's optimistic estimates of yearly profits were :

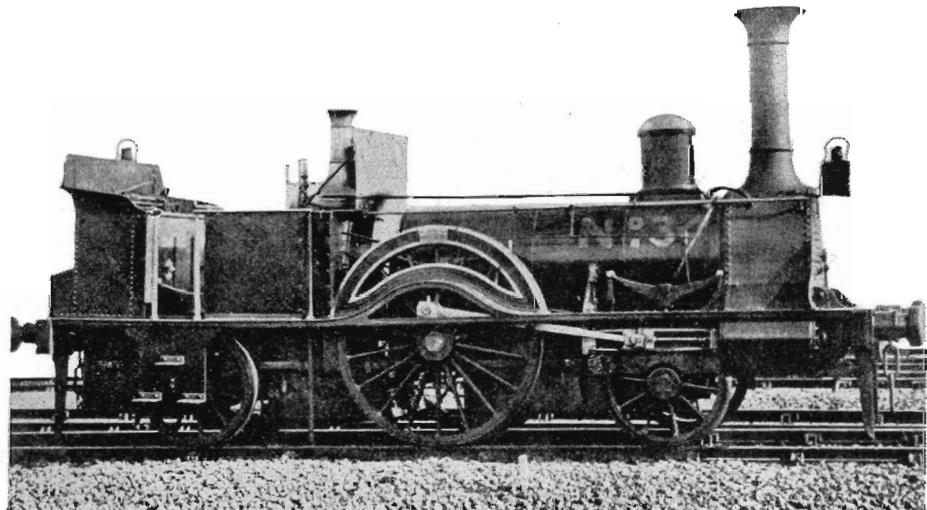
<i>Revenue from the line</i>	£109,500
<i>Working expenses</i>	18,700
<i>Annual profit</i>	90,800.

This would easily have returned a 25 per cent dividend on shareholders' capital—the maximum permitted by the Act of Incorporation. Time soon wrecked these hopes, for the actual results disclosed that revenue was always less than half the estimated figure and insufficient to cover working expenses. The guaranteed interest payments from the Government were used to balance the budget ; what then remained was held for the future.

On September 20, 1853, His Excellency the Lieutenant-Governor (C. J. La Trobe) travelled from Melbourne in the steamer "Melbourne" to cut the first turf of the railway and lay the foundation stone at Geelong station. A sealed bottle, containing an appropriate message, together with gold, silver, and copper coins, was placed under the stone. A sumptuous "dejeuner" followed, and, with generous consideration, the company "provided a roasted bullock and a barrel or two of beer for those persons who may not have received tickets for the luncheon". Thousands desired to share this hospitality, and the caterer's bill amounted to £984.5.0d.

Contracts were let for the construction of the railway, including a jetty at Geelong and bridges over the Little and the Werribee (or Exe) Rivers. To ease the existing gold fever labour shortage, the Government in June, 1854, hired 100 prisoners to the company at 5/- each daily. The prisoners were housed in one of the penal hulks brought from Williamstown and moored in

Locomotive "Titania"



Corio Bay. By October, 1856, the permanent way extended 10 miles from Geelong to beyond Duck Ponds (now Lara), and on the 14th of that month a trial passenger train trip was made. From November 1, a mixed train service operated twice daily between the two places, and in January, 1857, it was carried on to Little River.

Construction of the line was completed on June 8, 1857. Hauled by the engine "Sirocco", a special train from Geelong proceeded to a spot near the present Laverton station, where the last rail was fastened by Charles Nuttall Thorne, President of the company. The train then travelled to Greenwich, where the engine announced its presence to the "astonished residents by a peculiarly harmonious whistle".

The Geelong and the Mount Alexander Cos. had, in 1854, agreed that the two lines should connect near Greenwich on the latter's Williamstown branch : the former to pay running fees over the line to Melbourne, a distance of about 7 miles. As the Williamstown railway was not completed, the Geelong Co. built an extension, half a mile long, to a temporary terminus near their jetty on the Yarra. The opening date of the line was fixed for June 25, 1857, and the services then running between Geelong and Werribee were cancelled.

Unfavourable weather conditions over southern Victoria on June 25 did not diminish enthusiasm for celebrating the inauguration of Australia's first country railway—an event marked by death and discomfort.

At Geelong, a great procession headed by the Governor (Sir Henry Barkly) paraded the streets. The marchers included railway construction workers carrying picks, shovels and crowbars. Behind them came several aborigines, each wearing a brightly striped new blanket and cap presented in honour of the occasion and each carrying his dinner—also a gift. A special train carrying the Governor and several hundred guests left Geelong at 10 a.m. Near the Ocean Child Hotel, about two miles out from Geelong, tragedy marred the day when Henry Walter, Locomotive Superintendent, was knocked off the engine as it passed under a bridge and fatally injured.

The train reached Greenwich at 12.10 p.m., where 500 additional guests who had come down the Yarra from Melbourne on the steamer "Citizen", waited to join the train ; but there was no room for them. A band had previously regaled them with "God Save the Queen" whilst they stood in the rain, but this did not alleviate their discomfort and chagrin. The engine could not start for the return trip as the rails were wet and slippery, so the waiting passengers sent the train on its way with a push. Two hours later, another train came to Greenwich to bring the Melbourne party to Geelong, where they arrived at 4 p.m.—cold, wet and hungry—to discover that the official luncheon was finished and very little food remained after 2,000 early guests had feasted. For this part of the celebrations the caterer provided: $2\frac{3}{4}$ tons of poultry; $2\frac{3}{4}$ tons of meats; $\frac{3}{4}$ ton of fish and savouries; $\frac{3}{4}$ ton of pastries; 12 cwt. of jellies and ices; 9 cwt. of fruit ; 1 ton of bread ; unlimited wines, spirits and ales ; 700 dozen of crystal ware. A ball the same night, for which 2,000 persons paid £2.2.0. each for admission, concluded the ceremonies.



left: Hotel advertisement featuring coach, omnibus, cab, and train services



below: Geelong railway station, 1860



Public traffic commenced the next day in accordance with the following advertisement :

"Till further notice, trains will run from Geelong to Greenwich at 7 a.m., 11 a.m. and 2.30 p.m. The steamer "Citizen" will leave Melbourne wharf at 8 a.m., 11.45 a.m. and 3.30 p.m. for the trains to Geelong. The early morning train to and from Greenwich, also the afternoon train, stop at all stations. The 11 o'clock train from Geelong and the 11.45 a.m. from Melbourne are through trains, stopping at the Werribee for water.

FARES : Geelong to Melbourne, including steamer fare :

1st. CLASS	SINGLE 12/6d.	RETURN 20/0d.
2nd. "	10/0d.	16/0d.
3rd. "	6/0d.	10/0d.

Return fare issued on Saturday will be available on the Monday following.

WILLIAM CADWALLADER, Stationmaster, Geelong
JOHN HENRY MATHER, Stationmaster, Greenwich."

Stations, or stopping places, were at—

GEELONG		
COWIE'S CREEK (now North Shore)	3½ miles	
DUCK PONDS (now Lara)	9½ "	
LITTLE RIVER	15½ "	
WERRIBEE	25½ "	
GREENWICH (near Newport)	39½ "	

Trains were not provided on Sundays, and despite many repeated demands from travellers for this convenience, the company remained adamant. They reluctantly yielded to a Government request on February 13, 1859, but suspended Sunday services after six months. It was reported that share-holders in England, who owned three-quarters of the capital, objected to Sunday working.

Less than two weeks after the opening of the railway, a guard, coincidentally named Job Gard, was fatally injured during shunting work at Greenwich on July 6, 1857.*

Three months later the Geelong railway was connected to the first completed portion of the Victorian Government Railways—from Williamstown to near the present Newport station. From October 3, 1857, trains ran through to a Government temporary station at Williamstown Pier, supervised by John Harvey. Greenwich station and pier were closed, but passengers were still taken on the River Yarra to and from Melbourne by the "Citizen", the fare from Williamstown being 2/- for 1st-class passengers and 1/6d. for 2nd and 3rd-class. Yet another alteration was made in December, 1857, when passengers travelled across Hobson's Bay by the steamer "Comet" from Williamstown to Sandridge to join the Hobson's Bay Railway Co. trains for Melbourne.

Traffic on the Geelong railway developed to a steady rate, averaging about 3,000 passenger journeys weekly, most of which were at 3rd-class fares. An irritating feature of travel was the monotonous repetition of engine derailments. As several of these accidents occurred on the Government portion of the line, F.C. Christy, Victorian Railways Locomotive Superintendent, examined the engines and found that several of them were from $\frac{1}{2}$ " to $\frac{3}{4}$ " narrower in the wheel gauge than was necessary for 5' 3" rail gauge. It is believed that the Geelong Co. never properly rectified the fault on the engines concerned.

* First duty fatality was in 1855, p. 41

When the Government line was finally completed between Melbourne and Williamstown, the company built another connecting link at Geelong Junction (Newport) to permit their trains to run direct to Melbourne, commencing from January 17, 1859. The journey occupied two hours, and three trains ran daily each way, the time-table being :

GEELONG TO MELBOURNE : 7.35 a.m., 12.35 p.m., 4.35 p.m.

MELBOURNE TO GEELONG : 7.45 a.m., 12.45 p.m., 4.45 p.m.

Being a single line, trains were scheduled to cross at Werribee.

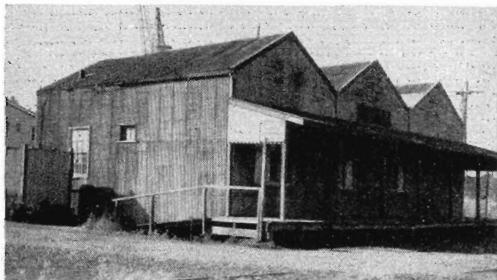
The Sunday trains made two trips each way, leaving Geelong at 8 a.m. and 4 p.m. and Melbourne at 8.10 a.m. and 4.10 p.m.

Competition from steamers trading from Melbourne to Geelong was an acute worry. At the end of the second year's workings, passenger traffic was unchanged and revenue was less than £40,000.

The heavy burden of financing the construction of the railway had no prospects of being reduced. Despite estimates of cheap building costs, it had become necessary in 1855 to raise mortgages, amounting to £262,500, to augment the capital fund of £350,000. From the opening of the line to November, 1859, the accumulated loss on working totalled £35,000. During the same period, the Government paid £90,000 in guaranteed interest on capital. At one stage, the company apparently did not have sufficient available money to pay wages. In June, 1858, six 1st-class carriages were seized at Williamstown on a warrant claiming wages due to 22 workmen. The carriages were sold by auction on June 22, and purchased for £890, presumably by an agent for the company.

As early as November, 1855, some shareholders urged the company to sell to the Government, and the proposal was revived from time to time in the following years by both the company and the Legislature. In May, 1859, a London meeting of English share-holders approved the sale of the railway. After further local negotiations, a Bill was submitted to Parliament in February, 1860, to authorize purchase by the Government. By Act No. 96, assented to on June 8, 1860, the Geelong and Melbourne Railway Co. was vested in the Board of Land and Works, at a cost of £800,000, to which had to be added £250,000 estimated expenditure for repairing the line.

Official transfer of the railway to the board dated from September 3, 1860. The majority of the company's staff was absorbed into the Victorian Railways Department. Nine locomotives, 20 passenger carriages, and about 50 wagons were added to the Department's stock, but on account of their dilapidated state, very little use was obtained from them.



Williamstown station buildings
of 1857



Melbourne Terminus and Princes Bridge

CHAPTER SEVEN

THE MELBOURNE AND HOBSON'S BAY RAILWAY COMPANY 1852 to 1865

Formation of company ; Construction of Sandridge line ; First locomotives ; First Australian railway opened ; Extension to St. Kilda ; Amalgamation ; Locomotives

The Melbourne and Hobson's Bay Railway Co. proved the most robust of the original trio authorized to operate. It absorbed two other companies and changed its name in the process

Formed in August, 1852, with a capital fund of £100,000, it proposed a line, $2\frac{1}{4}$ miles long, from Flinders Street, Melbourne, to The Beach at Sandridge (now Port Melbourne). Its planner was James Blackburn, City Surveyor for Melbourne and designer of the Yan Yean water supply scheme. J. B. Watson and W. S. Chauncey were appointed Secretary and Engineer, respectively, of the company, the promoters of which were well known local merchants and financiers, several being members of the Government. The office, temporarily located at first in the Melbourne Chamber of Commerce, was later permanently established at Flinders Street station. An Act of Incorporation, authorizing the railway, was passed by the Legislative Council and assented to on January 20, 1853.

Some of the conditions contained in this Act are interesting to recall :

The company's profits were limited to 25 per cent dividends ;

The company had to convey all persons who were ready and had applied to be so conveyed five minutes before the starting time of a train ;

Troops were to be carried at the ordinary fares for the first year after completion of the railway, then at half fare thereafter ;

The Postmaster-General might require mails to be carried without charge ;

The Government was to have the right to erect telegraphs on the company's lands for Government service, without remuneration to the company. Subject to the Government's prior right the telegraphs might be used by the company for the purposes of railway working ;

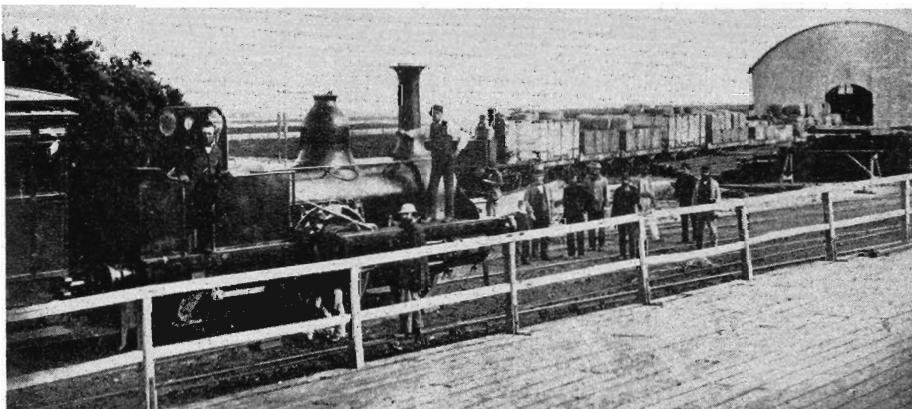
Locomotive power had to be applied, and attached, to the front of each train—propulsion or "pushing" was prohibited (an early English safe-working practice).

Construction of the line commenced immediately, and engines, rolling stock, rails and machinery were ordered from England. Local contracts were let to Daniel Pritchard for the permanent way embankment, to Robertson, Martin, Smith & Co. for a wooden bridge over the Yarra, and to Willoughby and Mason for a pier at Sandridge.

As work proceeded, costs greatly exceeded the estimates owing to the scarcity of labour following the general exodus to the goldfields, which necessitated high wages as a counter-attraction. The company was compelled to double the capital fund to £200,000, but extensions and improvements to the railway required further increases to £500,000 during the next 10 years.

Owing to lack of motive power for ballasting the line, James Moore, the company engineer who replaced Chauncey, designed an improvised locomotive for this work by adapting a 4 h.p. pile-driver engine to a ballast wagon. Robertson, Martin and Smith assembled the machine, which on June 2, 1854, attained a speed of 16 to 18 miles an hour during a demonstration run on the line with a train of ballast wagons—in which the railway directors sat. This contraption may reasonably be considered Australia's pioneer locomotive.

The railway was now ready for traffic, but as the engines ordered from England were not expected to arrive for several months, a locally-built passenger engine was ordered to avoid a protracted postponement of service. Few authentic details of this machine are available, but the following particulars, extracted from contemporary newspapers, may be accepted. It had six wheels (possibly 2-2-2T arrangement, the T indicating a tank locomotive) with a bunker on the same frame as the engine. The tubular boiler, made at Langland's Port Phillip Foundry, contained 58 tubes of $2\frac{1}{2}$ inches diameter, feeding two inside cylinders 8 inches diameter with slide valves on their sides between the cylinders. It was rated at 30 h.p. and was expected to haul a load of 130 tons at speeds up to 25 miles an hour. The engine, said to have cost £2,500, was completed in 10 weeks, and tested on September 9, 1854.



N class locomotive, Port Melbourne, 1862

The official opening of the line on September 12, 1854, provided a gala occasion for Melbourne. Thousands assembled at Flinders Street station and along the track to Sandridge to watch not only Victoria's, but Australia's, first public steam train. The company's guests were resplendent in their best clothes : the gentlemen with frock coats, flowered waistcoats, stove-pipe hats and carefully trimmed whiskers, the ladies in gay dresses with bonnets, veils and parasols.

The Lieutenant-Governor (Captain Sir Charles Hotham, R.N.) and Lady Hotham were ceremoniously received at Flinders Street, and presented with copies of the train time-table and the railway by-laws, printed on silk. Speculation may arise as to the extent of their interest in the by-laws.

The train consisted of the engine, one 2nd-class and two 1st-class carriages for the guests ; in an open wagon next to the engine, the band of Her Majesty's 40th Regiment played appropriate music. Amid cheers from the crowd and showers of cinders from the engine, the train moved off at 12.20 p.m., reaching Sandridge in less than 10 minutes. Two additional trips were made to convey the remainder of the guests, and a sumptuous banquet in the engine shed near the beach completed the inauguration ceremony. Ships in the bay, numbering perhaps one hundred, were dressed with flags, and Her Majesty's ships of war "Electra" and "Fantome" fired a salute of guns in honour of the occasion ; lengthy speeches of adulation and mutual well-being, stimulated by the customary champagne, promised a rosy future for the Melbourne and Hobson's Bay Railway.

Public traffic commenced next day to the following timetable:

FROM SANDRIDGE : 8.30 a.m. and half-hourly to noon ;
1.30 p.m. and half-hourly to 6.30 p.m. ;

FROM MELBOURNE : 8.45 a.m. and half-hourly to 12.15 p.m. ;
1.45 p.m. and half-hourly to 6.45 p.m.

On Sundays, no trains between 10.15 a.m. and 1.30 p.m.

FARES : 1/6d. 1st. single. 1/- 2nd. single.

Children — 3 years to 10 years : half fare,

Under 3 years : free.

The service during the following weeks was interrupted on several occasions by engine failures, and the ballasting engine worked the trains while repairs were made. However, on December 1, 1854, the passenger engine sustained a serious breakage, necessitating indefinite suspension of traffic pending availability of the English locomotives, two of which had reached Melbourne from Robert Stephenson's works.

Engineer Moore was dismissed, and William Elsdon, Stephenson's representative accompanying the engines, assumed the position. The first of the imported locomotives re-opened the service on December 25, 1854, and by April four were in running. The engines were used in rotation, each one running a day's service in turn. Named "Melbourne", "Sandridge", "Victoria" and "Yarra", of 2-4-0T wheel arrangement, they were converted from coke to coal fuel in later years. A complete list of the Hobson's Bay Railway engines is appended to this chapter.

During November, 1854, the company inaugurated a ferry service on Hobson's Bay from Sandridge railway pier to Williamstown, trains connecting with the steamer "Comet" on an hourly schedule at a through fare of 3/- each way between Melbourne and Williamstown. This combination rail and ferry route continued for 75 years till its suspension in 1930 when the ferry "Rosny" was withdrawn.

Commencing on January 8, 1855, a morning and afternoon train connected at Sandridge with the steamers "Duncan Hoyle" and "Citizen" for Geelong, through single fares being 12/6d. saloon, and 6/- 2nd class.

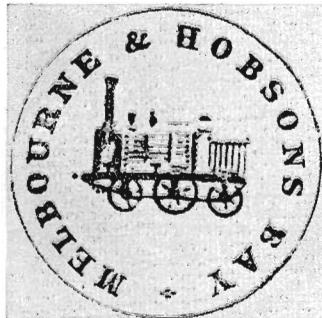
In April, 1855, the stationmaster at Sandridge, E. Carty, sustained fatal injuries by falling from a train. He was the first railwayman in Australia to lose his life in the active discharge of duty.

The company's first Secretary, J. B. Watson, resigned about January, 1855, and was replaced by William Lawrence until April. Joseph Ward then took office and remained until his appointment as Secretary of the Victorian Railways Department in 1857, when he was succeeded by Thomas Finlayson, who held the position of Company Secretary continuously until he was murdered in 1879*.

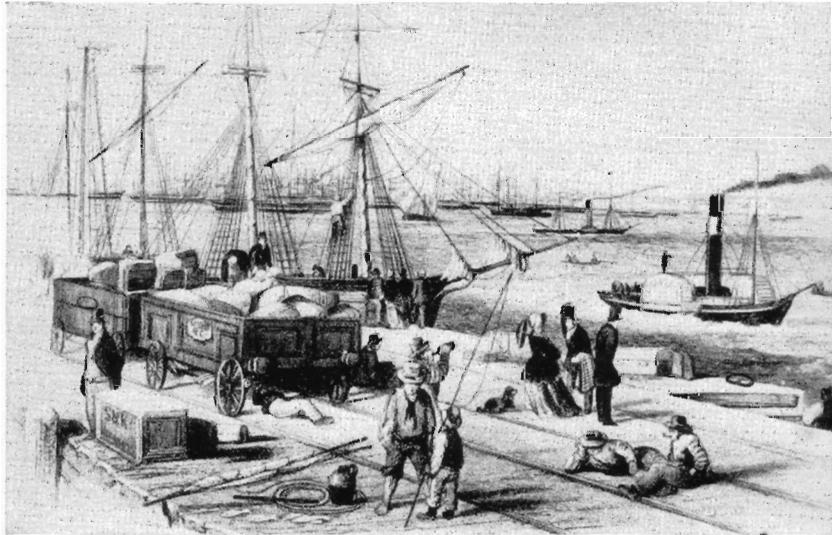
The first year's operation of the Melbourne-Sandridge railway returned a dividend of 8 per cent to the shareholders, who decided to construct a branch line to St. Kilda. Turning off the line to Sandridge shortly after it left Melbourne, it was eventually opened on May 13, 1857. A special train, hauled by the engine "Melbourne", inaugurated the service, which provided a half-hourly schedule between 8.15 a.m. and 6.45 p.m., with fares at 1/- single, 1/6d. return, 1st-class; 9d. and 1/3d. 2nd-class. Half-yearly and yearly tickets cost £7/7/- and £12/12/-.

Considerable improvements were made to the lines during the next three years, including the complete renewal and duplication of the tracks to Sandridge

* p. 62



Company's seal



Pier at Sandridge

and St. Kilda, the building of a new wooden bridge over the Yarra, and additions to Flinders Street station.

During the summer of 1860-61, early morning special trains were run to Sandridge in conjunction with the Hobson's Bay Sea Bathing Co. for the convenience of patrons. It was estimated that 35,000 passengers were conveyed for the baths during the season.

An innovation by the Hobson's Bay Co. during April and May, 1860—but discontinued because of its financial loss—was a parcels “express delivery” with horse-drawn vans to districts surrounding St. Kilda and Brighton stations.

* Ch. 8, p. 46

(The St. Kilda and Brighton Railway Co.'s* line from St. Kilda to Brighton, opened on December 19, 1859, was at this time being operated by the Hobson's Bay management although ownership continued to be vested in the former company.)

Various suggestions for junction with other railways had been considered from time to time. The 1857 charter of the Melbourne and Suburban Railway Co.*, whose lines to Windsor and Hawthorn commenced at Princes Bridge, gave power to join with the Hobson's Bay line, but a proposal by the latter executive in 1860 to effect this was rejected.

* Ch. 9, p. 51

Plans to link the Sandridge line with the Government railways at Spencer Street by a horse-tramway along Flinders Street or by means of a railway carried on arches along the same route, and joined with the Windsor, Hawthorn and Brighton systems through a tunnel under Swanston Street, were considered during the years between 1858 and 1862, but no action eventuated. The ultimate connexion by rail of Flinders Street and Spencer Street stations occurred in 1879.

On two occasions, floods in the Yarra caused serious interruptions to Hobson's Bay Co. traffic. In September, 1857, the Sandridge line was closed for some days owing to flood waters washing away 20 feet of the railway embankment on the south side of the river. Trains started and terminated below the gap; passengers to and from Flinders Street station crossed the washaway on a plank walk. The great flood of December 14 - 15, 1863, suspended service to Sandridge and St. Kilda for six days. Access to the latter place was made by travelling on the Melbourne Co.'s line to Windsor and from there by road; Emerald Hill (South Melbourne) people used boats.

Though the financial results of the Hobson's Bay Railway were very healthy, despite diversions of traffic when other lines commenced, the management expressed concern at various times as to the effects of competition from river and road transport. In the first years of the company's working, it became necessary to reduce fares and freights owing to the “unwise opposition” of trading craft on the Yarra. The railway executive naively hoped that the “public will not object to pay a more remunerative rate for the superior facilities offered by the railway”. Considerable revenue was also lost by road transport of merchandise to and from the Government pier at Sandridge. In 1858, a proposal to connect the railway to the Government pier by a horse-drawn tram was publicly rejected.

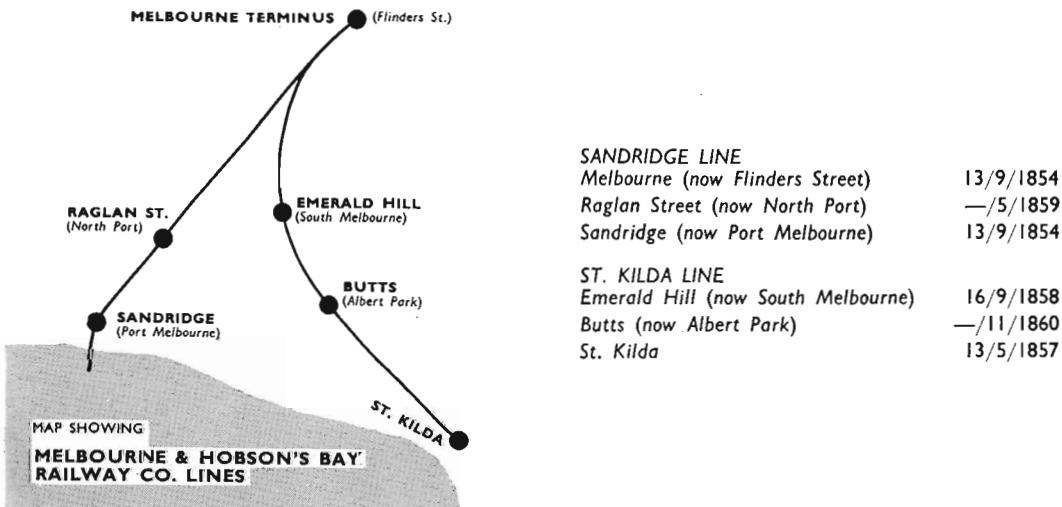
The Emerald Hill Municipal Council was a source of continual annoyance and expense to the company. A clause in the Hobson's Bay Act of Incorporation made it obligatory on the company to erect bridges over the line where deemed necessary for public convenience. Legal battles, involving both parties in heavy expense, arose from time to time : the council made unreasonable demands for bridges, and the company endeavoured to evade liability. Eventually, after years of litigation, the Act was amended and the matter more or less amicably settled.

Proposals to link the lines of the Melbourne and Hobson's Bay Railway Co. with those of the Melbourne Railway Co. (formerly the Melbourne and Suburban Railway Co.) were renewed in 1864, and an agreement to amalgamate the two companies was adopted towards the end of the year. The St. Kilda and Brighton Railway Co. was bankrupt, and absorption into the other two systems was sought. Appropriate Bills for these purposes were introduced into Parliament, and assenting Acts passed on June 15, 1865. These authorized the amalgamation of the Melbourne and Hobson's Bay Railway Co. and the Melbourne Railway Co. as the Melbourne and Hobson's Bay United Railway Co*, effective as from June 30, 1865, and the sale of the St. Kilda to Brighton railway, which was purchased by the United Co. as from September 1, 1865.

* Ch. 10, p. 58

Following amalgamation, the affairs of the Melbourne and Hobson's Bay Railway Co. as a separate organization were wound up at a final meeting of the shareholders on December 5, 1865. Statements submitted at this meeting showed that expenditure on the railway amounted to £502,000, of which the Sandridge line had absorbed £388,000 and the St. Kilda branch £114,000. During the company's 11 years of working an average annual dividend rate of nearly 11 per cent had been paid to bondholders, representing a return of £56.12.6d. on each £50 share: a very satisfactory result.

Names of the Hobson's Bay Co.'s stations and the dates of opening were :



LOCOMOTIVE ENGINES

MELBOURNE AND HOBSON'S BAY RAILWAY CO.

Name	Type	Cylinders	Driving Wheels	Builder's No.	Year Built	In Service	Remarks
(a) —	0-4-0T	—	—	—	1854	5/54	Improvised ballast engine
(a) —	2-2-2T	8" x ?	—	—	1854	9/54	First orthodox loco. built in Australia Sold 1857.
Melbourne	2-4-0WT	12" x 20"	4' 7½"	954	1854	12/54	
Sandridge	"	"	"	955	1854	1/55	} Sold 2/1861 to Brighton Railway
Victoria	"	"	"	956	1854	3/55	
Yarra	"	"	"	957	1854	4/55	
St. Kilda	"	"	"	1080	1856	7/57	
Pier Donkey	0-4-0WT	8" x 14"	3' 9"	1177	1857	—/58	
Rapid	2-4-0WT	14" x 22"	5' 0"	1183	1858	11/58	
Meteor	"	"	"	1184	1858	11/58	
—	"	"	"	1268	1859	3/60	
—	"	"	"	1269	1859	3/60	
—	"	"	"	1458	1863	8/63	

(a) Built by Robertson, Martin, Smith & Co., Melbourne. All other engines built by Robert Stephenson & Co., Newcastle-on-Tyne

T Tank engine

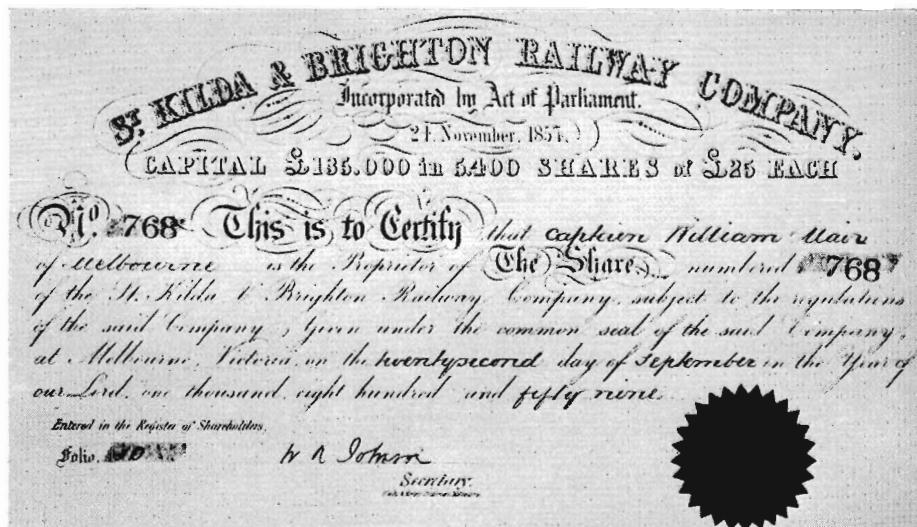
WT Well tank engine

MELBOURNE & HOBSON'S BAY RAILWAY CO. :: STATISTICS :: SEPTEMBER 12, 1854 to JUNE 29, 1865

Half-year ended	Mileage: Passenger & goods	Number of passengers						Goods	Working expenses	Total revenue
		Sandridge	St. Kilda	Emerald Hill	Brighton	Raglan St.	Total			
12/9/1854 to 31/10/1854							48,080			
31/10/1854	* 4,800	48,080							1,717	3,728
30/4/1855	* 17,000	151,036					151,036	9,513	7,883	16,810
31/10/1855	20,000	119,372					119,372	18,622	9,389	15,424
30/4/1856	* 30,000	202,037					202,037	34,852	11,215	21,305
31/10/1856	* 30,000	190,744					190,744	36,015	10,090	22,443
30/4/1857	* 35,000	232,973					232,973	43,173	11,191	28,273
31/10/1857	* 45,000	228,919	382,464				611,383	64,148	14,023	39,039
30/4/1858	* 50,000	305,369	512,933				818,302	69,249	14,552	44,525
31/10/1858	* 50,000	264,637	424,007	32,928			721,572	65,644	13,442	39,359
30/4/1859	* 60,000	280,576	448,005	161,582			890,163	69,080	16,194	45,343
31/10/1859	55,989	234,884	405,297	186,249			826,430	80,290	15,861	42,197
30/4/1860	65,612									
19/12/1859 to 30/4/1860	† 17,318	226,476	413,992	192,583	120,388	64,722	1,018,161	85,866	18,574	45,962
31/10/1860	75,466									
	† 31,283	181,635	323,618	179,373	155,264	60,825	900,715	86,967	16,454	41,036
	St. K.-Btn.									
30/4/1861	80,406	318,970	356,459	210,587	159,908	52,860	1,098,784	70,105	15,631	39,404
31/10/1861	77,014	335,092	293,264	191,515	190,512	48,296	1,058,679	83,526	14,711	38,855
30/4/1862	76,523	468,929	372,523	183,851	215,961	48,057	1,289,321	83,168	14,888	42,420
31/10/1862	67,102	349,718	368,503	160,731	84,667	46,339	1,009,958	75,265	13,005	35,747
30/4/1863	70,118	514,443	392,487	163,164		48,979	1,119,073	79,849	13,144	38,223
31/10/1863	68,778	347,236	356,899	164,774		54,662	923,571	86,785	12,713	35,546
30/4/1864	70,577	414,191	388,380	247,870		56,599	1,107,040	81,107	13,268	37,593
31/10/1864	68,707	300,897	356,558	258,847		57,003	973,305	80,202	20,371	40,725
30/4/1865	70,208	387,698	* 414,178	226,757		* 57,926	1,086,559	84,249	20,634	43,423
29/6/1865	* 22,000	* 100,000	* 120,000	* 75,000		* 20,000	* 315,000	* 14,000	7,791	13,156
TOTALS :	1,258,901	6,203,912	6,329,567	2,635,811	926,700	616,268	16,712,258	1,401,675	£306,741	£770,536

* Estimated

† Estimated mileage run on the St. Kilda—Brighton line, owned by the St. Kilda & Brighton Rly. Co.



CHAPTER EIGHT

THE ST. KILDA AND BRIGHTON RAILWAY CO. 1857 to 1865

Formation of company; Construction and opening of line; Management; Extension to Brighton Beach; Financial troubles; Sale of railway; Locomotives

In May, 1853, a syndicate named The Melbourne, St. Kilda and Brighton Junction Railway Co. announced plans for a line from Princes Bridge to Prahran, St. Kilda, Elwood, Elsternwick, Brighton and Brighton Beach Pier, the whole to cost £250,000. A petition to the Legislative Council for approval to build the line was withdrawn owing to the committee's failure to decide on the route of the line.

One year later, The St. Kilda, Brighton and South-Eastern Railway Co. applied for authority to construct a railway approximately the same as previously planned. Again the request was cancelled because of the promoters' disagreement as to the route.

During 1855-56, continued disputes frustrated further attempts to advance the project. Eventually, in June, 1857, The St. Kilda and Brighton Railway Co. announced a scheme to build a line from the St. Kilda terminus of the Hobson's Bay system to Brighton at a cost of £125,000. Construction of the line was authorized on November 24, 1857, and the company given permission to run their trains on the lines of the Hobson's Bay and the Melbourne and Suburban Railway Cos.

After much difficulty in obtaining the necessary subscriptions from shareholders, a contract for building the railway was given to William Randle in August, 1858. Lack of financial support compelled the company, on three occasions during 1859, to raise mortgages aggregating £52,600 for construction purposes.

Thus rejuvenated, work was completed, and a special train carrying about 40 persons made a trial trip from Melbourne via St. Kilda to Brighton, on December 3, 1859.

A "sumptuous cold collation" at Brighton Beach was a very modest affair in comparison with the festivities arranged by other railway organizations. Two weeks later Mr. Randle, the contractor, entertained 300 workmen at Elsternwick with a banquet and sports meeting, when a drayload of ale and porter was consumed.

From the St. Kilda station of the Melbourne and Hobson's Bay Railway Co., the line was carried on a wooden viaduct 400 yards long over the swamp, then across St. Kilda Road on a timber bridge 102 feet in length which was located about 25 chains on the Melbourne side of St. Kilda Road and Fitzroy Street. This portion of the railway between St. Kilda and Chapel Street, Windsor, was known as the "loop", being approximately 1½ miles long. It is reported to have cost nearly £50,000. Ten other bridges were constructed along the line to Brighton. Double headed 75 lb. rails laid in cast iron chairs, secured with oak keys and treenails, were used entirely on the single track line. Stations were located at Chapel Street, Balaclava Road, Glen Huntly Road and Bay Street.

Public traffic commenced on Monday, December 19, 1859, with trains every half hour :

Melbourne to Brighton : 8.30 a.m. to 7.30 p.m.

Brighton to Melbourne : 8.25 a.m. to 7.25 p.m.

No rolling stock having been procured by the St. Kilda and Brighton Co., the line was operated by the Hobson's Bay Co. at the outset and trains were run by that company between Melbourne and Brighton under an agreement between the Brighton and the Hobson's Bay Cos. The latter paid an annual subsidy for the privilege of operating the St. Kilda—Brighton section, but at the close of 1860 the agreement was dissolved. The St. Kilda and Brighton Railway Co. then purchased the engines "Melbourne" and "Sandridge", together with six carriages, from the Melbourne and Hobson's Bay Railway Co., and began working the line under its own management, but continuing to run through to Melbourne over the Hobson's Bay St. Kilda branch.

Extension of the line from Bay Street, Brighton, to South Road, Brighton Beach, approved by Parliament on June 5, 1861, included construction of a pier at the Beach, connected to the railway by a train track through a tunnel : the whole to cost £35,000. George Holmes & Co. carried out the work, and the line was opened for service on December 21, 1861. The railway directors had very optimistic ideas in connexion with the pier and the prospects of Brighton developing into a busy seaport. Fees ranging from 1/3d. to 4/- a ton for each day a ship lay at the pier were fixed ; passengers landing on the pier would pay 3d. There is no record of any inflation of the railway company's profits arising from pier business.

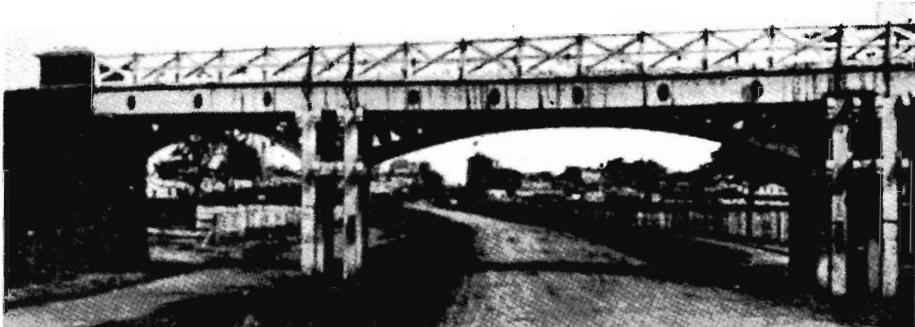
A new type of 1st-class saloon carriage, designed and built by William Williams at Melbourne, was tested on the Brighton line on March 22, 1862. It was 42 feet long, mounted on two 4-wheeled bogies : longitudinal seats, with a central row, had a capacity of 105 to 110 persons. Mirrors suspended outside the car reflected everything passing by to the occupants.

Commencing from May 1, 1862, an agreement between the Brighton and the Melbourne Railway Cos. was arranged whereby the latter took over the working of the Brighton line for a period of five years. The engines and rolling stock of the two systems were pooled, and trains ran through from Princes Bridge to Brighton Beach, eliminating travel over the Hobson's Bay branch to St. Kilda, and the "loop" to Windsor.

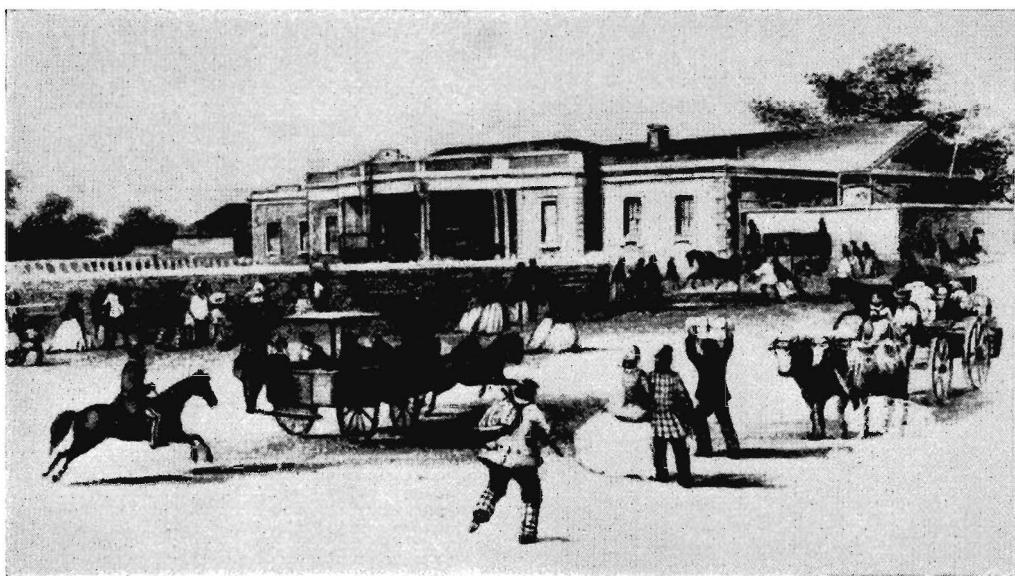
Because of a collision between two trains near Elsternwick on May 22, the agreement was suspended, and the Brighton service reverted to the Hobson's Bay route until October, 1862, when the Melbourne Co. again assumed management, continuing until the dissolution of the St. Kilda and Brighton Railway Co., in 1865. The St. Kilda to Windsor "loop", unused from 1862, was removed in 1867.

The financial affairs of the St. Kilda and Brighton Railway had been an embarrassment to its executive from the very beginning of the company and, despite the succession of operating managements, the line never paid. By 1863, mortgages totalled £120,000 and creditors vainly sought reimbursement. On June 13, a creditor's agent took possession of the railway and a petition was made to the Supreme Court of Victoria for a compulsory sequestration. The court gave a judgement that an incorporated railway company could not be put to insolvency proceedings, and the line continued to accumulate debts.

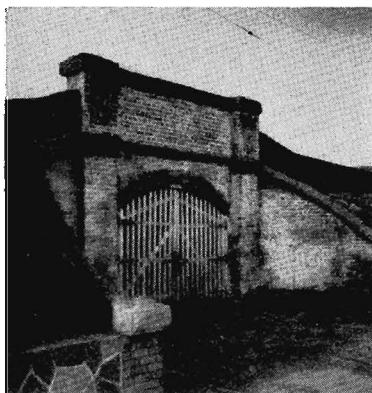
Subsequently, in February, 1865, the company agreed to sell the undertaking, and disposal was approved by Parliament on June 15, 1865. Four weeks later the line was submitted to public auction, but no bids were received. In accordance with the terms of the sale act, the Melbourne and Hobson's Bay United Railway Co. purchased the railway for £99,500, and assumed control on September 1, 1865.



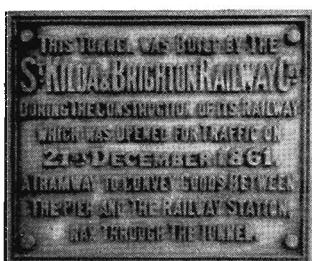
Railway bridge over St. Kilda Road



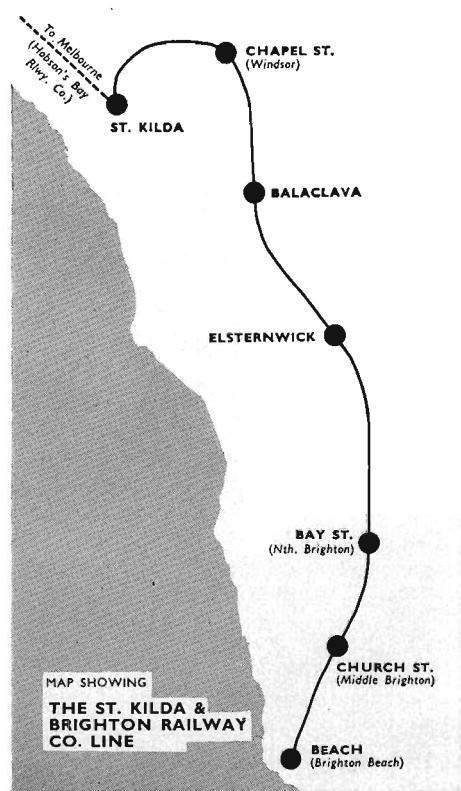
St. Kilda railway station, about 1860



Tunnel originally connecting station and pier at Brighton Beach



Commemorative plaque



ST. KILDA TO BRIGHTON RAILWAY STATIONS

Name	Approx. mileage	Date opened
ST. KILDA (Hobson's Bay Railway)		
CHAPEL STREET (now Windsor)	1 m. 26 ch.	19/12/1859
BALACLAVA	2 m. 26 ch.	"
ELSTERNWICK	3 m. 33 ch.	"
BAY STREET (now North Brighton)	4 m. 69 ch.	"
CHURCH STREET (now Middle Brighton)	5 m. 75 ch.	21/12/1861
BEACH (now Brighton Beach)	6 m. 53 ch.	"

Travelling time :

Beach to Church Street, 2 minutes ;
 Bay Street, 6 ; Elsternwick, 10 ;
 Balaclava, 14 ; Chapel Street, 17 ;
 St. Kilda, 22 ; plus 11 minutes St. Kilda
 to Melbourne, making 33 minutes
 for the through journey.

LOCOMOTIVE ENGINES

Name	Builder's No.	Year	Remarks
MELBOURNE	954	1854	Purchased from Hobson's Bay Rail-
SANDRIDGE	955	1854	way, 1.2.1861. Sold to Melbourne Rly. Co. 1/5/1862.

Stephenson engines ; 2-4-0 WT type ; Cylinders 12" x 20" ; Driving wheels 4' 7 $\frac{1}{2}$ ".



Company's seal

CHAPTER NINE

THE MELBOURNE AND SUBURBAN RAILWAY CO., 1857 TO 1862; AND THE MELBOURNE RAILWAY CO., 1862 TO 1865

Formation of Melbourne and Suburban Railway Co.; Construction of lines; Junction with Brighton Railway; Proposed Colonial General Railway Co.; Melbourne Railway Co.; Amalgamation with Hobson's Bay Co.; Statistics; Locomotives

Princes Bridge station owes its origin to The Melbourne and Suburban Railway Co., formed in June, 1857, to build lines from Melbourne to Hawthorn and to Brighton, based on plans prepared by A. K. Smith (father of the late James Alexander Smith, a well-known Melbourne engineer). Route surveys had been made to these places in 1854-55 by the Hobson's Bay Co. as part of proposed extensions, which lapsed. Smith's scheme included junction with the Hobson's Bay railway by means of a tunnel under Swanston Street, extension of the Hawthorn section to Heidelberg, construction of a line through Collingwood and Fitzroy to connect with the Sewerage and Water Board's tramway to Yan Yean, and continuation of the line from Brighton to East Brighton and Dandenong.

By Act of Parliament, assented to on November 24, 1857, the company was authorized with a capital fund of £300,000 to build a line from Princes Bridge to Windsor and a branch from Richmond to Hawthorn. The Act specified that :

Double tracks be provided; where the railway passed through Crown lands, a strip 50 yards wide would be granted free; six acres be allotted for Princes Bridge station; power be given for the company to connect with the Hobson's Bay line by a tunnel under Swanston Street; a bridge to carry the line over Punt Road, Richmond, be built to Government specifications on design and road clearances. Fares and freight charges were fixed at 4d. and 3d. a mile for 1st and 2nd class passengers respectively; horses, oxen and similar cattle 1/- a mile each; sheep, pigs and smaller animals 9d. a mile each. Carriage of dogs cost 1/- irrespective of distance.

The promoters experienced much difficulty in obtaining financial support, and after some months found it necessary, for the time being, to drastically revise their plans. It was decided to build only a single track line to a temporary terminus at Punt Road, Richmond, thus avoiding the expense of the bridge there until future extensions were made.

Patrick Higgins gained the contract for earthworks and, on July 1, 1858, Governor Sir Henry Barkly performed the ceremony of cutting the first turf at a spot near Punt Road. The "dejeuner", or banquet, which followed the event did not proceed with that "eclat" so desirable to the chroniclers of those early years. Numerous guests assembled at the banquet. Those not so fortunate to receive invitations, shouted and yelled during the Governor's speech, rendering his remarks almost inaudible. When His Excellency, glad to escape, made an early departure, the crowd rushed the tables, and amid a scene of wild confusion consumed or carried away everything edible and drinkable, leaving behind only broken furnishings and smashed crockery.

Rails for the line were purchased from the Geelong and Melbourne Railway Co., together with the engine "Hercules", which steamed up to Spencer Street station towards the end of January, 1859, shortly after the Government railway to Williamstown had been connected with the Geelong line. It was then dragged on short sections of rails laid upon the roadway along Flinders Street to Princes Bridge. Three 1st and three 2nd-class carriages were built at Melbourne by William Grant for the service.

The line was ceremonially inaugurated on Saturday afternoon, February 5, 1859, with a special train hauled by "Hercules", at the time the company's only engine; but a week later "Victoria" was purchased from the Hobson's Bay Railway.

Public traffic commenced on February 8, to the following time-table :

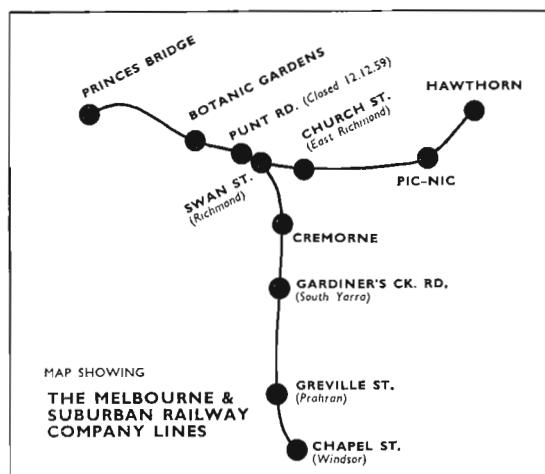
WEEK DAYS	From Melbourne : 6.30 a.m. to 11.30 p.m. From Punt Road : 6.45 a.m. to 11.45 p.m.	Trains every half-hour.
SUNDAYS	From Melbourne : 9.30 a.m. to 11.0 a.m. 1.30 p.m. to 9.30 p.m. From Punt Road : 9.45 a.m. to 11.15 a.m. 1.45 p.m. to 9.45 p.m.	
FARES	1st-class : Single 6d., return 9d. 2nd-class : Single 4d., return 6d. Monthly : 1st-class 15/-, 2nd-class 12/-	

Staff appointed in February, 1859, to work the railway were :

P. W. Phillips	Booking Clerk, Princes Bridge	£200 p.a.
H. B. Hatch	" " Punt Road	£150 p.a.
— Brown	Bookkeeper	£250 p.a.
David Smith	Engine Driver	£1 per day
— —	Fireman	—
William Wilson	Engine Cleaner	9/- per day
Warren Cartwright	Guard	9/- per day
George Griffiths	Porter & Pointsman	9/- per day
George Savage	" " " Plus £1/1/- weekly as Traffic Manager	9/- per day
— Cureton	Gatekeeper, Jolimont Road	£1/15/- week
Henry Bassett	Booking Clerk, Princes Bridge from May, 1859, in place of P. W. Phillips	£200 p.a.



Share certificate issued to Stephen George Henty



right: Extract from Rules and Regulations for the staff

GENERAL CONDITIONS OF SERVICE
UNDER THE
MELBOURNE RAILWAY
COMPANY.

1. EVERY official must be able to read and write, and must devote himself exclusively to the Company's service, attending at such hours as may be appointed, and residing wherever he may be required. He is to obey all orders and instructions he may receive from those placed in authority over him, and conform to all the general regulations of the Company. He must always, when on duty, have a copy of these rules with him, which rules he is required to read over frequently, so as to become thoroughly acquainted with every particular set forth therein, especially those relating to signals. The daily pay which may be fixed for each man will always include his services during all such hours, whether early or late, as may be determined upon from time to time by his foreman, according to the arrangements of the trains, and which

On March 2, 1859, a small station was made available to serve passengers for the Melbourne Cricket Ground and the Botanic Gardens. Located about the site of the existing footbridge over the lines near the cricket ground, it was worked for afternoon traffic only on Wednesdays, Saturdays, and Sundays.

The disposal of a substantial block of shares at this time enabled the company to proceed with the extension of the railway to the River Yarra at Cremorne (near the north bank of the river, on the west side of the Windsor line) and Pic-Nic (beyond Burnley on the Hawthorn branch). Cremorne section opened on December 12, 1859 ; a new station at Swan Street, Richmond, displaced Punt Road terminus, which was dismantled. Trains ran to a half-hourly schedule between 7.30 a.m. and 11.30 p.m.

Owing to a shortage of engine power, the line from Swan Street to Pic-Nic, completed by June, 1860, did not commence working until September 24, when the engines "Hawthorn" and "Richmond" went into service. The time-table listed an hourly train service from 8.20 to 10.20 a.m. and 1.20 to 5.20 p.m., with fares at 9d. and 1/3d. first, 6d. and 9d. second, single and return respectively.

Depletion of the capital fund necessitated borrowing £78,000 to complete the Cremorne-Windsor line, opened for traffic on December 22, 1860, to join at Windsor with the St. Kilda to Brighton Railway. Trains worked at 40 minute intervals from 6.50 a.m. to midnight. It is recorded that the first train could not pass under a road bridge at Windsor as the engine's funnel was too high.

John Bourne erected the bridge over the Yarra at Cremorne, with ironwork from England. Bourne, who had dabbled in railway construction contracts for private and Government works, received a bonus of £500 from the Melbourne and Suburban Co. for completing the bridge before November 24, 1860. Thomas Higinbotham, Engineer-in-Chief of Victorian Railways, supervised the testing of the bridge on December 20, with a train load of 112 tons.

Service to Hawthorn commenced on April 13, 1861, completion of this section from Pic-Nic having been delayed owing to slow progress by the contractor (Goldsack & Co.) in building the bridge over the River Yarra at Hawthorn.

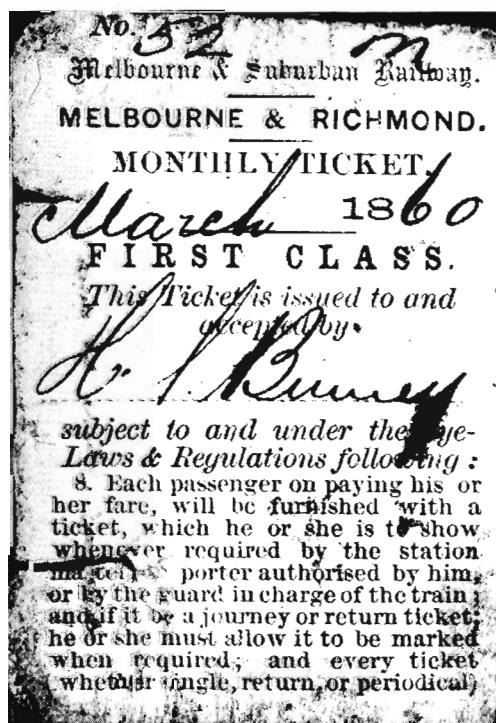
By this time, the company was in a bad position financially, although the revenue of the railway actually in operation was in excess of working expenses. Capital subscriptions totalled £250,000, but line construction costs amounted to £475,000 ; creditors were clamoring for payment and several writs were in course against the railway. Three courses of action were considered : to lease the undertaking ; to sell outright ; or to submit to insolvency.

A syndicate named The Colonial General Railway Co. offered to take over the railway and its liabilities, but the proposal lapsed. Eventually, authority to sell the lines was granted by Parliament in March, 1862, and at a public auction on March 31, 1862, The Melbourne Railway Co. purchased the works for £47,500.

The new management's agreement in May, 1862, to operate the St. Kilda and Brighton Co.'s system has been outlined in the previous chapter.



Locomotive "Richmond"



must be delivered up on demand of any guard or other servant of the company authorised to collect tickets. No periodical ticket so delivered up will be retained unless the period for which the same was granted shall have expired (except in cases of infringement of either the twelfth, the fourteenth, or fifteenth sections of these bye-laws).

9. Each passenger not producing or delivering up his or her ticket will be required to pay a sum equal to the fare from the place whence the train originally started.

11. No return or periodical ticket will be available for special trains.

This ticket is not transferable, and will be forfeited if transferred.

The holder shall not be allowed compensation for stoppage of the Line, unless it be closed for 24 hours, in such case a proportionate rebate will be made.

G. W. Burrey

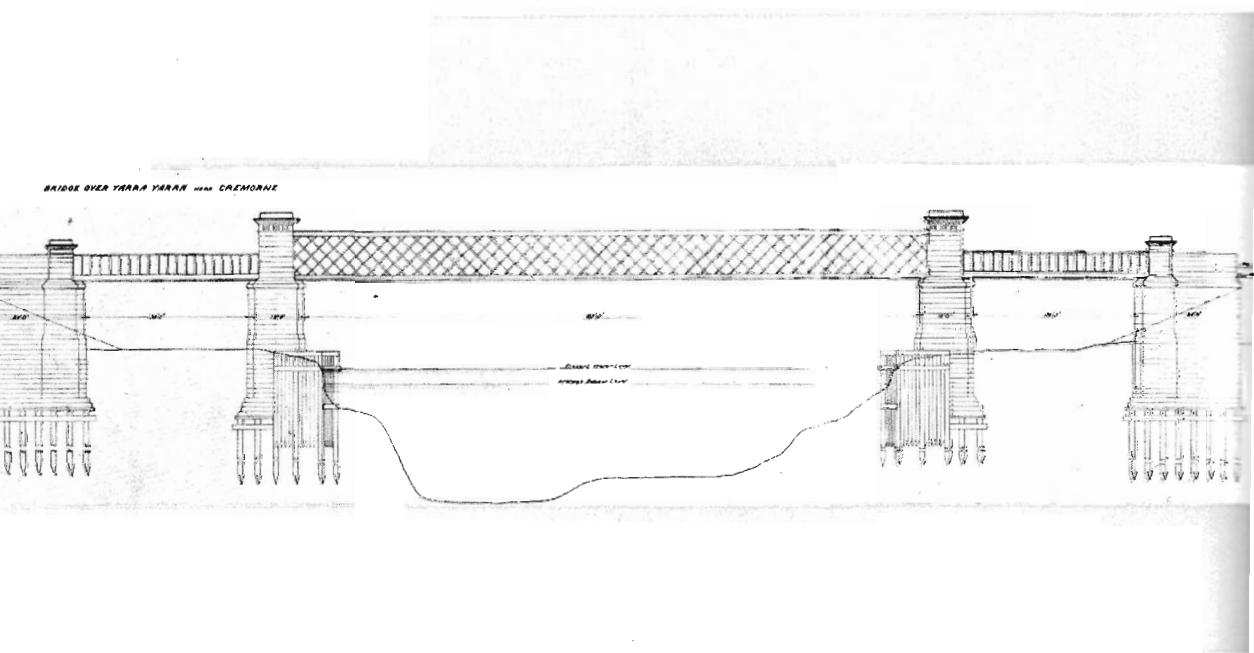
See

MASON AND FLITCH, PRINTERS.

Finances of the railway steadily improved and in the last year of its separate existence shareholders were paid a 9 per cent dividend. Its eventual amalgamation into The Melbourne and Hobson's Bay United Railway Co. as from June 30, 1865, was detailed in Chapter 7.

Names and dates of opening of stations on the Melbourne railway were :

WINDSOR LINE :	Princes Bridge	8/2/1859
	Botanic Gardens (opposite Melbourne Cricket Ground)	2/3/1859
	Punt Road (Richmond)	8/2/1859
		Closed 12/12/1859
	Swan Street (now Richmond)	12/12/1859
	Cremorne	12/12/1859
	Gardiner's Creek Road (now South Yarra)	22/12/1860
	Greville Street, also known as Commercial Road (now Prahran)	22/12/1860
	Chapel Street (now Windsor)	22/12/1860
HAWTHORN BRANCH :	Church Street (now East Richmond)	24/9/1860
	Pic-Nic (beyond Burnley)	24/9/1860
	Hawthorn	13/4/1861



LOCOMOTIVE ENGINES OF THE MELBOURNE AND SUBURBAN RAILWAY CO.,
later THE MELBOURNE RAILWAY CO.: 1859 to 1865

Name	Type	Cylinders	Driving wheels	Builder	Builders No.	Year built	In service	Remarks
Hercules	0-6-0T	15" x 20"	4' 9"	Hawthorn	928	1855	5/2/1859	Purchased from Geelong & Melbourne Rly. Co. 12/1858, Sold to M. & H.B.U.R. Co., 30/6/1865
Victoria	2-4-0WT	12" x 20"	4' 7½"	Stephenson	956	1854	-/4/1859	Purchased from Melbourne & Hobson's Bay Rly. Co. 2/1859, sold to Melbourne & Hobson's Bay United Rly. Co., 30/6/1865
Hawthorn	2-4-0T	15" x 20"	5' 0"	England	160	1860	24/9/1860	Sold to M. & H.B.U.R. Co., 30/6/1865
Richmond	"	"	"	England	161	1860	24/9/1860	" to M. & H.B.U.R. Co., 30/6/1865
Kew	"	14" x 22"	"	Stephenson	1377	1860	-/10/1861	" to M. & H.B.U.R. Co., 30/6/1865
Windsor	"	"	"	Stephenson	1459	1863	-/10/1863	" to M. & H.B.U.R. Co., 30/6/1865
Prahran	"	"	"	Stephenson	1460	1863	-/10/1863	" to M. & H.B.U.R. Co., 30/6/1865
Melbourne	2-4-0WT	12" x 20"	4' 7½"	Stephenson	954	1854	}	Purchased from St. K. & B. Rly. Co. Sold to M. & H.B.U.R. Co., 30/6/1865
Sandridge	"	"	"	Stephenson	955	1854		

NOTE: The Company's engines did not carry road numbers.

CHAPTER TEN

THE MELBOURNE AND HOBSON'S BAY UNITED RAILWAY CO., 1865 TO 1878

Amalgamation of railways; Junction of lines; Operations; Sale to Government; Locomotives; Statistics

The Melbourne and Hobson's Bay United Railway Co. emerged on June 30, 1865, from the amalgamation of the Melbourne and Hobson's Bay and the Melbourne Railway Cos. With the purchase on September 1, 1865, of the St. Kilda to Brighton system, the United Co. controlled the lines from Melbourne to Sandridge, St. Kilda, Hawthorn, Windsor and Brighton—a total of 16½ miles.

One of the first tasks of the new management—linking the lines at Melbourne—was completed on December 16, 1865, through two culverts excavated under Swanston Street from Flinders Street station to Princes Bridge station. Plans provided for all passenger traffic to be worked at Flinders Street station, while Princes Bridge station was to be used as a wool and general store.

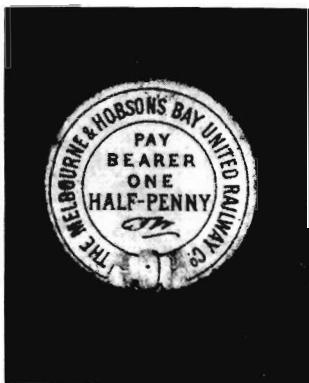
After three days, the original arrangements were reverted to because of congestion and confusion arising from the concentration of traffic into one platform. After extensive alterations and additions were made to Flinders Street station and the yard accommodation at a cost of £100,000, permanent working of trains through the junction commenced on October 1, 1866. The company estimated that an overall yearly reduction of £4,500 on working expenses resulted from the amalgamation of the railways.

During 1866, the electric telegraph was connected to Melbourne, Sandridge, Windsor and Brighton Beach and it was announced that other stations "would be supplied with Morse's patent ink-recording instruments as soon as possible". Stone crushing plants were erected at Richmond and Windsor, and a short line laid to the quarries at the former place to handle ballast, for which there was a considerable demand.

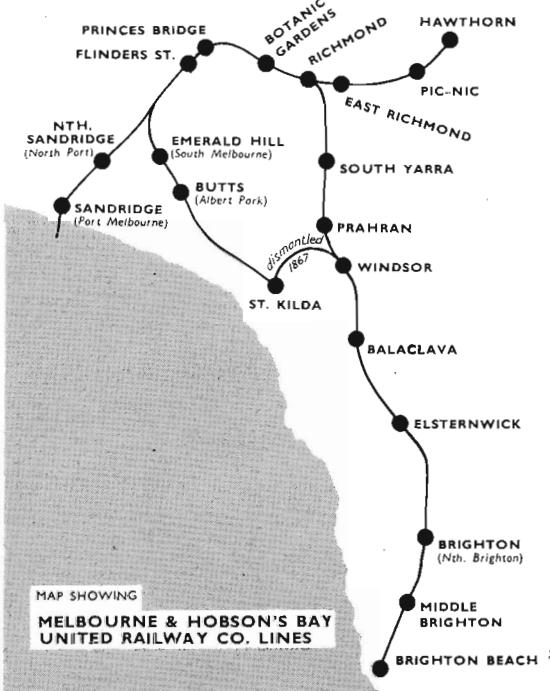
To encourage passengers, the United Railway in October, 1865, issued free "building tickets" to persons who erected new dwellings in the Elsternwick and Brighton districts. Based on valuation, a free 1st-class ticket, available from 18 months for a house costing £300, to a maximum of seven years on £1000 or more, was issued to the occupier. This concession remained available till the dissolution of the company.

A request from residents of Kew in May, 1866, to extend the railway from Hawthorn to that village, was declined by the company on the grounds that the line would be too expensive to construct and operate.

As the "loop" portion of the Brighton line, connecting St. Kilda and Windsor, had been disused since October, 1862, when the Melbourne Railway Co. took over the working of the St. Kilda—Brighton system, the United Co. in 1866, decided to dismantle the section from Punt Road to St. Kilda. By August, 1867, demolition was completed, including the removal of the bridge over St. Kilda Road and the viaduct in St. Kilda Park.



Token issued to
overcome shortage of
copper coins



South Yarra station in 1874

Because of continual delays to road traffic at Union Street crossing, near Windsor station, caused by ballast trains, the Prahran Municipal Council took direct action to remove the trouble. In the very early hours one morning in March, 1869, the Councillors, Town Clerk, and Borough Solicitor, accompanied by police, assembled at the crossing where a gang of workmen commenced to tear up the rails by order of the civic authorities. Officials of the railway appeared and a general melee was prevented only by the presence of the police. By agreement, the matter was tried by law, resulting in a judgement permitting the company to retain the crossing.

From January 1, 1867, the following changes to station names were adopted :

SANDRIDGE LINE : *Raglan Street to North Sandridge (now North Port)*

HAWTHORN LINE : *Church Street to East Richmond*

BRIGHTON LINE : *Swan Street to Richmond*

Gardiner's Creek Road to South Yarra

Commercial Road, or Greville Street, to Prahran

Chapel Street to Windsor

Church Street to Middle Brighton

Beach to Brighton Beach

About this time, the patrons of the United Railway Co. began to agitate for a reduction of fares and improvements in travelling comfort. Fares were greatly in excess of those charged on the Government lines, and at many places the mileage rate was almost double that for a similar journey on the Victorian Railways. The company's rolling stock was distinctly inferior, the permanent way neglected, and station platforms dilapidated and unprotected. Reduction of fares and freights ensued, with a corresponding decline in dividends to shareholders, and a programme of general improvements was prepared.

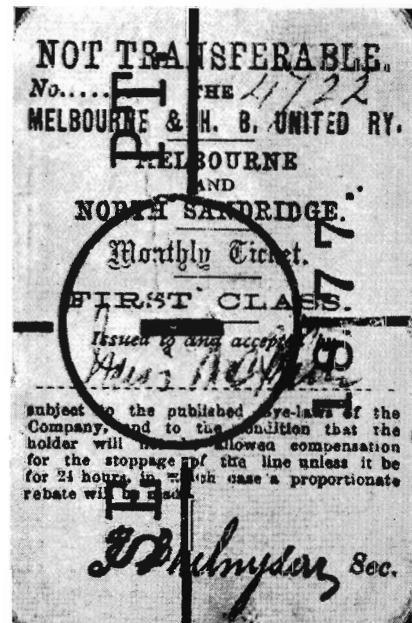
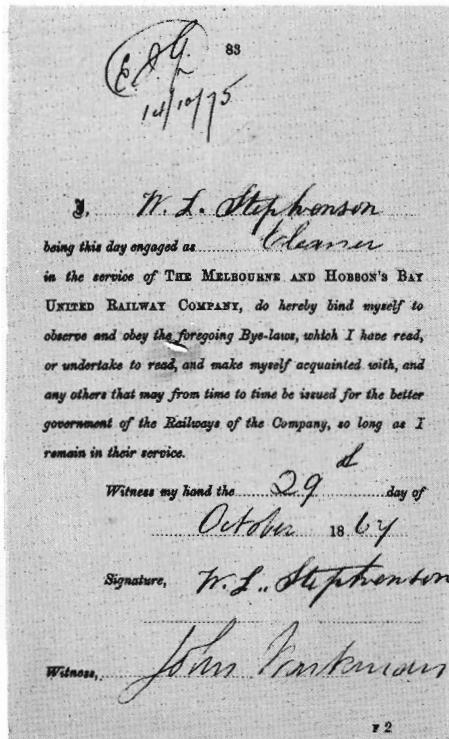
Experiments with steel instead of iron for tyres of carriage wheels and rails for the permanent way were made in March, 1868, and its general use was adopted soon after. In 1870, inquiries were made from contractors for new and improved carriages, suitable to the Victorian climate, and, during 1873, 20 new carriages, of local and imported manufacture, were placed in service together with a large number of goods wagons.

A bogie engine, the first of this type brought to the Colony, went into service in July, 1871, and was an object of interest to the senior engineers of the Victorian Railways Department, who travelled on it during a test run. An additional five bogie locomotives were imported by the company in the following years. Five old engines had been sold to railway construction contractors between 1869 and 1874, and others were removed from service.

By 1870, the United Co. was running 240 trips daily, which necessitated improved safe-working devices. It was announced in 1873 that Saxby & Farmer patent signal interlocking gear for the prevention of accidents had been installed at Richmond station, and would be brought into general use on all lines. Inter-



Melbourne and Hobson's Bay United Railway Co.'s pier at Port Melbourne, about 1873



above: Monthly ticket of 1877
left: Extract from staff regulations

locked gates were also provided at Swan Street level crossing to protect pedestrians. Electric bell circuits between signal boxes came into use early in 1878.

Iron bridges replaced several of the old wooden structures on the Brighton line, and others were erected at new locations. The Jolimont footbridge, built near the Melbourne Cricket Ground many years earlier, was reconstructed in iron towards the end of 1874, extended in 1938 and again in 1956.

Although it had been in need of renewal for a decade, reconstruction of the wooden bridge carrying the Sandridge and St. Kilda lines over the Yarra was left as a legacy for the Government to rebuild later. The last work of any importance carried out by the company was the construction, in 1877, of an additional passenger platform at Flinders Street station—a long delayed fulfilment of an early requirement, providing three platforms for train operations.

Preliminary announcements of the Government's intention to build a railway from Melbourne to Sale prompted the United Co. in 1872 to consider selling their system to the State, but six years elapsed before the deal was completed—after protracted bartering as to the price.

The company's capital liabilities consisted of 10,694 shares at £50 each, plus £465,300 in debentures. The Government offered £55 to £65 a share while the company fixed its valuation at £65 to £75. With a yearly improvement in the United Co.'s business, the directors held out for their price, and more, till eventually the State accepted purchase at £80 a share, which brought the total price to £1,320,820. The sale was effective from July 1, 1878, and the system and its personnel passed to the control of the Victorian Railways Department, though separate management continued till 1881.

Thomas Finlayson, who had been Secretary of both the Hobson's Bay and the United Cos. since 1857, was murdered in his office at Flinders Street station by a railway clerk on July 28, 1879. Sentenced to death, the culprit was reprieved and given life imprisonment.

So passed the Melbourne and Hobson's Bay United Railway Co. During its 13 years' existence, an average annual dividend of $7\frac{1}{2}$ per cent. on working operations had resulted, equal to a return of nearly £49 on each £50 share—an eminently satisfactory investment.



*Robert Blaikie, chief clerk,
Melbourne & Hobson's Bay
United Railway Co.*

MELBOURNE AND HOBSON'S BAY UNITED RAILWAY CO.
LOCOMOTIVE ENGINES : 1865 to 1878

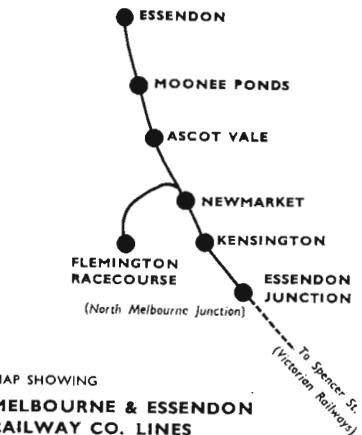
Name	Road No.	Type	Cylinders	Driving Wheels	Bl'dr's. No.	Year	Remarks
Melbourne	1	2-4-0WT	12" x 20"	4 ⁶ 7 ³ "	954	1854	ex Melbourne Rly. Co.
Sandridge	—	—	—	—	955	1854	ex Melbourne Rly. Co.
Victoria	2	—	—	—	956	1854	ex Melbourne Rly. Co.
Yarra	3	—	—	—	957	1854	ex Hobson's Bay Rly. Co. Sold 1872
St. Kilda	4	—	—	—	1080	1856	ex Hobson's Bay Rly. Co. Sold 1873
Pier donkey	5	0-4-0WT	8" x 14"	3' 9"	1177	1857	ex Hobson's Bay Rly. Co. Co. Sold 1874
Rapid	6	2-4-0WT	14" x 22"	5' 0"	1183	1858	ex Hobson's Bay Rly. Co. Co. Sold 1874
Meteor	7	—	—	—	1184	1858	ex Hobson's Bay Rly. Co. Co. Sold 1874
Kew	10	2-4-0T	—	—	1377	1860	ex Melbourne Rly. Rly. Co.
Windsor	11	—	—	—	1458	1863	ex Hobson's Bay Co. Co.
Pragharn	13	2-4-0WT	—	—	1460	1863	ex Melbourne Rly. Co.
Toorak	14	2-4-0T	—	—	1620	1865	—
Victoria	15	2-4-0WT	—	—	1802	1866	—
Hawthorn	16	—	—	—	1803	1866	—
Richmond	18	—	—	—	1660	1860	ex Melbourne Rly. Co.
Hercules	—	0-6-0T	—	—	928	1855	(b) ex Melbourne Rly. Co. Sold 1869
All of the above engines were built by Robert Stephenson & Co., Newcastle-on-Tyne, except—					26	1877	
(a) Built by G. England & Co., London					25	4-4-0WT	15" x 22"
(b) Built by R. & W. Hawthorn, Newcastle-on-Tyne					24	0-4-0WT	9" x 15" 3' 8"
					23	—	5' 1"
					22	—	—
					21	—	2214
					20	4-4-0WT	15" x 22"
					19	2-4-0WT	14" x 22"
					1870	1991	1874
					1871	1995	1873
					1872	2130	2123
					1873	2214	2220
					1874	1875	1875
					1875	1877	1877

(b) Built by R. & W. Hawthorn, Newcastle-on-Tyne

(a) Built by G. England & Co., London

MELBOURNE & HOBSON'S BAY UNITED RAILWAY CO. :: STATISTICS :: JUNE 30, 1865 to JUNE 30, 1878

Half-year ended	Mileage			Number of Passengers						Goods	Total revenue
	Passenger	Goods	Total	Sandridge line	St. Kilda line	Windsor line	Hawthorn line	Brighton line	Total		
31/12/1865	161,654	21,740	183,394	336,669	610,398	867,791	248,272	257,015	2,320,145	Tons 79,638	£ 64,484
30/6/1866	171,971	19,883	191,854	399,606	640,026	876,724	275,716	292,642	2,484,714	95,681	69,437
31/12/1866	160,957	28,539	189,496	388,055	635,885	903,427	280,422	274,413	2,482,202	102,649	68,390
30/6/1867	156,692	25,159	181,851	399,076	612,904	870,921	255,625	257,267	2,395,793	92,645	64,290
31/12/1867	177,210	20,031	197,232	383,961	587,239	945,128	254,241	235,791	2,406,360	102,759	64,903
30/6/1868	177,048	19,887	196,935	386,490	610,544	899,916	244,915	247,406	2,389,271	112,271	67,149
31/12/1868	181,344	22,557	203,901	357,850	592,904	916,812	248,092	248,108	2,363,766	113,177	67,040
30/6/1869	187,952	23,180	211,132	408,609	612,919	956,141	269,044	271,487	2,518,200	115,393	70,053
31/12/1869	167,648	25,667	193,315	409,755	583,456	1,017,203	289,989	280,469	2,580,872	127,412	74,146
30/6/1870	168,544	18,423	186,967	458,817	620,410	1,027,555	303,800	284,265	2,694,847	107,213	70,621
31/12/1870	175,255	17,279	192,534	417,042	593,894	1,006,878	291,815	282,476	2,592,105	95,022	65,352
30/6/1871	172,731	17,281	190,012	480,829	646,938	1,015,449	272,394	309,379	2,724,989	86,639	64,618
31/12/1871	179,935	17,687	197,622	521,426	776,420	1,141,085	303,309	312,207	3,054,447	88,213	64,079
30/6/1872	179,512	17,485	196,997	585,756	885,358	1,172,419	340,924	340,126	3,324,583	94,263	67,250
31/12/1872	182,995	18,256	201,251	569,870	894,801	1,257,147	355,476	338,696	3,415,990	106,079	70,558
30/6/1873	184,408	17,738	202,146	657,040	970,335	1,327,637	390,709	390,641	3,736,362	111,320	76,929
31/12/1873	192,231	18,209	210,440	619,095	1,006,388	1,412,891	418,921	383,862	3,841,157	121,743	80,804
30/6/1874	201,331	17,520	218,851	714,402	1,136,815	1,506,158	457,350	411,501	4,226,226	110,477	83,831
31/12/1874	205,089	18,163	223,252	659,373	1,145,157	1,566,225	478,380	415,104	4,264,239	112,482	85,788
30/6/1875	202,348	18,352	220,700	760,820	1,193,363	1,571,522	502,836	443,850	4,472,391	99,320	86,794
31/12/1875	211,965	18,463	230,428	645,881	1,188,067	1,616,755	538,399	443,636	4,432,738	107,353	89,315
30/6/1876	217,516	17,481	234,997	760,976	1,271,943	1,654,914	576,985	485,544	4,750,362	104,242	92,109
31/12/1876	219,432	17,894	237,326	674,578	1,233,501	1,696,336	577,351	470,297	4,652,063	120,475	95,854
30/6/1877	219,163	17,760	236,923	759,453	1,347,897	1,745,522	610,836	522,163	4,985,571	120,616	98,764
31/12/1877	230,424	17,079	247,503	702,656	1,291,215	1,780,221	650,633	552,205	4,976,930	101,635	89,557
30/6/1878	249,005	17,109	266,114	710,126	1,392,551	1,804,533	684,746	551,236	5,143,192	118,827	95,232
Totals	4,934,351	508,822	5,443,173	14,168,211	23,081,328	32,557,310	10,120,880	9,301,786	89,229,515	2,747,544	£1,987,628



CHAPTER ELEVEN

THE MELBOURNE AND ESSENDON RAILWAY CO., 1858 TO 1867

Formation of company ; Construction of railway ; Opening of line ; Extension to Racecourse ; Workings ; Closure of railway ; Sale to Government ; Locomotives

The Melbourne and Essendon Railway Co., formed in 1858 with a capital of £75,000, was authorized by Act of Parliament on February 24, 1859, to build a railway to Essendon commencing at a point to be known as Essendon Junction (now North Melbourne Junction), about 1½ miles from Spencer Street on the Government line to Sandhurst.

A contract for construction of the earthworks was let to George Holmes & Co. at £30,000, of which £7,000 would be paid in shares. The work was inaugurated on Saturday afternoon, July 23, 1859, when Governor Sir Henry Barkly ceremoniously turned the turf at a spot opposite the Newmarket Hotel. Well experienced by now, Sir Henry shovelled the earth into a specially made cedar barrow and declared the building of the Melbourne and Essendon railway duly commenced. The labourers engaged for work on the line complimented the Governor on his ability with the shovel, and offered him a job. At a magnificent luncheon at the New Inn, near the cattle yards, the company directors announced plans for continuing the railway to the River Murray and connecting eventually with Sydney.

Fifteen months later, on Monday, October 22, 1860, the line (single track) was ready for service and was officially opened for public traffic on November 1, working to a limited time-table. The full schedule began from November 8, providing 11 trains daily each way at hourly intervals commencing at 7.45 a.m. from Melbourne and 8.15 a.m. from Essendon. On Sundays, seven return trips were made.

DISTANCE TABLE AND FARES FROM MELBOURNE :

	M. Ch.	First		Second	
		Single	Return	Single	Return
KENSINGTON	2 4	9d.	1/3d.	6d.	9d.
NEWMARKET	2 42	1/-	1/6d.	9d.	1/3d.
ASCOT VALE	3 34	1/2d.	1/9d.	9d.	1/3d.
MOONEE PONDS	4 8	1/4d.	2/-	9d.	1/3d
ESSENDON	4 68	1/6d.	2/3d.	1/-	1/6d.

It is of interest to note that the original names and sequence of the stations have remained without alteration or addition since inception ; an unusual record in Australian railway history.

As the Essendon Co. did not possess any engines or rolling stock at the time, two locomotives, two 1st-class and four 2nd-class carriages, one brake van, and two wagons were hired from the Victorian Railways Department. In addition, running rights over the Government railway from Spencer Street to Essendon Junction and office facilities at the former station had to be paid for. It is believed that the engines were Victorian Railways No. 38 and No. 40 (formerly "Typhoon" and "Sirocco", Geelong Railway Co.).

Immediately following the opening of the Essendon railway, construction of a branch line from Newmarket to Flemington Racecourse began. It was brought into use for the three-day meeting of the Victoria Jockey Club, when "through race specials" ran at hourly intervals from Spencer Street on February 28, March 1 and 2, 1861. Return fares were 3/- 1st-class, and 2/- 2nd-class. Many who watched Archer win the first Melbourne Cup, which was conducted by the Victoria Turf Club during a three-day programme on November 7, 8 and 9, 1861, travelled by special trains to the course.

In December, 1861, two engines for the Essendon railway arrived from England. One, named "Essendon", went into service on the line early in 1862 ; the other was sold at once to the South Australian Railways. A third engine arrived by the end of 1862 ; but traffic did not warrant its use, and it was sold to the New Zealand Government Railways.

From the very beginning of operations, the financial results of the Essendon railway were discouraging. For the half-year period ended June 30, 1861, the net daily profit amounted to only £1/2/2d., but during 1862 it increased to £4/7/- daily. The results remained at this average throughout 1863, and there was no possibility of paying dividends to shareholders. In addition to the capital (£75,000) a mortgage of £27,000 had been incurred.

Early in 1864, the company requested the Government to purchase the railway for £30,000, but the offer was declined as the price was considered excessive. The failure of this proposal caused the directors to close the line on July 1, 1864.

For three years, shareholders and influential citizens held public meetings and petitioned Parliament for the purchase and re-opening of the railway by the Government. Eventually, on August 27, 1867, the sale was effected at a valuation of £22,500. Necessary repairs were expedited to enable the race-course line to be available for the November, 1867, Cup meeting. The section from Newmarket to Essendon was re-opened on January 9, 1871, working to a time-table of seven trains daily each way.

LOCOMOTIVE ENGINES OF THE MELBOURNE AND ESSENDON RAILWAY CO.

Name	Builder's No.	Year built	Date in service	Remarks
Essendon	458	1861	1/1862	Sold, 8/1864, to South Australian Railways.
—	459	1861		Not used on Essendon Railway. Sold 2/1862 to South Australian Railways.
—	488	1862		Not used on Essendon Railway. Sold 7/1863, to New Zealand Government Railways.

All similar : 2-4-0T type, 15" x 21" cylinders, 5' 4" driving wheels, built by Slaughter, Gruning & Co., England.

(From October, 1860, to January, 1862, the railway was worked with engines hired from the Victorian Railways Department.)

CHAPTER TWELVE

OTHER SUBURBAN RAILWAYS, 1878 TO 1924

Rosstown Junction railway ; One man idea ; To feed beet-sugar factory ; Authority granted ; Joint stock company formed ; Friction with V.R. ; One train runs ; Altona railway ; Land selling scheme ; Spur line for coal

The story of the private railway companies would be incomplete without mention of the Rosstown Junction railway, a privately owned line connecting the Gippsland and the Brighton lines. It commenced from near Elsternwick station and terminated close to Oakleigh, a distance of 5 miles 20 chains. Although it was never opened for regular traffic, the line remained for many years, until dismantled, as a memorial to the promoter.

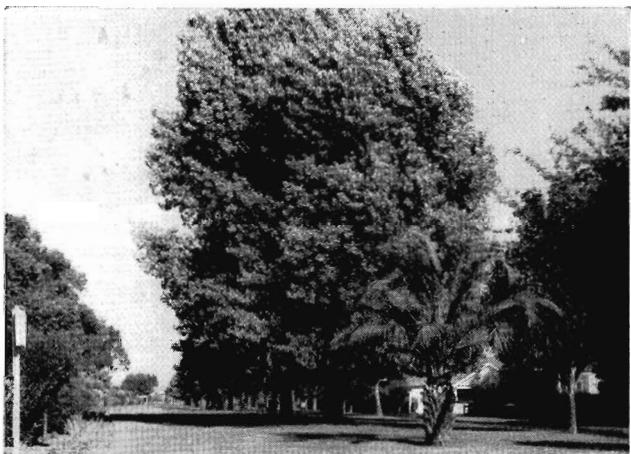
When the Gippsland railway was under construction, William Murray Ross brought out a plan to build a line to connect it with the Brighton line. Ross, an early pastoral settler near Geelong, took up residence at The Grange, near Caulfield. His proposed railway formed part of his idea to develop a beet-sugar industry at Oakleigh. Beets were grown extensively in the Gippsland districts, and Ross apparently considered that the product could be more conveniently distributed from a sugar factory erected near the metropolis. In addition, he claimed that the junction would relieve the main Government line between Oakleigh and Melbourne of a considerable amount of goods traffic by diverting it over the Brighton line.

Resulting from these ideas, Ross in 1876 petitioned the Government for permission to build the Rosstown Junction railway, commencing from a spot 18 chains south of Elsternwick station to near Oakleigh. After considerable delay, authority was granted by Act No. 614, passed on November 14, 1878, to construct a single track line to be completed within five years. Because of financial and other difficulties associated with private railway enterprises, very little progress in construction ensued and, in 1883, the Government extended the period for a further five years. During the same year, the Railway Department supplied £2,000 worth of permanent way materials for the line. Later, Ross sought authority to extend his railway under the terms of The Rosstown Junction, Sea Beach, and Melbourne Extension Railway Bill, which was rejected by Parliament on July 16, 1885. He then offered the unfinished line to the Government for £20,000, but this was declined in December, 1885. Further negotiations in 1895 by Ross for sale at a valuation of £30,000 were unsuccessful.

Early in 1888, the venture was converted to a joint stock syndicate named The Rosstown Junction Railway and Property Co., with a capital of £1,000,000, and Ross as Chairman. On November 14, 1888, the line was "legally" opened—presumably to conform with the time limit conditions of the authorization Act, which expired on that date. It was on this day that the first (and only) train—hired from the Victorian Railways—worked on the railway, carrying a party of guests from Elsternwick to Oakleigh. The line then remained idle till its dismantlement.

A series of complicated actions and counter-actions, involving protracted legal consultations, arose between the Victorian Railways, Ross, and the company for the settlement of individual debts. The disputes commenced in 1883 and were not completed until 1899. Ross, in 1883, had refused to pay £300 balance owing for materials supplied by the Department. Friction arose during 1884 in consequence of the Commissioners' refusal to allow the Rosstown railway to cross the Mordialloc line on the level, but agreement was reached in June, 1886, to carry the private railway through a subway under the line. Two-thirds of the cost of the work was to be paid by the Department, but on completion of the subway, argument arose when an adjustment of Ross's earlier debt of £300 was made.

Much of the Rosstown right-of-way has been turned into parkland.



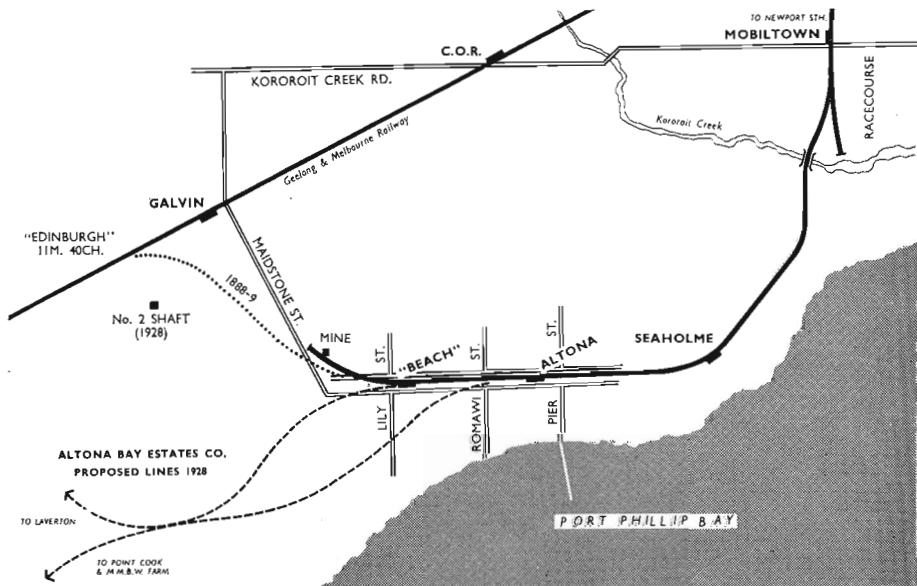
At the time the Rosstown Railway was converted to a joint stock company, the Railway Department resumed half an acre of the company's land at North Road (now Ormond) station, for which a greatly inflated price was asked. Though the Commissioners offered a reasonable price, the company apparently took no action to secure any payment. Between 1888 and 1891, the Department supplied additional materials to the company, for which no payments were made. Efforts to secure settlement of the debt, and of the account still owing by Ross, were unsuccessful. Confusion occurred, due to the necessity for separate action against the company and Ross as a private individual.

To bring matters to a head (and also as a safety measure because the line was not working) the Department in 1894 disconnected the Rosstown railway from the Victorian Railways system at both Elsternwick and Oakleigh. The private line, however, had been re-transferred, under a bank mortgage, from the company to Ross who protested to the Department on the matter of disconnecting the line, claiming that it was an unlawful action. The Commissioners lodged a further claim on the company for settlement of debts, but, on September 1, 1896, it went into voluntary liquidation.

During the next year, the Railway Department seized a quantity of material, equal in value to one of Ross's debts. The Department also enclosed within the Victorian Railways fences certain Rosstown railway lands at Elsternwick and Oakleigh, and, at the latter place, erected a signal box.

Ross retaliated by claiming £74,000 damages against the Department on five instances of wrongful possession, trespass, and injury to property. Subsequently, the Commissioners replaced all material, restored the permanent way, and paid £700 for land occupied. All debts owing by Ross were written off and an amicable settlement was reached by an agreement dated April 15, 1899.

The railway continued to be held by Ross, under bank mortgage, until his death on August 29, 1904. It was then re-possessed by the bank, and in 1906 offered for sale by auction, but no offers were received. Finally, in 1916, by authority of the Rosstown Railway Abandonment Act, and as the ravages of time and theft caused the disappearance of fencing and other property, the rails were torn up and sold. The course of the line may now be traced by street formations from Elsternwick to Oakleigh. Even the name of Ross has passed practically into oblivion. Rosstown (named after the railway promoter), a railway station $7\frac{1}{2}$ miles from Melbourne, between Caulfield and Oakleigh, was renamed Carnegie. Rosstown Road—a comparative side street in the district—is but a vague reminder of William Murray Ross and the Rosstown Junction railway—the line on which only one train journey was made.



The only other private suburban railway not mentioned was to Altona. It was formally vested in the Victorian Railways on October 1, 1924. It was originally constructed by the Altona and Laverton Bay Freehold and Investment Co. Ltd. as part of a land selling scheme, the promoters envisaging Altona as a fashionable seaside resort to rival Brighton. Land auction advertisements in "The Argus" suggested that a special train ran from Spencer Street "on to the ground" on November 9, 1888. As the previous access was by train to Port Melbourne and steamer to Altona Pier, this date may be accepted as the line's opening.

Built of rails purchased from the Victorian Railways, the line ran from Williamstown Racecourse to "Altona Beach", between Lily and Jones streets. An extension of the line in a north-westerly direction to the Geelong line, with a station named "Edinburgh" at approximately 11 miles 40 chains, is shown on a sale plan held by the Department. Low-level aerial photographs of the Geelong line indicate that a double track formation was actually constructed, possibly to the site of "Edinburgh".

In 1888, land in the area sold up to £8 a foot, but the boom burst, and the line received little use. All Altona Bay trains were cancelled after August 14, 1890. In 1906, the Victorian Railways leased part of the line from the then owner (Mr. W. H. Crocker) to store empty race trains.

Coal winning activities by the Melbourne and Altona Colliery Co. (from 1911 to 1919) resulted in a spur line being built from Lily street (near the then Altona Beach station) to the mine.

In 1917, another attempt was made to develop the land as a residential area, and on November 28, the Victorian Railways entered into an agreement with Altona Beach Estates Ltd. to work the line. Seven years later, when the Company owed £7,289 through guarantees against losses on operations of the line, the Department took over.

CHAPTER THIRTEEN

THE VICTORIAN RAILWAYS COMMENCE WORK

First time-table ; Traffic commenced ; Stations ; Excursion tickets ; Race specials ; Statistics ; Locomotives and rolling stock

Public traffic on the Melbourne to Williamstown railway began on Monday, January 17, 1859. The first time-table and fares schedule were advertised in Melbourne newspapers, and included the Melbourne—Geelong schedule. Following is a copy of the advertisement :

and	Telegraphic messages and letters delivered on board vessels, £1 1s ; communication not requiring boat, 10s 6d.	59 57 c
<hr/>		
Railways.		
<hr/>		
		
VICTORIAN RAILWAYS.		
On and after Monday, 17th January, trains will work as follows :—		
MELBOURNE AND WILLIAMSTOWN.		
WEEK DAYS.		
Leave Melbourne....8.30, 9.30, 10.30, 11.30, 12.30, 2.30, 3.30, 5. 6.		
, , Williamstown, 8.30, 9.30, 10.30, 11.30, 12.30, 2.30, 3.30, 5. 6.		
SUNDAYS.		
Leave Melbourne....10, 1.30, 2.30, 3.30, 4.30, 5.30, 6.30.		
, , Williamstown, 9.30, 1.30, 2.30, 3.30, 4.30, 5.30, 6.30.		
FARES, EACH WAY.		
s. d.		
First-class single ticket		
Second do do		
First do return do		
Second do do		
Passengers not booked to intermediate stations until further notice.		
MELBOURNE AND GEELONG.		
ON WEEK DAYS ONLY.		
Leave Melbourne.....7.45, 12.45, 4.45.		
, , Geelong .....7.35, 12.35, 4.35.		
By order,		
JOSEPH WARD, Secretary.		

Following immediately after the opening, 250 residents of Williamstown submitted a petition to Parliament on January 20, protesting against Sunday trains. The Legislative Assembly ordered that the petition "lay on the table".

For the first week, trains ran non-stop between Melbourne and Williamstown. Then Footscray was opened on January 24, 1859, followed by :

North Williamstown	February 1
Geelong Junction	March 1
Saltwater River (race traffic)	October 1
North Melbourne	October 6

With the thickening of settlement in subsequent years, additional stations were built. The complete list of Williamstown line stations and opening dates is :

Melbourne Terminus (Batman's Hill or Spencer Street)	17/1/1859
North Melbourne	6/10/1859
South Kensington	11/3/1891
Salt Water River (on the city side of the Maribyrnong River) closed about 1867	1/10/1859
Footscray	17/1/1859
Seddon	-/12/1906
Yarraville (temporary platform)	20/11/1871
Edom	1878
Renamed Spottiswoode	1881
Renamed Spotswood	1905
Geelong Junction	1/3/1859
Renamed Williamstown Junction	1868
Renamed Newport	1881
North Williamstown	1/2/1859
Beach	7/8/1889
Renamed Williamstown Beach	1915
Williamstown	17/1/1859
Pier (temporary station for Geelong railway, 3/10/1857)	17/1/1859
Renamed Williamstown Pier	1878

The Sunbury line was opened for passenger traffic on February 10, 1859, to the following schedule :

MELBOURNE AND SUNBURY (Calling at Digger's Rest station)

Week days

Leave Melbourne :	8.0 a.m.	2.15 p.m.	5.45 p.m.
Leave Sunbury :	5.0 a.m.	7.30 a.m.	1.30 p.m.

(The 5.0 a.m. train will not leave Sunbury on Mondays)

Sundays

Leave Melbourne	8.0 a.m.	2.15 p.m.	5.30 p.m.
Leave Sunbury :	5.0 a.m.	9.30 a.m.	3.30 p.m.

Fares:

First single	7/6d.	First return	11/6d.
Second single	5/6d.	Second return	8/6d.

By arrangement, the coaches of the Victorian Stage Co., Clapp & Co., and Bill & Deakin (all more or less successors to Cobb & Co.) running to and from Sandhurst, connected with trains at Digger's Rest, thereby saving coach passengers one and a half hours on the through journey. Combined bookings were made at Cobb's Office, 23 Bourke Street, Melbourne.

A private omnibus service between Batman's Hill station and the Globe Hotel, Swanston Street, by way of Collins, Elizabeth, and Bourke Streets—fare 4d.—commenced the same day. Buses served all train arrivals and departures on the Williamstown, Sunbury, and Geelong lines. Latham & Co., 46 Elizabeth Street, were appointed collecting and forwarding agents for goods and parcels at Melbourne for all stations.

Footscray "main line" and Keilor Road (later Sydenham) stations opened for business on March 1, 1859. For 40 years after the inauguration of the Victorian Railways, Footscray had two stations—the principal one being at Napier Street, serving the Williamstown line. It was referred to in subsequent times as Footscray "suburban". The other, at Nicholson Street, on the "main" line, was a ticket-checking point. The present Footscray station was built in 1901 to replace the old ones, which were demolished.

Stations at Albion and Darlington (9 miles) and Holden (18 miles) opened on January 5, 1860, but were closed at the end of the same year; the Holden buildings were removed to Gisborne.

As soon as a second line of rails was laid to Sunbury, a goods service began on July 11, 1859, for which through tonnage rates were 1st-class goods, 14/- ton; 2nd-class, 12/-; 3rd-class, 10/-. Goods traffic, however, had been working on the Williamstown line, double-tracked from inception, since February 1.

"Week-end return excursion" tickets at single fare rates were offered as from February 23, 1859. Issued at and for all stations on Saturdays and Sundays, they were available for return by any passenger train up to the following Monday night. The same concessions applied for the entire Easter period which, in 1859, extended from April 21 to 26.



Bourke Street, 1862

Early in February, 1859, the Department sought business from race patrons by the following advertisement :

"FOOTSCRAY RACES : Trains will leave Batman's Hill station, Melbourne, for Footscray every hour up to 7 o'clock, returning thence at 43 minutes after each hour up to 6.43 p.m.
Fares : 1st-class return 1/8d. 2nd-class return 1/3d."

No special trains were provided, and passengers had to walk from Napier Street to the course—a distance of nearly two miles.

Special race trains were first operated on October 1, 1859, for a race meeting at Flemington. A small platform had been erected on the city side of Salt Water River, where passengers alighted, and walked about half-a-mile to the course. The fare was 2/- return, and trains ran from Melbourne to the river every few minutes. A contemporary report stated that 12,000 passengers were carried by the special trains. Some time after, a double-platform station was built at the river, and it remained in regular service for race meetings at Flemington until the direct line to the course via Newmarket was re-opened in 1867, when the Department took over from the Melbourne and Essendon Railway Co.

Working expenses and revenue for the Department's first year of operations resulted in £9,569 net revenue, as follows :

VICTORIAN RAILWAYS (Williamstown and Sunbury lines)
Statistics for period January 17 to December 31, 1859

WORKING EXPENSES

	Williamstown	Sunbury	Total
Running costs :			
Salaries, wages, fuel etc.	£ 9,128	£ 9,505	
Engine hire, Geelong Co.	207	—	
	9,335	9,505	£18,840
Maintenance costs :			
Engines, carriages, wagons, permanent way,	7,198	5,094	12,292
machinery (permanent way Footscray to Sunbury maintained by contractors)			
Administration and traffic costs	14,971	12,414	27,385
Total expenses	£31,504	£27,013	£58,517

REVENUE

Passengers, goods etc.	£31,496	29,455	60,951
Fees from Geelong Co. 1/1/1859 to 31/12/59	7,135	—	7,135
Total revenue	£38,631	29,455	68,086
Net revenue	£ 7,127	2,442	9,569

In addition, £2,876 was received as tolls from the Geelong Railway Co. for running rights over the Government line from Geelong Junction to Williamstown from October 3, 1857, to December 31, 1858. This portion of the Williamstown railway, being the contractor's responsibility for most of the period, incurred only a limited charge for permanent way repairs during that time.

PASSENGERS BOOKED AT STATIONS

Station	Date opened	Passengers
Melbourne	17/1/1859	300,164
North Melbourne	6/10/1859	4,835
Footscray	24/1/1859	76,677
Geelong Junction	1/3/1859	8,448
North Williamstown	1/2/1859	33,642
Williamstown	17/1/1859	88,500
<i>Total Williamstown line</i>		<i>512,266</i>
Keilor Road	1/3/1859	13,689
Digger's Rest	10/2/1859	42,355
Sunbury	10/2/1859	27,514
<i>Total Sunbury line</i>		<i>83,558</i>
<i>Total passengers</i>		<i>595,824</i>

These figures include 62,784 passengers booked for travel on the Geelong and Melbourne Railway Co.'s line.

Goods traffic commenced to Williamstown on February 1, and to Sunbury on July 11, 1859. Up to December 31, 1859, 51,482 tons were carried, including 7,347 tons for the Department and 5,182 tons for the contractors, Cornish and Bruce.

When traffic working started the Department possessed :

1 passenger and 4 goods engines ;
 10 1st and 32 2nd-class carriages ;
 6 luggage brake vans ; 2 mail vans ;
 4 horse boxes ; 120 wagons ; and
 2 carriage wagons.

Isambard Brunel, the Inspecting Engineer in England on behalf of the Victorian Railways, ordered the locomotives in 1857 from George England, Hatcham Ironworks, London, as that firm's price was the lowest. England's works being newly established in the locomotive business, it was expected that efficient engines would be supplied to build up his reputation, particularly in a new country.

The engines were delivered to Melbourne by March, 1858. Special lifting gear, costing £1,000, had to be erected at Williamstown Pier to land the engines. They were assembled at the Williamstown Railway Workshops under the supervision of John Aldred, sent out for the purpose from the builder's works by Brunel. For a short time Aldred served in the Department as instructor-driver and maintenance fitter.

In their original state, the engines had neither domes nor cabs, carrying only wind-shields to protect the drivers and firemen. Several years later, domes and elaborate cabs were fitted.

Six-wheeled tenders, identical for both types, carried three tons of fuel (coke was used for a year or two) and 1,600 gallons of water. English prices for the passenger and the goods engines were £2,200 and £2,300 each respectively. Freight, landing charges, repairs and assembly brought the cost to considerably more than £3,000 each before they commenced working.

VICTORIAN RAILWAYS.

*Victorian Railways
notice, 1859*

PASSENGERS can be booked at Stations only on condition that there is room in the carriages. The Tickets furnished to Passengers on payment of their fares will be required to be produced or given up whenever demanded by any Victorian Railway Officer or Servant, it being distinctly understood that the tickets remain the property of the Railway Department, and are *not sold* to passengers. Any passenger unable or refusing to produce the required ticket will be charged the fare from the most distant station. These tickets are *not transferable*, but are available only for the parties to whom they are issued; neither can passengers be permitted to leave the trains at any intermediate station, and resume the journey on the same ticket. When the passengers leave the trains, the tickets will be required to be given up.

CHILDREN under two (2) years of age travel free. Above two (2) and under ten (10), half fare.

LODGAGE. Passengers are allowed to carry, free of charge, 60 lbs. of luggage; all excess above that weight will be charged at the "Excess Luggage" rates. All passengers having "Excess Luggage," must send it to the Booking Office fifteen minutes before the starting of the train, so as to give sufficient time to have it weighed and stowed. No luggage will be allowed to be placed in the carriages, unless of such size that it can be placed under the seat without inconvenience to other passengers.

Passengers are strongly recommended to have their names, and the station to which they are proceeding, distinctly marked on their luggage, and to satisfy themselves that it is placed on the trains.

The V. R. Department does not undertake to forward horses or carriages by any particular train, but when sent they must be at the forwarding station half-an-hour before the departure of the train.

Entire horses will be charged each half the price of a full box.

The V. R. Department will not be answerable for any parcel above the value of £10, unless so declared and paid for at the time of booking; neither will they be accountable for the safe custody, for any period beyond seven (7) days from the time of arrival per train, of parcels directed "to be left till called for."

All packages and parcels under one (1) cwt. will be charged at "Parcel" rates exclusively.

Minimum weight charged for per "Goods Train," a quarter of a ton; when under fifteen miles, half a ton.

Dogs must be provided with chains or other sufficient means to secure them, without which the V. R. Department will not be responsible for their safety.

A Cloak Room is provided at the Melbourne Terminus for the care of luggage, &c., at moderate rates.

Services of the V. R. Department are prohibited (not receiving gratuities from the public under pain of dismissal) Refreshment Rooms and Book Stalls, with the right of advertising, are established at the Melbourne, Diggers' Rest and Williamstown Stations, under the management of MESSRS. SPIDERS AND POND, of the Café de Paris.

MESSRS. LATHAM & CO., having been appointed Goods Agents for the Victorian Railways, are prepared to give immediate attention to all orders relative to collecting, forwarding, and delivering Goods and Parcels that may be left at their Office, 46, Elizabeth-street, south, or at their Branch Offices, 94, Bourke-street east; and 283, Elizabeth-street, North, Melbourne; also at Mr. Hude's, Nelson Parade, Williamstown; and at the Diggers' Rest Station.

Omibuses to meet all trains arriving at or departing from the Melbourne Station, Batman's Hill, will ply from the Birmingham Hotel, Smith Street, Collingwood, passing through Gertrude, Brunswick, Spring, Bourke, Elizabeth, and Collins Streets. Fare from either Terminus to Swanston Street, or the Café de Paris, 34; and for the through journey, 6d.

COACHES connect with the Trains at the Diggers' Rest, booking passengers for the following places:—

GAF,	RAVENSWOOD,	DUNOLLY,
GIBBORNE,	BUCKEYE,	AVOCAS,
WOODEND,	SANDHURST,	EVERSLEY,
CARLBRUM,	ECHUCA,	CROWLANDS,
KYNETON,	MOAMA,	ARARAT,
MALMESBURY,	MUCKLEFORD,	PLEASANT CREEK,
TARADALE,	TARRENGOWER,	GUILDFORD,
ELPHINSTONE,	BARINGHUP,	CRESWICK'S CREEK,
CHEWTON,	CARISBROOK,	HEATHCOTE,
CASTLEMAINS,	MARYBOROUGH,	SWAN HILL.
HARCOURT,		

Coaches leave the Diggers' Rest on the arrival of the 6 a.m., 8.45 a.m., and 3.45 p.m., trains from Melbourne. They also arrive at the Diggers' Rest in time for the 6 a.m., 1.30 p.m., and 4.30 p.m., trains to Melbourne; and passengers arrive in Melbourne 1 hour and 30 minutes earlier than formerly.

It is requested that any irregularity may be immediately notified to W. P. HAMMET, Traffic Superintendent, Spencer Street Station, Melbourne.

(By Order)

JOSEPH WARD, Secretary.

MAIN LINE STATION
NICHOLSON ST.

SUBURBAN STATION
NAPIER ST.



Details of these locomotives are :

Road No.	Builder's No.	Class	Wheel type	Diam. of drivers	Cylinders (inside)	Renumbered
1	40	Passenger	2-2-2	6' 6"	14" x 22"	1A about 5/1860 12 about 8/1860
2	41	Goods	0-6-0	5' 0"	15" x 22"	2A about 8/1860 and later 11
3	42	"	"	"	"	3A about 8/1860 and later 13
4	43	"	"	"	"	4A about 8/1860 and later 15
5	44	"	"	"	"	5A about 8/1860 and later 17

Some of the engines were lent to Cornish & Bruce for track ballasting both before and after the Government lines were inaugurated. On several occasions during 1859 and early 1860, traffic requirements necessitated the hiring of Geelong Railway Co.'s locomotives to replace departmental engines under repair, and to run special race trains.

The carriages, each of four compartments, were mounted on six wheels, as were the luggage brake vans. Seating accommodation was provided for 24 and 40 passengers in the 1st and 2nd-class vehicles respectively. Carriages and vans were of uniform dimensions—22 feet long by 8 feet wide. In the early 1860's, nearly all 2nd-class carriages, and many of the 1st-class, were altered to four wheels to reduce weight.

All the wagons were on four wheels, and 8 feet wide, with a capacity of about five tons each.

Of the carriage, van and wagon stock, half was built at Melbourne in 1858 by William Grant. The remainder came from England. An examination of prices of the rolling stock disclosed that, in comparison with local costs, the imported vehicles were not much cheaper after freight, landing charges, and sea-damage repair costs had been added.

(Sea-damage to imported rolling stock was still a problem nearly 100 years later. Of the 70 R class locomotives imported in 1950-51, most had their roller bearings corroded by salt water; in 1956, wall insulation, cables, and wiring of the "Harris Train" motor coaches had to be dried out and the under frames cleaned and repainted. Railroading problems are indeed long lasting !)

CHAPTER FOURTEEN



Thomas
Higinbotham

BUILDING THE TRUNK RAILWAYS

Sunbury to Bendigo ; Kyneton deviation ; Geelong to Ballarat ; Bendigo to Echuca ; Litigation by contractors

With rail services now operating between Melbourne, Williamstown, and Sunbury, it was possible to transport along the iron highways the large quantities of railway equipment that had arrived, and were arriving, at Williamstown from Britain for the Bendigo line. Nearly 80 miles of double track remained to be constructed, requiring many thousands of tons of permanent way materials, iron work for bridges and viaducts, and all the other necessary items. For the Geelong-Ballarat railway, equipment was delivered at Geelong, and was readily accessible for removal to sites.

On the route from Sunbury to Bendigo, Cornish and Bruce had 2,000 men and 600 horses employed. Camps were established at the locations of big works, such as the Jackson's Creek, Coliban River, and Taradale viaducts, the tunnels at Elphinstone and Ravenswood, and the several large cuttings and embankments. Construction proceeded simultaneously on these. In 1859, the contractors purchased the engine "Tubal Cain" from the Geelong Railway Co. ; renamed "Cornish", it hauled sleepers, rails, ballast and bridge-work for the line. Later, they acquired a new Stephenson engine from England, named "Bruce". Additional locomotive power was obtained by hiring Government engine No. 3 as from October, 1860. During 1860, the contractors erected a large workshop and depot at Castlemaine. It was claimed to be one of the biggest and best equipped in the Colony at that period.

Adverse weather often interfered with construction. Disputes between the contractors and their employees, caused mainly by failure to pay wages regularly each fortnight, as specified, were numerous during 1860-61 ; stoppages and strikes frequently occurred ; and on two, or more, occasions, ugly scenes developed. Contingents of police, called to quell disorders, and to overawe the strikers with displays of power, implied that the Government was against the men and their generally justifiable protests. Brawls between both sides occurred as resentment inflamed the employees. Serious bloodshed, and probable loss of life was avoided by the common sense of the strikers' advocates and by firmness and tact on the part of the police.

The contractors claimed they were unable to pay the men regularly owing to the Government retaining portions of the progress payments, in excess of the lawful amounts. After consultations between all parties, satisfactory arrangements for regular payment of wages were made, and no troubles of any magnitude arose during the last year of the line's construction.

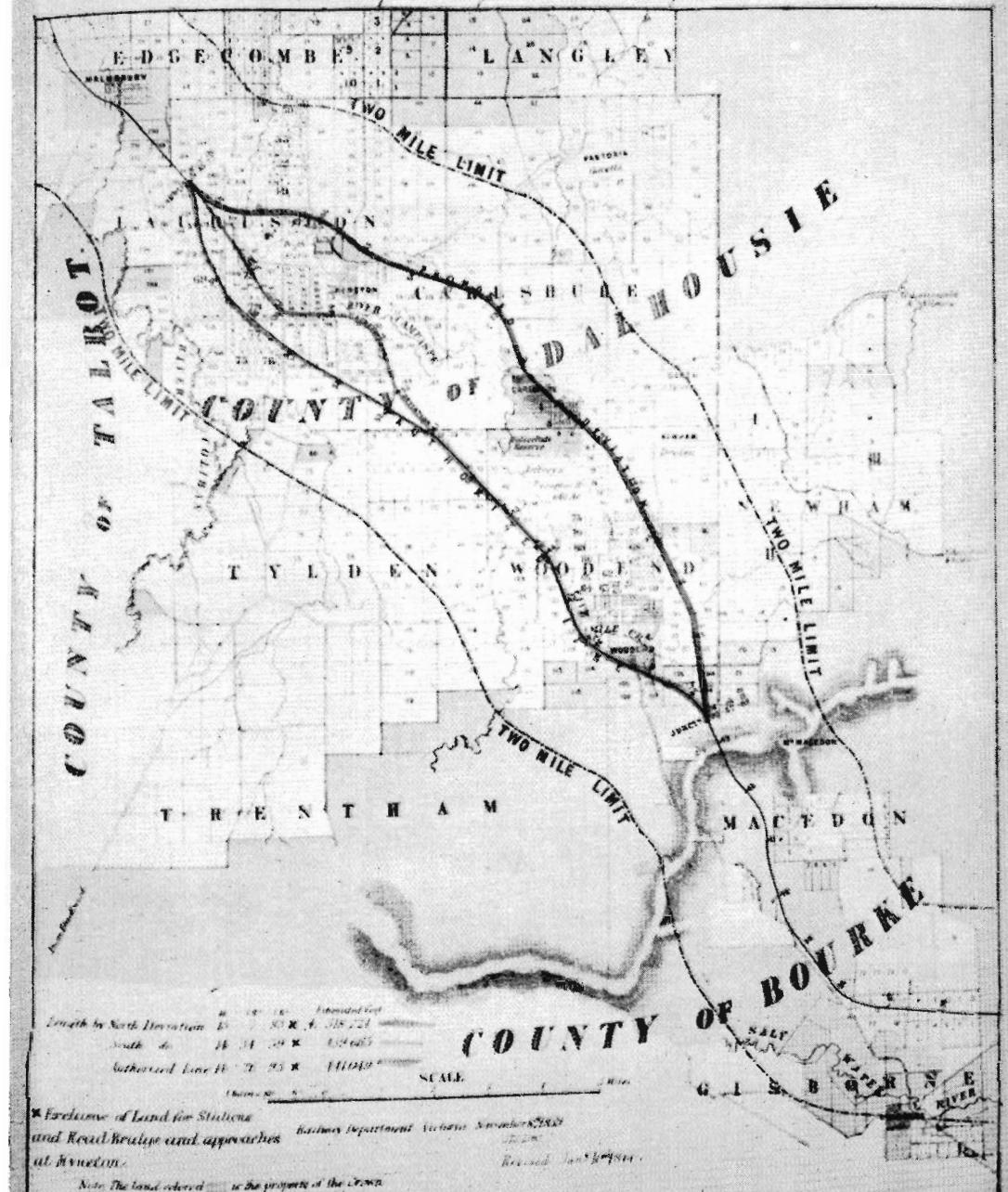
Two and a half years elapsed before the 24 $\frac{3}{4}$ mile section from Sunbury to Woodend was opened on July 8, 1861. The building of Jackson's Creek viaduct, near Sunbury, had been retarded by late delivery of ironwork ; the extensive earth formations and cuttings on the steep grades, rising to 1,902 feet above sea level, through the Black Forest to Woodend, were badly delayed by extremely wet weather during 1859 and 1860. Between Woodend to Kyneton—8 miles—a seemingly interminable hold-up occurred. Now obscured in the dust of history, the "Kyneton Deviation" controversy extended over four years. Starting in 1857, local residents complained that the approved route from Woodend to Malmsbury by-passed Kyneton township. They sought to have the line brought near to the south boundary of the town, but Parliament refused the request. Next year, another group petitioned for a deviation to bring the line close to the north side of the town. This was followed by agitation for an intermediate route to approach on the south. Through 1859 and 1860, deputations, debates and counter proposals rolled on, until, as a contemporary newspaper commented, "the public are heartily tired of Kyneton and its deviations". Eventually, Parliament sanctioned a modified south deviation, which stifled further controversy, though not satisfying everybody. Traffic commenced on the Woodend-Kyneton portion on April 25, 1862.

Early in 1860, it became evident that Darbyshire, Engineer-in-Chief of the Railways Department, was under criticism from the Commissioner of Public Works (James Goodall Francis). A climax developed following charges that Darbyshire had authorized an easing of the contract specifications for the building of culverts between Castlemaine and Harcourt. This was mentioned in Parliament, with the inference that inferior cement was used, though the works had been passed by a government inspector personally appointed by the Commissioner. Darbyshire, considering his professional conduct to be under censure, wrote directly to Francis protesting against the adverse comment, but received no reply. He therefore tendered his resignation, which was accepted immediately, as from May 17, 1860. Thomas Higinbotham was appointed Engineer-in-Chief from that date. Following an early inspection, Higinbotham reported that the works were sound and satisfactory.

While all these delays and dissensions were in progress, construction of the Geelong to Ballarat railway was proceeding slowly, and generally quietly. After considerable preparatory work on excavations, embankments and cuttings, the contractors, Evans, Merry and Co., in 1860 hired the recently delivered No. 1 Government engine, a Beyer Peacock 0-6-0 goods. Driven by Victorian Railways driver, William Rowell, it proceeded from Williamstown to Geelong, and was then overlanded to the Moorabool River for construction work. The company had earlier acquired the Hobson's Bay Railway Co.'s first locomotive,

VICTORIAN RAILWAYS
Melbourne & River Murray Railway
PLAN OF THE
NORTH KYNETON DEVIATION

AS END OF
TOGETHER WITH THE South Lynton Deviation AS PROPOSED BY THE
Committee of the Legislative Assembly 1859 & 60



built at Melbourne in 1854. Additional power was obtained later with the purchase from England of the new " Moorabool " and " Warrenheip " engines.

Early in 1860, Evans and Merry got into financial difficulties because of the Government's action in retaining percentages on progress payments, in excess of the considered lawful amounts, as was being done to Cornish and Bruce. On March 21, 1860, the company assigned the contract to Messrs. Williams and Little, holding rights to share in any profits when accounts were adjusted on completion of the line.

Wet weather added to construction problems, but, extending from both terminals, the permanent way gradually linked up, section by section. By March, 1862, the ten-span viaduct, 1,300 feet long and 115 feet high, over the Moorabool River was practically finished. Final linking of the Geelong to Ballarat railway occurred a few minutes before midnight on Saturday, March 29, 1862. Working in the light of flares and the presence of dozens of Government and contractors' officials, contractors' men spiked in the last rail on the Moorabool viaduct. Almost immediately, a waiting engine steamed over to the Ballarat side, and the railway was virtually completed. It was quite a dramatic setting for such an incident.

On April 10, 1862, the line was formally opened at Ballarat by the Governor, Sir Henry Barkly, who had travelled from Geelong in a special train carrying Cabinet Ministers, Parliamentarians, civic dignitaries from Melbourne, Geelong and Ballarat ; another train conveyed a large party of other guests. After the opening ceremony, the company was entertained at a banquet in the Ballarat Mechanics Institute, and the trains then returned the guests to Geelong and Melbourne. Public traffic commenced next day, with four trains daily each way between Melbourne, Geelong and Ballarat. Goods service began on August 20, 1862, following the completion of double tracks from Geelong to Ballarat.

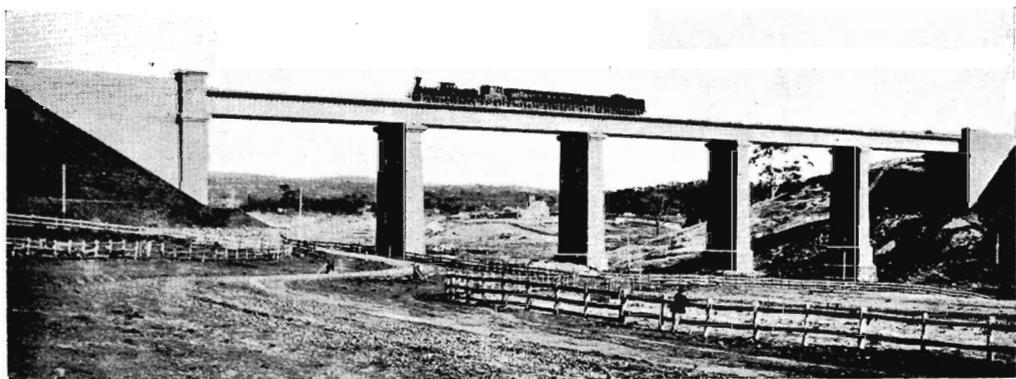
Meanwhile, construction on the 44 miles section from Kyneton to Bendigo was now advancing rapidly. By 1862, Cornish and Bruce had 1,685 men working between Woodend and Castlemaine, and 880 from there to Bendigo. Earthworks were finished, permanent way was ready for linking at the various parts, while the major works—the beautiful five-arch 260 feet stone bridge over the Coliban River at Malmsbury, the five-span 650 feet, 120 feet high iron viaduct crossing Back Creek near Taradale, the Elphinstone tunnel and the Big Hill tunnel, 1,264 feet and 1,276 feet long respectively, and the 65 feet deep cutting approaching Elphinstone tunnel—were nearing completion.

It was a thrilling occasion when rails were laid in Elphinstone tunnel and an engine steamed through. A cheering workman rode on the front buffers, and a hearty response was given by his mates. Similar excitement occurred at Big Hill when completion of boring was announced by a man riding a horse through the tunnel. Later, workmen in this area, with their wives and children, arranged a feast and dance in the tunnel.

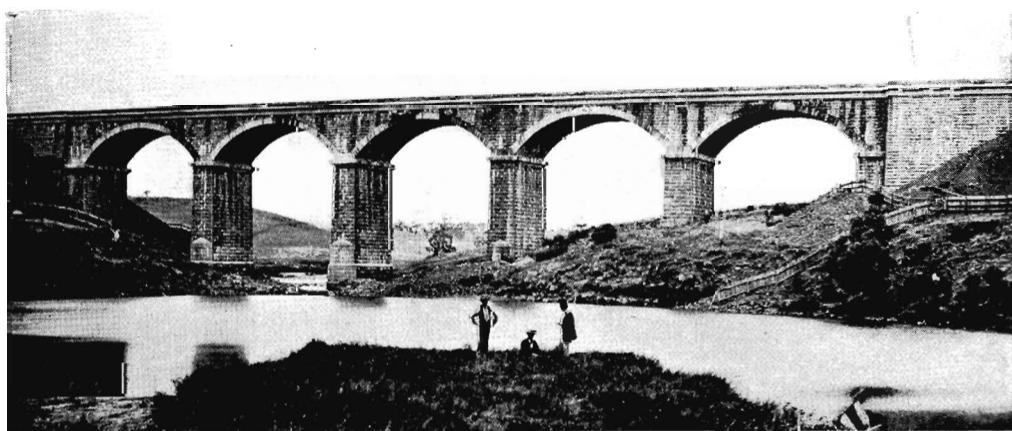
Eventually, the big works were finished, the last rails laid in the gaps between sections, and the Melbourne to Bendigo railway was ready.



Jackson's Creek Viaduct



Taradale Viaduct



Malmsbury Viaduct

Official planning to "suitably honour the occasion" was immediately upset by civic rivalry between Castlemaine and Bendigo. Claiming precedence, Castlemaine people demanded that the principal celebrations be held there; Bendigo insisted that its position as terminus of the line made it obligatory that the railway must be declared open only there. With Solomon-like judgement, the Government decreed that full pomp and ceremony be accorded to both places.

Hence, on October 15, 1862, the line to Castlemaine was formally opened by His Excellency Sir Henry Barkly. Elaborate decorations, a procession, and feasting and dancing, made the occasion an event to boast about. Five days later, the Governor endured an even greater ordeal at Bendigo to officially declare the Melbourne to Bendigo railway ready for business. Twenty thousand people welcomed the vice-regal and other trains; the usual procession, banquet and speeches ensued; delayed return trains and a fire provided an anti-climax.

It had been planned that, in the early evening, while all the fun and feasting was going on, the special trains would be prepared for return to Melbourne. This necessitated the engines travelling back to Castlemaine for water, as there was no supply at Bendigo station. With several trains standing along the then mainly single track, the engines could be worked through only with much delay. As some did not get back to Bendigo till midnight or later, weary and disgruntled visitors sought shelter for the night in local establishments, slept in the railway carriages, or joined in at the official ball. To round off the general fun and chagrin, a huge triumphal arch at the station entrance caught fire. The homeless ones had, at least, some entertainment. Order was restored to the railway early next morning, when the special trains returned to Melbourne. Public traffic between Melbourne and Bendigo commenced on this day, October 21, 1862.

Early in 1863, tenders were called for the 55 mile extension of the line from Bendigo to the River Murray at Echuca. John Higgins obtained a contract for the five-mile section to Epsom for £55,487. Collier, Barry and Frazer were awarded the Epsom-Echuca portion for £294,594. The single track railway through flat country devoid of engineering difficulties was opened for goods traffic on September 19, 1864, and for passenger business in October.

So, after eight years, Victoria saw fulfilled the promise of building the main trunk railways. Although stations and other facilities were not complete, trains were now running on 255 route miles of Government lines. So, the first era closed at a capital cost of £8,500,000. Compared with some of the mighty engineering wonders on the railways of Europe and North America, Victoria had nothing spectacular to offer. But, the young Colony, with a population of 600,000, felt it could rest on the results of a big job satisfactorily, though painfully, completed.

And the Colony did rest. Seven years passed before any more lines were commenced, though proposals for extensions and new railways were continually being submitted. But Parliament was cautious: money was scarce. Any future lines would have to be constructed at costs considerably lower than the



Building Taradale Viaduct, 1860-61

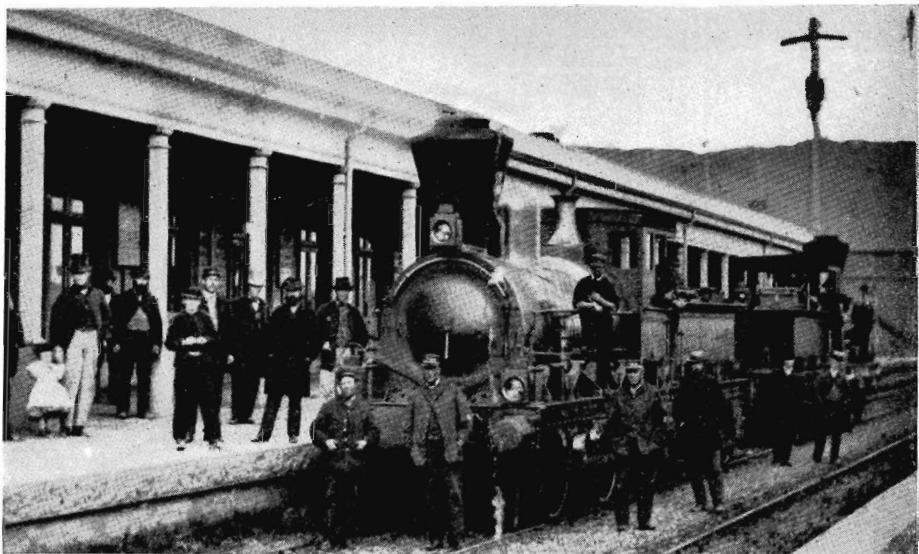


Leighroad station, now Bannockburn

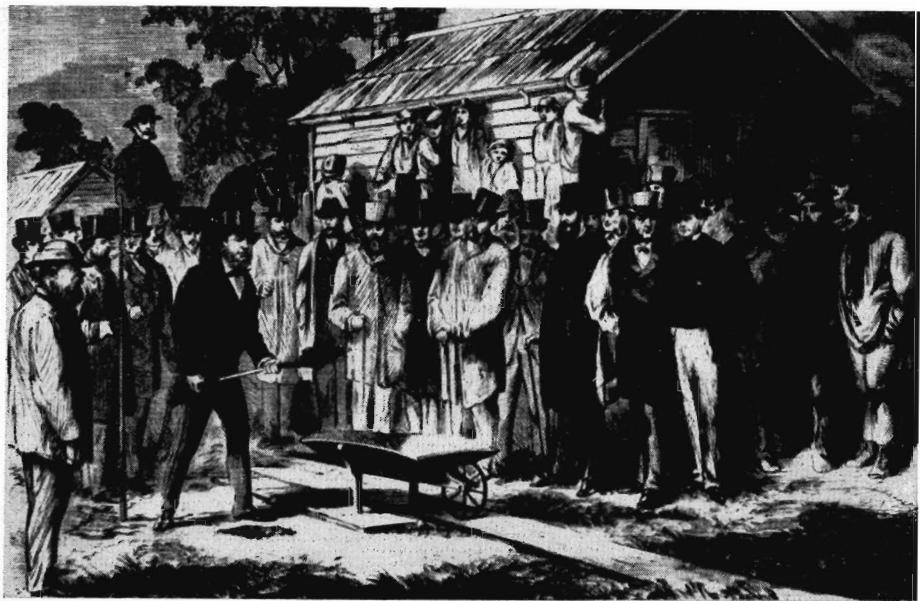
trunk railways. By 1868, proposals were becoming insistent and clamorous. Political prestige was maintained by ordering surveys to the north-east, north-west, west, and south-east, with construction costs to be the lowest possible. So an era of "cheap" or "light" lines was born—costs of construction to be limited to £5,000 a mile through the use of lighter rails and restricted station accommodation.

During this waiting period, protracted legal actions ensued for the adjustment of financial claims by the contractors on their final prices for construction of the trunk railways. Claims and counter claims, offers and rejections, Melbourne law court actions, judgements, appeals, and reversals followed through to the British Privy Council. Cornish and Bruce ultimately won out by compromising with the Government after five or six years of litigation. Neither principal of the firm lived to see their victory ; William Crocker Cornish died in 1859 ; Jan Vans Agnew Bruce in 1864.

Evans and Merry and their successors, collectively and singly, fought the Government on contractual adjustments for nearly 20 years, with but minor successes. The curtain was finally dropped when, in 1911 (49 years after the Geelong-Ballarat line was built) Parliament granted £10,000 as a gift to the combined Evans and Merry families. William Robert Merry, then very aged and ailing, died shortly afterwards ; George Sexton Evans had died in 1896.



Woodend Station, about 1864



Turning the first turf, north-eastern line

CHAPTER FIFTEEN

TO ALL CORNERS OF VICTORIA

Yan Yean tramway ; Essendon to Wodonga ; Battle of the coloured lines ; Castlemaine to Ballarat ; Ballarat to Ararat ; Ararat to Portland ; Geelong to Port Fairy ; Oakleigh to Sale ; Ararat to Serviceton ; Warrenheip to Braybrook Junction ; Suburban lines extended ; Narrow gauge lines ; Border railways

With the obvious need for the construction of new lines in areas entirely without railways and for extensions from the trunk routes, Government and Parliament could not continue to ignore the requirements of progress. But "cheapness" was of paramount importance, and the era of "light lines"—with lighter rails, shallower road beds, and poor station accommodation—arose.

By instructions hand written and dated January 12, 1869, Joseph Jones, Commissioner of Railways, directed Higinbotham to arrange immediately for a survey of the Upper Murray (north-eastern) line. He also called for a "report upon the minimum cost per mile at which good railways can be made from Portland to Hamilton, from Geelong to Hamilton, and from Melbourne to Sale, to be worked at a maximum speed of 15 miles per hour for passenger traffic. Station accommodation to be of the cheapest kind possible. Surveys should be made for the lines named, and it is desirable that a survey be made for a line of railway by way of Yan Yean recently advocated by a deputation re the Murray Line".

On several occasions from 1866 to 1870, suggestions had been made by both private groups and Parliamentarians to incorporate the derelict 5' 3" gauge Yan Yean tramway as portion of any proposed north-eastern railway. The tram-

way was built in 1855 by the Water Supply Commissioners to carry pipes and materials for the water supply line from Yan Yean Reservoir to Melbourne. The tramway, 19 miles long, ran along the existing pipe line from the reservoir to Carlton Gardens, near the present Exhibition Buildings in Nicholson Street. Constructed of mixed iron rails and wooden rails, it was worked with horses. Both the track and the area were considered to be unsuitable for inclusion in the north-eastern railway system. The tramway was subsequently dismantled.

In 1870 contracts were let for constructing the line from Essendon to Wodonga. The north-eastern railway was opened in sections :

*Essendon—Schoolhouse Lane (2½ miles from Seymour)—Seymour—Longwood, 1872 ;
Longwood—Violet Town—Benalla—Wangaratta—Wodonga, 1873*

Nearly 10 years elapsed before junction was made with the New South Wales system at Albury on June 14, 1883. This, the first inter-capital connexion (and, incidentally, the first impact of break-of-gauge) was celebrated with becoming dignity at Albury. An earlier inter-colonial connexion had been made however, in 1876—when the private New South Wales line of the Deniliquin and Moama Railway Co.* linked with the Victorian Railways line at Echuca.

Simultaneously with the building of the north-eastern railway, there arose the "Battle of the Coloured Lines" towards Hamilton in the west. Higinbotham projected four routes for decision, namely :

THE BLACK LINE : From Geelong, via Colac, Camperdown, Terang, Mortlake, Hexham, Purdeet, and Penshurst—152 miles long or 197 miles from Melbourne. The estimated cost was £1,192,176, based on a fully detailed survey.

THE PINK LINE : Ballarat, Beaufort, Buangor, Ararat, Maroona and Dunkeld—119 miles long or 216 miles from Melbourne, via Geelong. The estimated cost was £836,663, also based on a detailed survey.

THE GREEN LINE : From Meredith, on the Geelong-Ballarat railway, via Homewood, Pitfield, Skipton, Streatham, Wickliffe, and Dunkeld—117 miles long or 188 miles from Melbourne. This was based on a general survey only and no estimate of cost was submitted.

THE BLUE LINE : Castlemaine, Maldon, Maryborough, Avoca, Elmhurst, Eversley, Ararat, Maroona, and Dunkeld—147 miles long or 225 miles from Melbourne. This was based on a general survey, and the estimated cost was £1,155,000.

In his report of October 18, 1870, Higinbotham commented that no one line could provide for the extensive Western District with its great resources. Ararat and Stawell were the only large centres of population ; overland traffic between Adelaide and Melbourne, and the whole Wimmera District traffic passed through the former places.

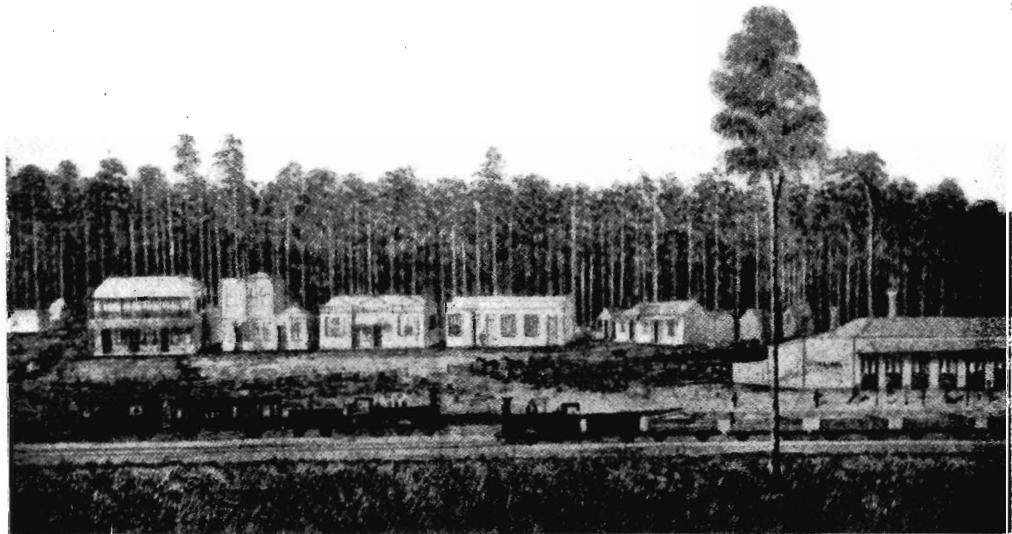
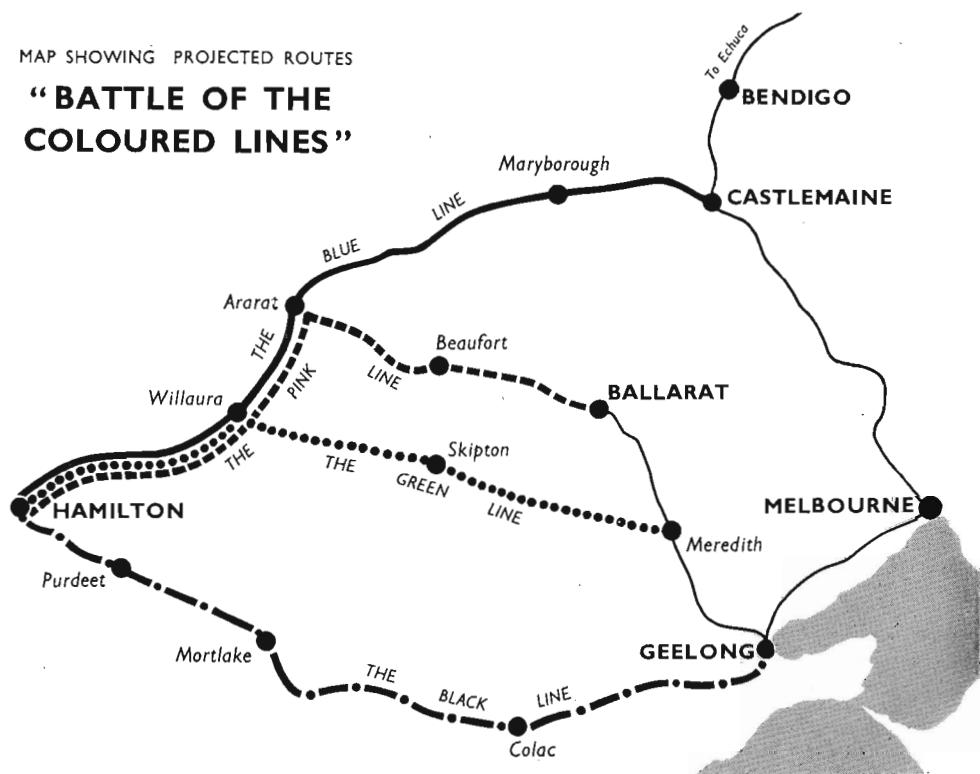
He recommended the Pink Line; as it would serve a district poorly supplied with communication to Melbourne, traffic would probably be greater than by other routes, and there would be no competition from seaports as would be most likely with the Black Line.

Public and Parliamentary controversy arose for and against the Pink Line. On December 22, 1870, Parliament directed that trial surveys be made of alternative routes from :

1. Ballarat, via Creswick, Clunes, Talbot, Maryborough, and Ararat to Hamilton ;
2. Ballarat, Scarsdale, Carngham, Hamilton.

MAP SHOWING PROJECTED ROUTES

"BATTLE OF THE COLOURED LINES"



Warragul about 1879

Argument was stifled by approval for extensions from Castlemaine to Maryborough, Clunes, Creswick and Ballarat (74 miles) and from Ballarat to Beaumont and Ararat (58 miles). These were completed in 1875, and the verbal "Battle of the Coloured Lines" ended. Further extension from Ararat to Dunkeld, Hamilton and Portland (119 miles) followed by 1877.

Through the 1870's, construction proceeded to the south-west from Geelong and to the south-east from Melbourne. Geelong to Winchelsea, Birregurra and Colac was in operation by 1877, then followed to Camperdown, 1883, Terang, 1887, and Port Fairy by 1890.

The Gippsland railway from Oakleigh to Sale (119 miles) was unusual in that it was opened for traffic in unconnected sections, as shown :

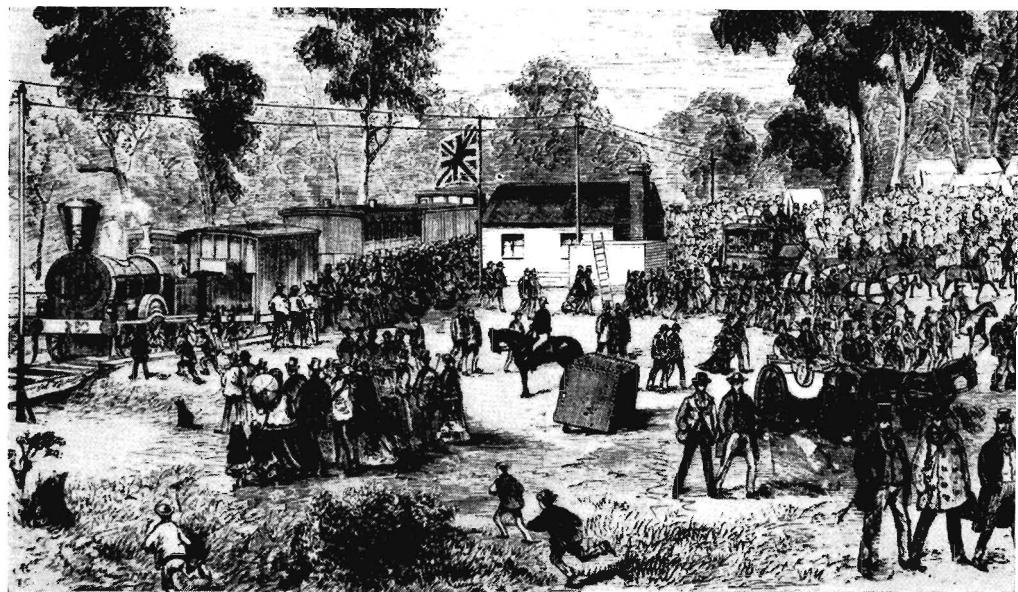
	Morwell	to	Sale
		39 miles	
Oakleigh to Bunyip			1/6/1877
39 miles			
8/10/1877			
	Moe	to	Morwell
	9 miles		
			1/12/1877
Bunyip to Moe			
32 miles			
South Yarra to Oakleigh			
7 miles			
1/3/1878			
2/4/1879			

Until the sections were linked, passengers were conveyed between rail-heads by horse-drawn road coaches. Road service between Oakleigh and Melbourne continued until April 2, 1879, when the line from Oakleigh to South Yarra was built, following the purchase of the Melbourne and Hobson's Bay United Railway Co.

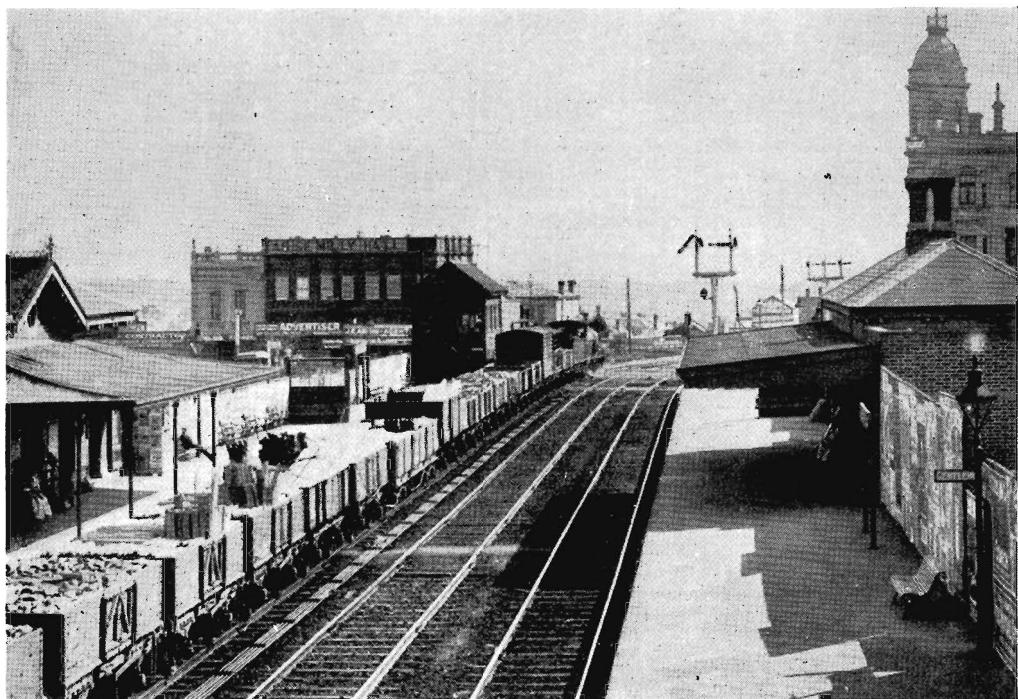
Meanwhile, continuation from Ararat towards South Australia (at Serviceton) was proceeding to completion. Sections were opened to Stawell in 1876, Murtoa, 1878, Horsham, 1879, Dimboola, 1882, and the final 63 miles to Serviceton on January 19, 1887. Rail connexion between Adelaide, Melbourne and Sydney was now a fact.

However, traffic from Melbourne to Serviceton went by way of Geelong and Ballarat, until the direct route through Bacchus Marsh and Ballarat was completed on December 4, 1889. Ten years had elapsed in building the 62 miles between Warrenheip and Braybrook Junction (now Sunshine) ; this line also had been completed in unconnected sections. The 1,230 feet long, 125 feet high viaduct over the Werribee River near Melton, and the heavy grades between Bacchus Marsh and Ballan were major works on the route.

During ten years, 1881 to 1891, suburban lines were extended, practically completing the whole of the system operating today. To the existing Port Melbourne, St. Kilda, Brighton Beach, Hawthorn, Williamstown, Essendon, and Oakleigh sections were added :



Arrival of first train at Kilmore East



Camberwell station, 1907

<i>Caulfield–Mordialloc–Frankston</i>	1882
<i>Hawthorn–Camberwell–Box Hill</i>	1882
<i>North Melbourne–Coburg</i>	1884
<i>Brighton Beach–Sandringham</i>	1887
<i>Hawthorn–Kew</i>	1887
<i>Royal Park–Clifton Hill–Collingwood</i>	1888
<i>Clifton Hill–Alphington–Heidelberg</i>	1888
<i>Whittlesea Junction (near Clifton Hill)–Preston</i>	1889
<i>Burnley–Oakleigh</i>	1890
<i>Outer Circle*</i>	1890–91

*Ch. 16, p. 101

By 1895, route mileage totalled 3,120. Despite political strife, financial stringencies, droughts and wars, the Victorian Railways network expanded until 1930 to total 4,721 miles of route. Lines extended in all directions, and, excepting the mountainous north-eastern region, all areas of the State were within eight miles of a railway.

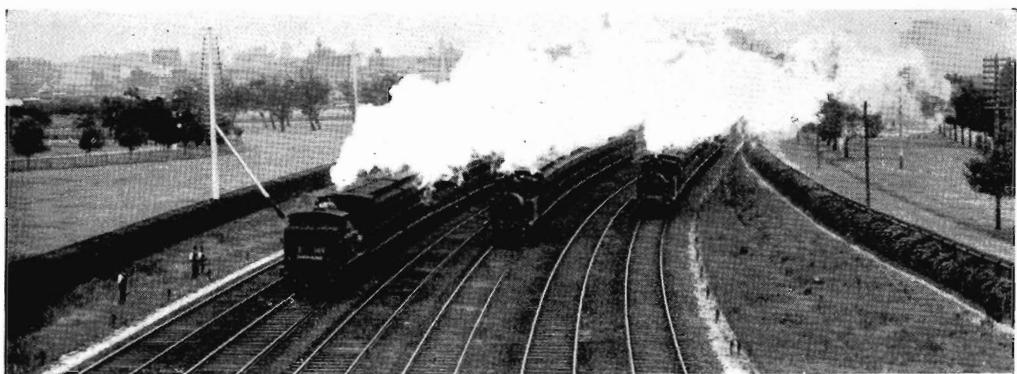
Minor additions were made until 1942, when the maximum of 4,766 miles was attained. But, since then, a progressive decline of mileage open for traffic has eventuated with the closing of non-paying sections because of continued heavy operating losses.

In 1952, the Joint Transport Research Committee, consisting of the Coordinator of Transport, as Chairman, and representatives of the Transport Regulation Board and the Railways Department, was formed, to investigate and determine whether traffic on non-paying branch lines could be carried more economically and more efficiently by road transport. The committee's recommendations have resulted in a large number of such lines being closed.* Route miles open in 1962 totalled 4,290 compared with 4,766 in 1942—a reduction of 476.

*p. 280

Comparative Table of Railway Construction

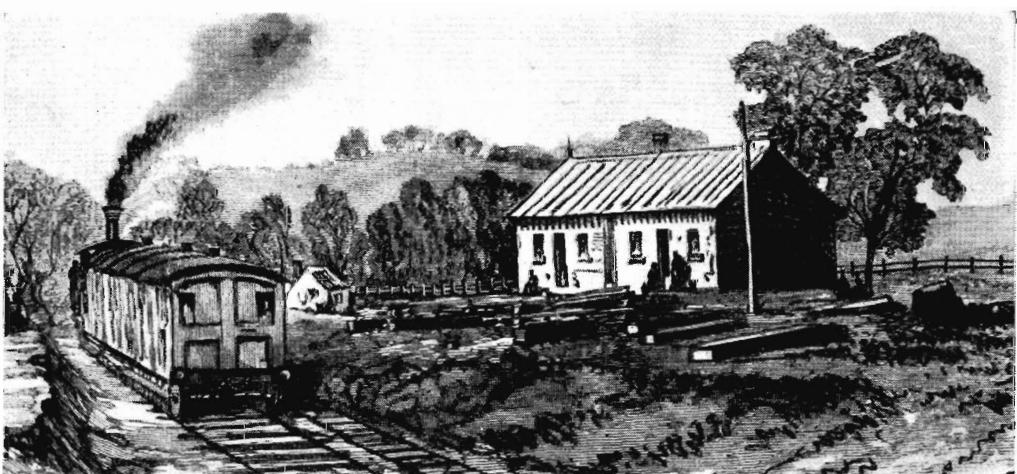
Years	Route miles open	Increase	Average yearly Increase
1859	26	—	—
1864	254	228	45.6
1872	313	59	7.4
1882	1355	1042	104.2
1892	2903	1548	154.8
1902	3319	416	41.6
1912	3622	303	30.3
1922	4317	695	69.5
1932	4717	400	40.0
1942	4766	49	4.9



Suburban trains steaming towards Richmond



Celebrations at Wodonga on completion of north-eastern line



Berwick station, about 1877



First load of Korumburra coal, October 28, 1892

VICTORIAN RAILWAYS. No. 808

Railway Opening to Hamilton

This Ticket is only available during dates 26th to 31st Oct.
for ONE RETURN JOURNEY from Ballarat
to the above-named place.

(See Conditions at back, which will be strictly enforced.)

Entd.

Mallattay

P. Habutowski

Acting Secretary.

OVER.



Ballarat station

Victorian narrow gauge lines

During the late 1880's and early 1890's, when the extravagances of the land boom were building up to the inevitable economic collapse, the high cost of railway construction in Victoria was causing public concern. But, as new lines were essential for country development, the Government revived earlier proposals to build narrow gauge railways.

After extensive political discussion, the question of the suitability and the necessity for narrow gauge railways was, in 1894, referred to the Parliamentary Standing Committee on Railways for investigation. By its report, dated October 10, 1895, the Standing Committee recommended that one or two trial lines be constructed in suitable districts.

Further inquiries followed as to the areas in which the trial lines were to be built. Preliminary surveys were made over routes from :

<i>Colac to Beech Forest</i>	<i>30 miles</i>
<i>Forrest to Beech Forest</i>	<i>31 miles</i>
<i>Beech Forest to Wattle Hill and Princetown</i>	<i>36 miles</i>
<i>Traralgon to Carrajung</i>	<i>23 miles</i>
<i>Traralgon to Carrajung via Callignee</i>	<i>31 miles</i>
<i>Wangaratta to Whitfield</i>	<i>31 miles</i>
<i>Ferntree Gully to Gembrook</i>	<i>19 miles</i>
<i>Lilydale to Yarra Junction</i>	<i>19 miles</i>
<i>Lilydale to Warburton, direct</i>	<i>23 miles</i>
<i>Whitfield to Mansfield</i>	<i>42 miles</i>

Eventually, the Standing Committee recommended that lines be constructed from:

Wangaratta to Whitfield
Ferntree Gully to Gembrook
Colac to Beech Forest and
Moe to Walhalla

The committee specified 2' 0" to be the gauge for the tracks as the cheapest form of building.

The first of the narrow gauge lines—from Wangaratta to Whitfield—was not commenced until late in 1897.

In the meantime, inquiries by the Standing Committee on narrow gauge extensions had continued. Among other matters recommended by the committee was that the gauge for the lines already approved, and any such others which might subsequently be sanctioned, should be 2' 6" instead of 2' 0". The recommendation was adopted by Parliament in February, 1898. As work on the Whitfield line was only in the preliminary stage, change to the wider gauge was made without trouble.

Writing in 1898, Railways Commissioner John Mathieson commented : “With respect to the narrow gauge lines which have been authorized, I desire to state that in my opinion they will be found to be very costly experiments.



above : *Arrival of first train at Walhalla*

right : *Trestle bridge, Gembrook line*

below : *Narrow gauge work train*



The estimated saving in cost of construction is relatively so small that it cannot possibly compensate for the delays in transit, transfer charges, additional cost of handling, and the general inconvenience necessarily involved in breaking the gauge on such branch lines."

Opening dates of the narrow gauge lines were :

The 30½ mile Wangaratta to Whitfield line was opened for traffic on March 14, 1899 ; Fern-tree Gully to Gembrook, 18½ miles, went into service on December 18, 1900. Then followed Colac to Beech Forest, 29½ miles, on March 1, 1902 ; Moe to Walhalla, 22 miles, May 3, 1910 ; and the 14 mile extension from Beech Forest to Crowes on June 20, 1911. The total 2' 6" gauge mileage then amounted to 122 route miles, plus 6½ miles of sidings.

Mathieson's objections to narrow gauge railways were proved to be sound soon after the lines began working. The subsequent history of the four groups showed generally a recurring series of annual deficits, which became progressively greater as road motor competition and rising costs made heavier impacts on operations.

The first closure of a narrow gauge railway was the section Platina to Walhalla on April 1, 1944. Eight years later, the portion from Erica to Platina was closed, and operations on the remaining section between Moe and Erica ceased on June 25, 1954. The entire line has since been dismantled. Service on the Wangaratta to Whitfield railway ceased on October 12, 1953, and the line was subsequently dismantled.

Resulting from an extensive land-slide beyond Belgrave in August, 1953, blocking the lines, the Ferntree Gully—Gembrook railway remained idle, and was permanently closed on April 30, 1954. Strenuous efforts were made by interested public groups to have the line cleared and traffic restored, but weight of experience was against such proposals. An organization known as The Puffing Billy Preservation Society arranged with the Department to work a train between Ferntree Gully and Belgrave on Saturdays, Sundays and holidays. The society, the members of which voluntarily sold tickets and cleaned the carriages, worked to arouse public enthusiasm to maintain the railway as a unique tourist attraction. Though good support was accorded the train, there was no evidence that payable week-day running could be restored.

Conversion of the line from Upper Ferntree Gully to Belgrave—3½ miles—from 2' 6" to 5' 3" gauge, equipped for electric traction, was recommended by the Parliamentary Public Works Committee in 1944. The new line opened for traffic on February 18, 1962.

Before conversion commenced, The Puffing Billy Society was informed that the Belgrave train service must cease on February 23, 1958. Large crowds travelled on the last trips, and many thousands of people assembled along the line to farewell the little train on its last run between Upper Ferntree Gully and Belgrave.

However, the society maintained its efforts to have the narrow gauge trains restored, and the Commissioners granted permission for an eight-mile portion of the line to be restored between Belgrave and the site of the former station, Lakeside. The work, which was carried out by volunteers of the society under

Departmental supervision, began within two months. A passenger terminal which included the former Belgrave station building was built a short distance from the new Belgrave station. Extensive new sidings were laid, with rails and sleepers from the dismantled section.

In November, 1958, the 3 Field Engineer Regiment, a Citizen Military Forces unit, assisted the society as a training exercise. An engine shed, coal stage, ash pit and inspection pits, were built.

The soldiers then "attacked" the land-slide blocking the line.

Members of various school railway clubs, rover scouts, and others assisted with the restoration.

The section from Belgrave to Menzies Creek was re-opened on July 28, 1962, when the first train was driven out by the Deputy Chairman of Commissioners, Mr. G. F. Brown. This was the first time in the history of the Victorian Railways that a narrow gauge railway line had been re-opened.

Services were scheduled for Saturdays, Sundays and public holidays, the line being operated mostly by volunteers, but the train crew supplied by the Railways.

Work then began on the restoration of the other four miles of track from Menzies Creek to Lakeside.

On the remaining narrow gauge railway—Colac to Beech Forest and Crowes—operation from Weeaproinah to Crowes ceased on December 10, 1954. (Crowes was the southernmost station on the Australian mainland.) The other portion closed for traffic on June 30, 1962.



Re-opening from Belgrave to Menzies Creek, July 28, 1962

And across the border to South Australia

Resulting from a conference in 1912 between the Victorian and South Australian Governments, an agreement was entered into for the joint construction of two lines to connect adjacent lines of the Victorian and the South Australian Railways' systems. The agreement was ratified in Victoria by The Victorian and South Australian Border Railways Act (No. 2424 of 1912). This authorized the construction of lines from Murrayville to Pinnaroo (16 miles) and from Malanganee (now Puralka) to Mount Gambier (18 miles).

Conditions of the agreement were that 40 per cent of the revenue derived from the conveyance over other lines—in either state—of traffic which originated or terminated on the border railways had to be paid into a "pool" account, from which any losses incurred in the working of the border railways would be recouped. The balance of the account would then be divided equally between the two states.

The Murrayville-Pinnaroo line opened for traffic on July 29, 1915, and that from Malanganee to Mount Gambier on November 28, 1917. Both were operated by the Victorian Railways Department and, under the terms of agreement, the "pool" or adjustment account commenced from July 1, 1918. Revenue from the lines was not up to expectations, however, and they were often listed in the yearly returns as "non-paying".

When the period of agreement expired in 1930, the Victorian Railways contributions to the "pool" account since 1918 amounted to £51,100, without any rebate. Under other provisions of the agreement, Victoria was obliged to pay, at the termination, a capitalization, on a four per cent basis, of the average annual profit made by Victoria at the expense of South Australia during the seven years ending at 1930. This "annual profit" was the net railway revenue derived in one state from all traffic to or from that state on the border railways in excess of the net revenue, similarly calculated, derived by the other state. The amount thus payable by Victoria was £236,800.

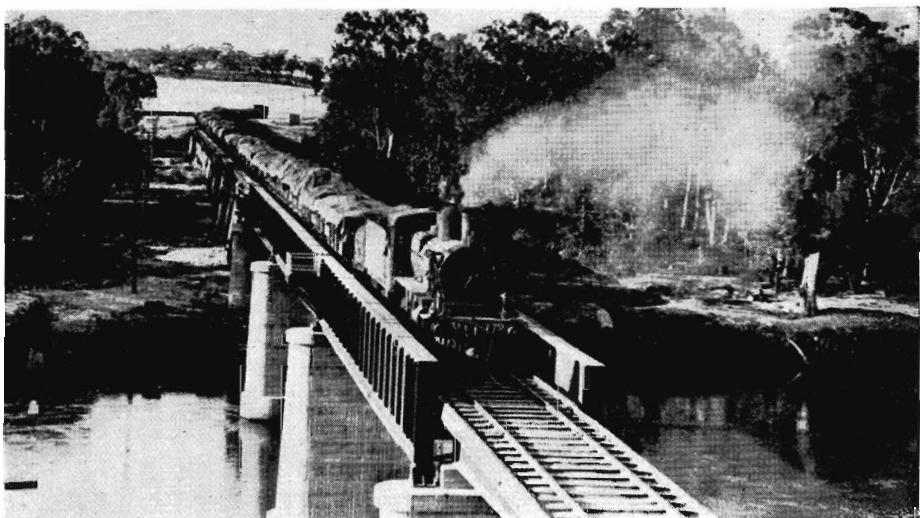
A new agreement between the two Governments on the working of the border railways, effective from July 1, 1930, was adopted under the authority, in Victoria, of Act No. 3922. Each state now retains, without adjustment of accounts, the revenues earned upon its own sections of the border lines. The Victorian Railways continue to operate the lines, but are paid an amount by South Australia to cover the working expenses on the South Australian section.

To New South Wales

Extension of border railways from Victoria into New South Wales was approved on September 14, 1922, under an agreement between the Victorian and New South Wales Governments, whereby the Victorian Railways Department was empowered to construct and operate lines into the Riverina district of New South Wales, linking with the Victorian system. The projected lines offered considerably reduced haulage to the seaboard, which otherwise was at Sydney. The agreement was confirmed in Victoria by The Border Railways (1922) Act, No. 3194.



Deniliquin and Moama Railway, Deniliquin, 1876



Bridge over River Murray, Yarrawonga-Oaklands line

The lines so authorized were :

<i>Barnes (on the Deniliquin-Moama railway) to Balranald</i>	<i>120 miles</i>
<i>Murrabit to Stony Crossing</i>	<i>39 "</i>
<i>Robinvale to Lette</i>	<i>32 "</i>
<i>Mildura to Gol Gol</i>	<i>38 "</i>

Soon after the passing of the act, an extension from Yarrawonga to Oaklands (38 miles) was approved.

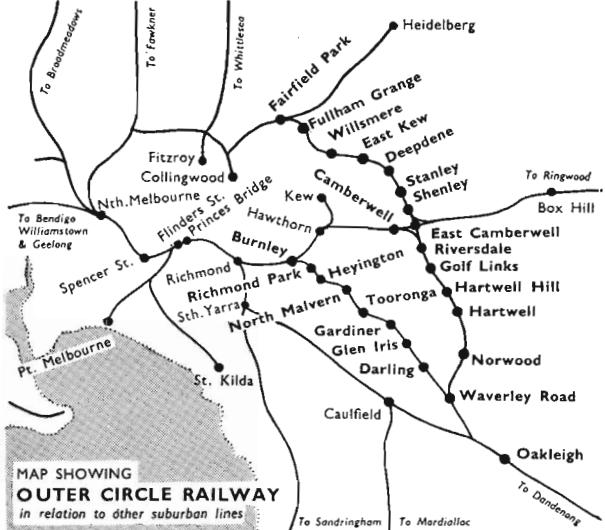
Under the terms of the Border Railways Act, the Deniliquin-Moama railway was acquired by the Victorian Railways on December 1, 1923.

Construction of the Balranald and the Stony Crossing lines commenced in 1924. They were opened for public traffic on March 26, 1926, and March 16, 1928, respectively. Work on the other railways was suspended during the 1929-1935 financial depression, building of the Robinvale to Lette line having been carried to Korakee (14 miles). Traffic to Korakee was worked by the Victorian Board of Land and Works (Railway Construction Branch) until February, 1943, after which operations ceased.

The Yarrawonga to Oaklands extension opened on August 15, 1938. Construction of the Mildura to Gol Gol line was not commenced, and plans for this railway are suspended indefinitely.

CHAPTER SIXTEEN

THE OUTER CIRCLE RAILWAY



Origin of the Outer Circle railway ; Plan abandoned ; Outer Circle authorized ; Railway opened ; Working and revenue ; Closing and re-opening ; Burwood bus ; Motor trains ; "Deepdene Dasher" ; Tramways competition ; Electrification ; Rail motors and road buses ; Dismantling of line ; Stations.

When, in 1866, the Government first considered building a railway to the "Gipps Land" district, the matter of the line's entry into Melbourne was, for the time being, incidental. The decision in 1872 to construct the railway inaugurated negotiations by the State that resulted in the purchase, six years later, of the Melbourne and Hobson's Bay United Railway Co.* The Government regarded the acquisition of the Hobson's Bay system as essential to provide an entry for the Gippsland line into Melbourne, among other things.

In July, 1873, Victorian Railways Engineer-in-Chief Thomas Higinbotham submitted plans and estimates of seven alternative routes to bring the Gippsland line into Melbourne. One of these was the "Outer Circle" railway, which commenced at Oakleigh and passed through Caulfield, Gardiner, Boroondara, Upper Hawthorn, Camberwell, Kew, Northcote, North Fitzroy, North Carlton and Hotham, to a junction with the main line near North Melbourne. The proposed railway was $15\frac{1}{2}$ miles long, and was estimated to cost £292,455. The through route from Oakleigh to Spencer Street was $16\frac{3}{4}$ miles, and the latter station would be made the point of arrival and departure for all traffic on Government lines.

Higinbotham opposed a suggestion to link the Gippsland line with the Hobson's Bay Co.'s system, to which running rights would have to be paid from the point of junction into Melbourne. He also resisted the proposal to purchase the company's railway. He maintained that the first expedient could be a temporary arrangement only, and must end either in the purchase of the company, followed by the construction of a junction line between Flinders Street and Spencer Street stations, or in the alternative of building the independent Outer Circle railway.

*Ch. 7, p. 38

In a further report, dated October, 1873, Higinbotham claimed the following advantages would be derived from the "Outer Circle" railway. It would :

- connect the Gippsland line with the existing Government system ;*
- provide railway service to a large and important suburban area ;*
- provide an easy and cheap means of extending railways to Heidelberg and other places north and north-east of the Outer Circle line ;*
- serve as an approach for all Government railways to a central passenger station, if this were subsequently found desirable.*

The first of the extended series of negotiations for the purchase of the Hobson's Bay United Railway collapsed in November, 1873 ; construction of the Gippsland railway was postponed and Higinbotham's plans for an Outer Circle line were abandoned. Eventually, purchase was ratified by Act of Parliament on November 14, 1878. The Gippsland line, by then nearing completion, was connected with Melbourne by way of Oakleigh to the Hobson's Bay system at South Yarra on April 2, 1879. Higinbotham had been removed from office on "Black Wednesday"**—January 8, 1878—and, of course, was not in the Railway Department when these events occurred.

*p. 120
General extension of the State railways was approved by Act of Parliament No. 682, assented to on December 28, 1880. Among the 23 new lines authorized were North Melbourne to Coburg (5 miles), and Clifton Hill to Alphington (2½ miles). These might well be regarded as portions of Higinbotham's proposed Outer Circle railway although not included in the term Outer Circle line used in later years to describe the connexion between the Heidelberg and Gippsland lines.

The former was opened for traffic on September 9, 1884 ; the latter, though completed in 1885, was not worked until May 8, 1888, when through running from Melbourne to Heidelberg began, *via* the newly completed Royal Park and Clifton Hill section.

According to unofficial information, the residents adjacent to the Clifton Hill-Alphington line arranged a local train service during the period in which the railway lay idle. A report claims that passenger traffic was worked with a gas engine, supplied by Messrs. John Danks & Son, fitted to a carriage. Operating between 9 a.m. and 5 p.m., the service was controlled by the train driver, who also acted as guard and ticket seller.

Then came the "Octopus Act"—No. 821, December 12, 1884. Included in the 66 new lines authorized by this Act were:

Burnley to Waverley Road (5½ miles), Royal Park to Clifton Hill (2½ miles), and the Outer Circle railway from Oakleigh to near Alphington (9½ miles).

The latter two lines, together with the two sections approved in 1880, traversed approximately the route of Higinbotham's "Outer Circle" plan. The Burnley to Waverley Road section later became known as the Glen Iris line.

Duncan Gillies, who, as Minister of Railways, introduced the Bill, declared that the Outer Circle railway would enable a considerable amount of goods traffic from the Gippsland line to be diverted from the suburban system between Oakleigh, South Yarra and Melbourne. Also, firewood traffic from the

Lilydale line could be worked through the Outer Circle for delivery to northern suburbs. When completed, however, the new railway was never used to any extent for these purposes. Other than for very limited local goods business, it was used for passenger traffic only.

More than three years after the passing of the "Octopus Act", Messrs. Graham and Wadick were, on April 13, 1888, awarded a contract to build the Outer Circle railway for £125,016. The route commenced at the Gippsland line near Oakleigh and terminated at Fairfield Park on the Heidelberg line—a distance of 9½ miles. The work did not include station buildings, or the supply of rails. Three weeks earlier, Messrs. David Munro and Co. contracted to build the Burnley to Waverley Road line (there joining the Outer Circle), 5½ miles long, for £58,169.

On March 24, 1890, the Burnley to Waverley Road line, and that portion of the Outer Circle railway from Waverley Road to Oakleigh—1 mile 5 chains—were opened for traffic. So far as can be ascertained, passengers from and to Melbourne changed trains at Burnley, from where a local service ran to Oakleigh. The time-table provided 14 trains each way daily, and six on Sundays. Stations from Burnley were : Richmond Park, Heyington, North Malvern, Tooronga, Gardiner, Glen Iris, Darling, Waverley, and Oakleigh.

Passenger service between Camberwell, Waverley Road and Oakleigh commenced on May 30, 1890. Travellers from and to Melbourne changed trains at Camberwell. Thirteen trips each way daily and six on Sundays were provided. Running time between Camberwell and Oakleigh occupied 19 minutes.

Through fares, Melbourne to Oakleigh, were :

1st-class : 1/- *single*, 1/6d. *return*
2nd-class : 9d. *single*, 1/1½d. *return*

Stations between Camberwell and Waverley Road were Riversdale, Hartwell, and Norwood (renamed Ashburton on December 12, 1890).

The final section of the Outer Circle railway—from Riversdale to Fairfield Park—was opened on March 24, 1891. This included a loop line about ¼ mile long, from near Shenley connecting with the Lilydale line near Canterbury. The loop was to provide an outlet for the expected firewood traffic, from Lilydale, that did not materialize. There is reason to believe that only very few trains, including one or two picnic excursions, travelled on the loop during the years it was in existence.

To avoid traversing the line from Camberwell to Riversdale to join the Fairfield Park section, it was proposed to construct a loop from near Camberwell to Shenley, but this did not eventuate.

Completion of the Outer Circle railway did not bring a through service between Oakleigh and Fairfield Park. Local services operated from Camberwell to Waverley Road and Oakleigh, and from Riversdale to Fairfield Park, connecting there with the Heidelberg line, which ran from Spencer Street *via* North Melbourne, Royal Park, and Clifton Hill. Passengers from and to Melbourne

(Princes Bridge) to Fairfield Park by way of the Outer Circle railway changed trains at Camberwell and Riversdale. A service to Oakleigh on the Glen Iris line from Burnley was maintained.

Eight trains daily each way served the Riversdale-Fairfield Park section; there were no trains on Sundays. Through fares from Melbourne were the same as those on the Oakleigh division. Intermediate stations between Riversdale and Fairfield Park were—Shenley, Deepdene, East Kew, Willsmere, and Fulham Grange. In addition to connecting with the Heidelberg service, the Fairfield Park line gave access to the Collingwood line, through Clifton Hill.

Traffic on the Outer Circle railway was very light, mainly because of the sparse population of the area served by the line. The longer distances to Melbourne and the “dead-end” working of the line sections were also contributing factors for the meagre patronage.

Operating economy was effected by substituting two Rowan steam cars for locomotives to work the local services, commencing on October 12, 1892. But the severe financial depression then prevailing reduced revenue to such an extent that the Deepdene to Fairfield Park section was closed on April 12, 1893—never to re-open for passenger traffic. The Riversdale to Deepdene portion was closed on December 14, 1893.

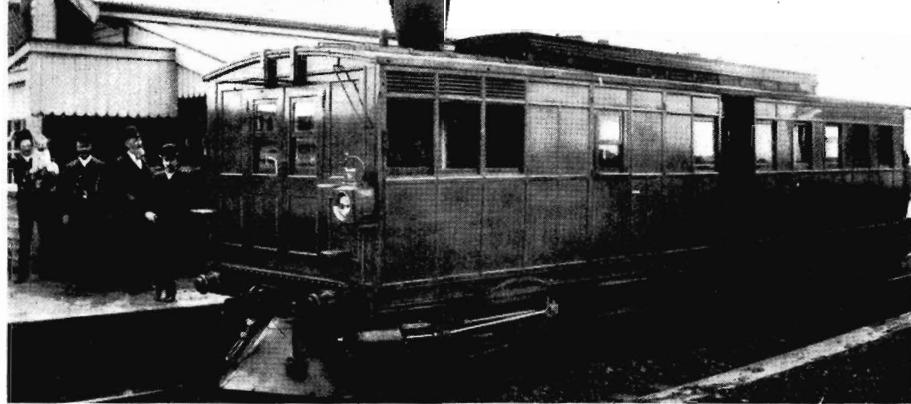
The service between Camberwell and Oakleigh continued, with a reduction to six trains each way daily, the majority terminating at Waverley Road, where connexion was made with the Melbourne to Burnley and Oakleigh trains.

No improvement in traffic returns resulted. On December 9, 1895, the Oakleigh to Ashburton section was closed, together with the portion of the Burnley line from Darling to Waverley Road. These sections, also, were never re-opened for traffic, and were subsequently dismantled. The remaining $3\frac{1}{4}$ miles from Ashburton to Camberwell was worked with seven trips daily, until the service was discontinued on April 30, 1895. The whole Outer Circle Railway from Oakleigh to Fairfield Park was then idle.

Following and during the closure of the line, a privately-owned horse cab service began working between Camberwell and Burwood. It was subsidized by the Railway Department at a yearly rate of £200. Starting from Camberwell station, the route traversed Burke, Camberwell, and Norwood Roads to the terminus at Burwood Post Office. Eight trips each way daily between 8.25 a.m. and 11.50 p.m. and three on Sundays, connected with trains at Camberwell. The cab journey between the terminals occupied 30 minutes, and the fare for rail passengers was 3d. Holders of railway periodical tickets from Riversdale, Hartwell and Ashburton travelled free.

The Camberwell to Ashburton line was re-opened on July 4, 1898, with seven return trips daily and the cab service was discontinued as a railway auxiliary.

Operations were resumed on the Riversdale-Deepdene section on May 14, 1900. A new station (East Camberwell) on the Box Hill line was opened on the same day. Here, a lower level platform had been constructed for working the Outer Circle railway. An additional station (Stanley) at Mont Albert Road, between Shenley and Deepdene, had also been erected.



No. 1 Rowan Car

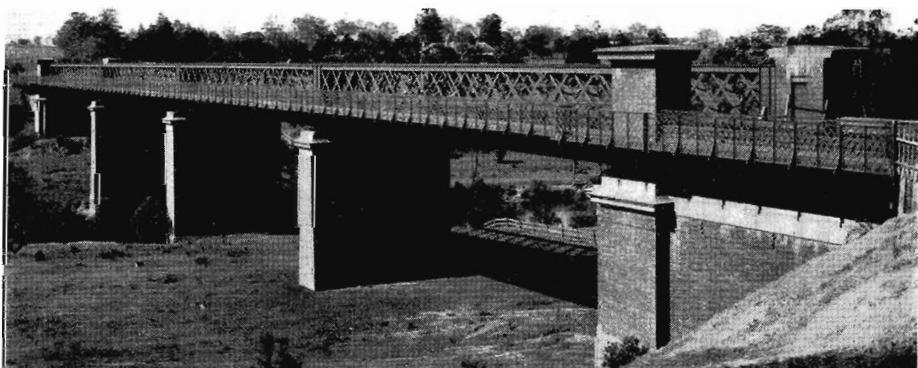
Through local working from Deepdene to Ashburton began with this restoration of service. East Camberwell station removed the necessity for the Outer Circle line trains running into Camberwell. Passengers from and to Melbourne changed trains at East Camberwell. Time-tables provided for 10 trains daily.

Despite strict economy and the adoption of the cheapest possible form of operation, the revenue from the Outer Circle railway was insufficient to cover working costs from the outset and losses on the line continued to increase. "Motor" type locomotives (Z class, 2-4-OT)* hauling two carriages, replaced the Rowan cars about 1900. From 1910, F class, 2-4-OT motor engines worked on the line, with usually one "American" pattern carriage. The "motor locomotives" were operated by an engine driver, without a fireman. Staff had been withdrawn from the stations in 1900, and the train guard issued and collected tickets at stations. The train was locally known as "The Deepdene Dasher."

With a gradual increase of population in the area, action was taken to have the Deepdene to Fairfield Park section re-opened. On May 5, 1909, a deputation representing the municipalities of Kew, Camberwell, Collingwood, Northcote, and Heidelberg waited on the Minister of Railways (Alfred Arthur Billson) to request that this line be restored to use. The deputation offered to provide a guarantee against operating losses.

In a report dated December 7, 1909, the Parliamentary Standing Committee on Railways, to whom the matter had been referred, recommended that land-owners near East Kew, who would benefit by the re-opening of the line, should pay £216 to cover the estimated loss on the first year's working and that the Kew Municipal Council should provide a guarantee of £216 yearly for 19 years (or such lesser sum as may be necessary) to meet the losses from the second year. Should the line pay expenses before the expiration of the 20-year period, the council's guarantee would be cancelled.

Outer Circle Railway Bridge over River Yarra, Fairfield



The recommendations were either not acceptable to Kew Council and the property owners, or were not approved by the Government. In any case, the Railways Commissioners were opposed to the re-opening of the line.

When the electric tramways system was extended across the Outer Circle railway to Burwood and other portions of Camberwell Municipality in 1912, such a large decrease in rail passengers resulted that one carriage instead of two was sufficient to accommodate traffic on the line. Between 1912 and 1918, the annual loss due to electric tramways competition was estimated to average over 250,000 passengers.

In 1918, the Parliamentary Standing Committee on Railways investigated the prospects of the line. The committee recommended on December 20, 1918, that the Deepdene to Ashburton line be closed for passenger traffic as from August 1, 1919, and that the portion from Burwood be then dismantled. The committee also recommended the immediate dismantling of the railway from Willsmere to Deepdene and from Ashburton to Waverley Junction.

The Railways Commissioners had, in 1918, recommended the closing and dismantling of the entire Outer Circle line. However, the Standing Committee's recommendations were not carried out, and service continued.

After the termination of the 1914-18 War, the population in the areas adjacent to the line rapidly increased. As part of the extension of the electrification of Melbourne suburban railways,* the Camberwell to Ashburton line was equipped for electric traction which was introduced on November 1, 1924.

Steam trains continued on the East Camberwell to Deepdene section until August 16, 1926, when rail motors were substituted.

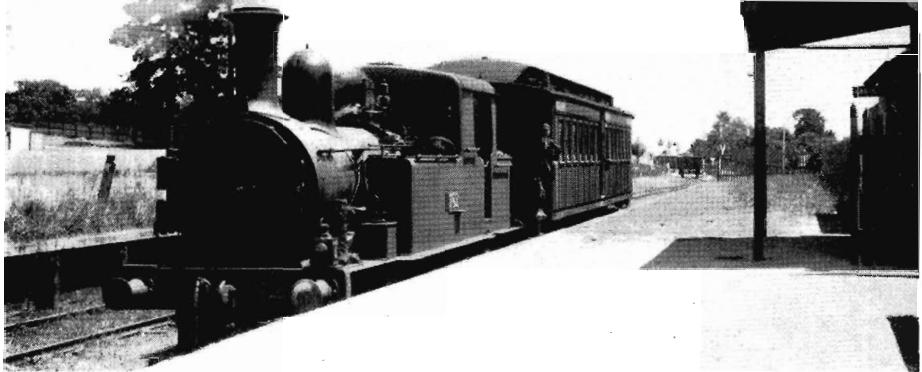
It was a regular sight to observe two rail motors, coupled back to back, working passenger traffic on the line. The rail motors were withdrawn on October 9, 1927, and a road motor omnibus service, still operating, began on October 10, 1927. This substitution brought about the permanent closure of the East Camberwell-Deepdene line.

From February 11, 1925, to September 6, 1943, a steam goods service worked, when required, between Riversdale and East Kew. A short section of track, about one-third of a mile long, from Fairfield to the Australian Paper Mills, is still in use for goods traffic to and from the latter.

Increasing population and widening of settlement beyond Darling (since 1895, the terminus of the Burnley to Waverley Road line) brought about an extension of the railway through East Malvern to Glen Waverley, a distance of six miles. Train operation on the first portion to East Malvern was commenced on February 3, 1929. The remaining five miles to Glen Waverley were opened on May 5, 1930, with through electric service to Melbourne.

To meet the requirements of a new residential area, the line beyond Ashburton was rehabilitated for a distance of about three-quarters of a mile in 1947. A new station, named Alamein, was opened on June 28, 1948, and is the present terminus of the railway from Camberwell.

*Ch. 17, p. 109



"Deepdene Dasher" at Deepdene

So, with the passing of the years, the Outer Circle railway has practically vanished. Of the line's total original length of about $10\frac{1}{2}$ miles (including the Canterbury loop and the Riversdale junction) only $3\frac{1}{2}$ miles now remain. These comprise a portion 30 chains long from Fairfield to the Australian Paper Mills, and the section from Riversdale to Alamein.

The other parts were dismantled at various times. The following list shows the sections of track taken up and the approximate dates on which they were removed :

<i>Canterbury loop line</i>	— 1903-04
<i>Neerim Road crossing</i>	— 1911
<i>Between Fulham Grange and</i>	
<i>East Kew ; and between</i>	
<i>Ashburton and Waverley Road</i>	
<i>(portions)</i>	— 1916
<i>From north side of Yarra</i>	
<i>to Princess Street, Kew</i>	— 1930
<i>Darling to Waverley Road</i>	
<i>(61 chains)</i>	— 1936-37
<i>From Princess Street to</i>	
<i>East Kew and Waverley Road</i>	
<i>to Oakleigh Junction</i>	— 8/6/1940
<i>From East Kew to</i>	
<i>Riversdale Junction</i>	— 25/5/1946

In 1929 the Yarra bridge, between Fulham Grange and Willsmere, was leased to the Board of Land and Works, together with a portion of the railway reserve sufficient to form a public roadway from the north side of the river to Princess Street, Kew. The bridge and new roadway form part of the Chandler Highway.

Alamein station



From time to time, several portions of the railway lands which became idle after the closing or dismantling of the lines were disposed of by lease or sale to the Kew and Camberwell municipalities, and to the State Electricity Commission of Victoria.

LIST OF STATIONS - OUTER CIRCLE RAILWAY

Name	Date opened
<i>Fairfield Park</i>	8/5/1888
<i>Fulham Grange</i>	24/3/1891
<i>Willsmere</i>	"
<i>East Kew</i>	"
<i>Deepdene</i>	"
<i>Shenley</i>	"
<i>Stanley</i>	14/5/1900
<i>renamed Balwyn -/12/1902</i>	
<i>renamed Roystead -/-/1922</i>	
<i>East Camberwell</i>	14/5/1900
<i>Riversdale</i>	30/5/1890
<i>Golf Links</i>	1909-10
<i>renamed Willison 23/7/1936</i>	
<i>Hartwell Hill</i>	1905-06
<i>renamed Hartwell 1/8/1909</i>	
<i>Hartwell</i>	30/5/1890
<i>renamed Burwood 1/8/1909</i>	
<i>Norwood</i>	30/5/1890
<i>renamed Ashburton 12/12/1890</i>	
<i>Alamein</i>	28/6/1948
<i>Waverley</i>	
<i>renamed Waverley Road 23/6/1890</i>	
<i>Oakleigh</i>	24/3/1890
	2/4/1879

BURNLEY TO WAVERLEY ROAD (Stations opened 24/3/1890)

<i>Burnley</i>	
<i>Richmond Park</i>	<i>Closed -/5/1890</i>
<i>Heyington</i>	
<i>North Malvern</i>	
<i>renamed Kooyong</i>	
<i>Tooronga</i>	
<i>Gardiner</i>	
<i>Glen Iris</i>	
<i>Darling</i>	
<i>Waverley Road</i>	<i>Closed 9/12/1895</i>

CHAPTER SEVENTEEN

ELECTRIFICATION OF THE RAILWAYS

First plan; Parliamentary interest; Merz plans; Suburban electrification approved; Construction; First electric train; Inauguration of service; Completion of scheme; Extensions

Following the practical application of electric traction in other countries, a proposal for its adoption on the Victorian Railways was made in 1896 by A. W. Jones, of the General Electric Co., U.S.A. He submitted a rather sketchy report suggesting the conversion of portion of the Melbourne suburban lines to electrical operation. Power would be supplied by three tramway dynamos each of 225 kilowatts capacity at 600 volts. With the current financial stringency, the Victorian Railways Commissioner (John Mathieson) opposed the scheme, owing to cost of installation and anticipated loss of revenue during the course of conversion.

The Jones plan, however, aroused Parliamentary interest. In 1898, a Select Committee of the Legislative Council was appointed to examine the possibilities of electric traction. This committee recommended that no new lines be constructed in the Melbourne suburban area until electrification had been more fully investigated. The committee suggested that some sections of the existing suburban lines should be changed to electric operation. No action resulted from this advice.

In 1901, another Parliamentary Committee inquired into the subject. It recommended that an electric traction expert be engaged to examine local conditions and advise the best system to adopt. The then Acting Commissioner (W. F. Fitzpatrick) approved of this recommendation, but again the matter lapsed.

During an official visit to Europe and America in 1907, Thomas Tait (later Sir Thomas), Chairman of Commissioners, engaged, on the authority of the Government, Charles Hesterman Merz, M.I.C.E., of London, to make a comprehensive investigation of the electrification of the Melbourne suburban lines.

Merz came to Melbourne in November, 1907, and after a full examination of the metropolitan railway system submitted in the following year a plan for the conversion of 124 route miles. A power station to be erected at Yarraville and equipped with seven turbo-generators, each of 5,000 kilowatts capacity, would supply energy at 12,000 volts alternating current on a frequency of 25 cycles through three-phase circuits. Converted to direct current of 800 volts, the energy would be distributed to trains by the protected conductor rail system. The scheme, proposed to be completed by 1912, was estimated to cost £2,227,000.

Anticipating a loss of £76,000 on the first year's operations (1912), the Commissioners opposed electrification. They requested the Government to defer action until further developments had been made in electric train operation.

The necessity for a general improvement in Melbourne's transport services caused the Government, in 1910, to establish a Metropolitan Traffic Commission to report on transport arrangements of the city and suburbs. The commission recommended that the suburban railways be electrified, and this advice was supported by the Parliamentary Standing Committee on Railways.



The Acting Prime Minister (W. A. Watt) speaking at opening of electrification, May 28, 1919

Though the Railways Commissioners were opposed to conversion, the Government, in 1911, requested Merz to review his 1908 plan and apply the latest practices to them. Merz modernized his scheme, which now included proposals for using either alternating current or direct current. He came to Melbourne in September, 1912, to discuss the subject with the Government.

With the alternating current system, energy was to be generated at 11,000 volts on a frequency of 25 cycles through three-phase circuits, distributed to sub-stations, and divided into three separate single-phase supplies, delivered by three wires to the trains. The direct current system gave energy generated at 3,300 volts alternating current, frequency 25 cycles, on three phases, transformed to 20,000 volts, and converted at sub-stations to 1,500 volts direct current for delivery to trains through overhead contact wires.

Separate quotations for the alternate systems had been obtained. These indicated a saving of £700,000 for direct current compared with alternating current supply. Further information also disclosed that direct current operation was more economical ; some reports claimed it to be 20 per cent cheaper.

The Commissioners favoured Merz's modernized plans. In November, 1912, a Parliamentary Select Committee examined the scheme and reported it to be satisfactory. In December, the Government authorized the electrification of Melbourne suburban railways, using direct current, at an estimated gross cost of £3,991,000.

Merz was commissioned to supervise the entire work. He returned to England, and arranged contracts for turbo-generators, boilers, switchgear, cables, and equipment for rolling stock. Mr. E. P. Grove was sent to Melbourne in October, 1913, as Merz's representative in Australia.

The site for the power station was changed from Yarraville to Newport, at the mouth of the River Yarra, from which an adequate flow of circulating water for condensers could be drawn.

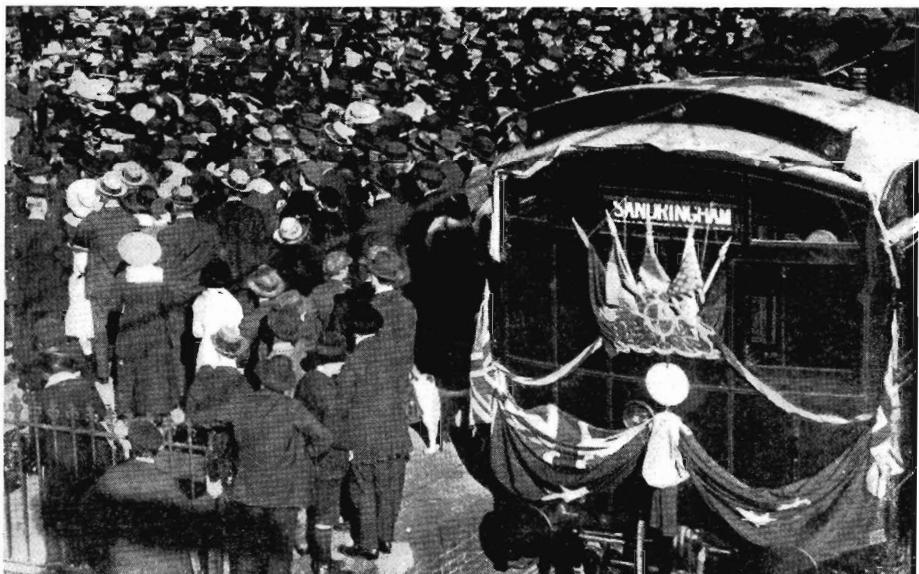
Construction of the power station started in December, 1913 ; and other local works, such as erection of certain sub-stations, commenced about the same time. The building of electric rolling stock and alterations to existing carriages

began during the following year. It was anticipated that the first electrified line—from Broadmeadows to Sandringham, 22 miles—would be in operation by the end of 1915. The entire scheme was scheduled for completion in 1917.

The First World War, however, considerably retarded progress. Delivery of machinery and other equipment from overseas was persistently delayed; costs increased to almost double the estimates.

On June 20, 1918, the first turbo-generator at Newport Power Station commenced to supply energy. An important event, which passed practically unnoticed, was the running of the first electric train on Sunday, October 6, 1918. Trial trips were made on the line between Newmarket station and Flemington Racecourse—a distance of $1\frac{1}{4}$ miles. This section became the instruction track for electric train drivers.

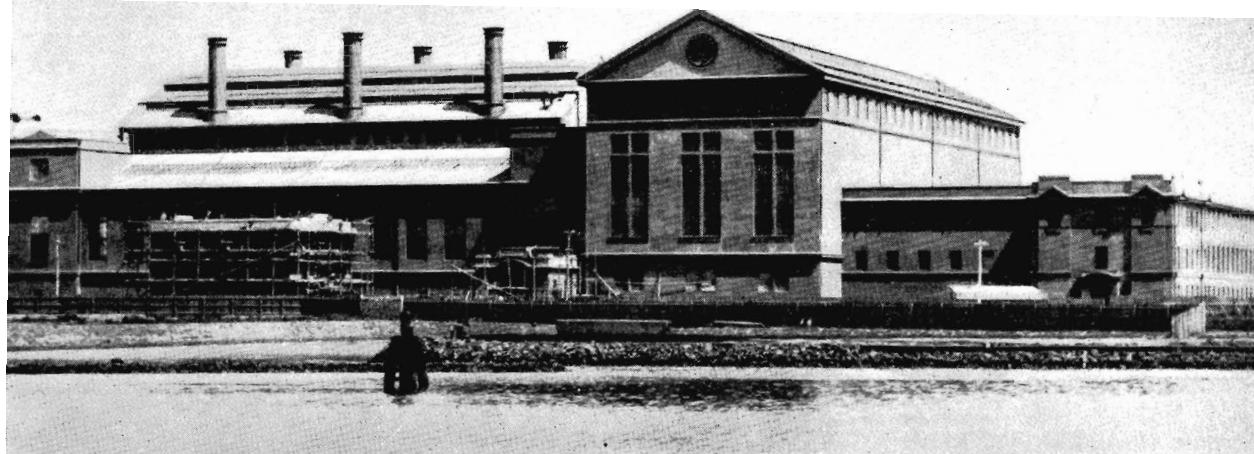
Eventually, on the afternoon of May 28, 1919, electric traction was inaugurated. A special train ran from Flinders Street to Essendon, where a short ceremony



Opening ceremony, Sandringham

was held. William Alexander Watt, Acting Prime Minister of the Commonwealth, gave an address. As Premier of Victoria in 1912, he had sponsored the electrification scheme. The train proceeded to Sandringham; and, on the next day, traffic between the latter place and Essendon was worked with steam service combined with a limited number of electric trains, gradually increasing to complete electric operation.

The lines from Flinders Street to St. Kilda and to Port Melbourne were changed to electric traction on August 31, and October 26, 1919, respectively. On April 15, 1923, the last section of the original electrification scheme was completed with the conversion of the Heidelberg to Eltham line.



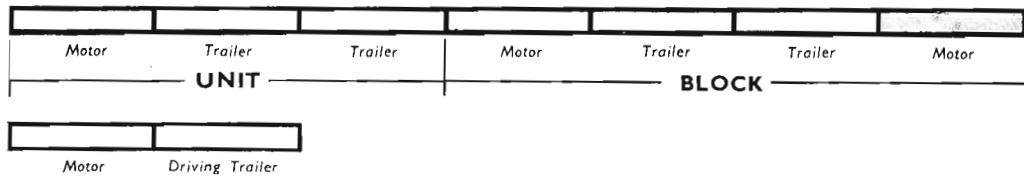
Newport Power Station, 1918

Though delayed six years beyond the original date set for completion, the great work of electrification of the suburban railways was brought to finality with smoothness and without dislocation of ordinary traffic. It was the first electric train service in Australia.

When completed in 1923, the electrified system consisted of 150 route, and 350 track miles. Capital expenditure amounted to £6,270,000 and the scheme, at the time, was one of the largest in the world.

Since then, electric traction has been extended to several sections of the outer suburban area, increasing the route and track mileages to 177 and 460, respectively.

Electric trains are made up of seven cars, on the multiple-unit principle, known as the block (four coaches) and the unit (three coaches) each train consisting of three motor coaches and four trailers. During off peak periods, the trains are reduced to four and two carriages, to suit the volume of traffic. On a few branch lines, for "local" services, a single motor is sometimes sufficient in slack periods. The diagrams illustrate this arrangement :



The Railways' power station at Newport (from 1924, known as Newport A to distinguish it from the nearby State Electricity Commission's stations) in addition to providing power for electric trains, departmental trams, workshops and other railway requirements, also supplied energy in bulk to several large consumers—principally the Melbourne City Council and the Melbourne Electric Supply Co. When the State Electricity Commission of Victoria commenced output in 1924, it gradually took over most of this bulk supply.

The original capacity of A Station was 79,000 kilowatts. Between 1939 and 1943, it was partly re-equipped with modern and more powerful generators

and boilers. Further modernization ensued in later years, being completed in 1951.

Following extended negotiations, the Railways' power station was transferred to the State Electricity Commission as from January 21, 1951. From that date, the commission took over all loan liabilities of the power station and the Railway Department ceased operations as a power generating authority. All departmental electrical energy requirements are now purchased from the Electricity Commission, and municipal suppliers.

Soon after the termination of World War II in 1945, a vast developmental project for the Latrobe Valley area in Gippsland was formulated and put in hand. Extensive increases in the production of brown coal and briquettes from Yallourn and the new field at Morwell were planned, together with general industrial expansion in central Gippsland.

To enable it to handle the growing traffic, the Railway Department planned the regrading and duplication of the track over a distance of 70 miles between Dandenong and Morwell, and electrification of the line from Dandenong to Traralgon—80 miles. Associated works included construction of a 4½-mile spur line from Moe to Yallourn and provision of a gravity marshalling yard at the latter place.

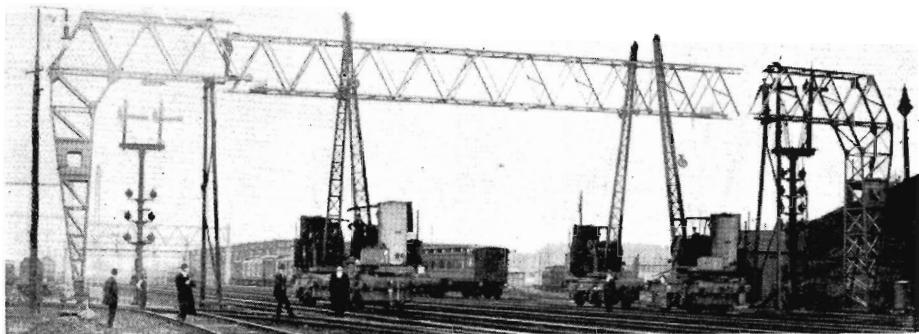
Regrading and duplication commenced in 1948, and electrification two years later. The collective works were considerably delayed by labour shortages, difficulties in obtaining materials and equipment, and curtailments of finance.

Despite these setbacks, electric traction—between Melbourne and Warragul—commenced on July 22, 1954. It was the first main line electrification in Australia. Extension of working from Warragul to Moe and Yallourn on September 19, 1955, permitted through haulage by electric locomotives of brown coal and briquette trains between Yallourn, Melbourne, and the Newport Power Station.

Electrification was completed on March 15, 1956, when the section of line from Moe to Traralgon was made available, thus making that portion of the

*Jolimont
sub-station*





Pin-arch overhead structure

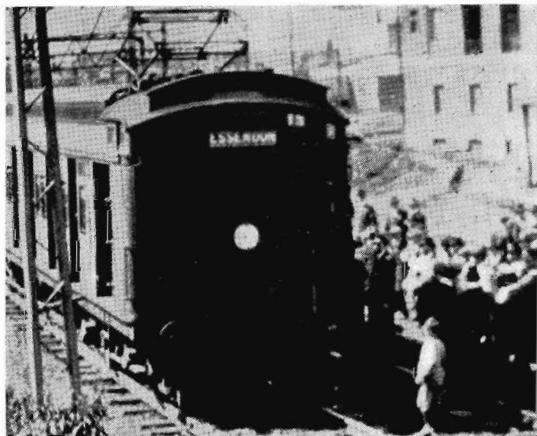
Gippsland railway from Melbourne to Traralgon— $97\frac{1}{2}$ miles—the longest electrified line in Australia,

The regrading and duplication works are nearing completion, double line working being in operation between Melbourne and Moe, a distance of $77\frac{3}{4}$ miles, with the exception of a small section between Bunyip and Longwarry.

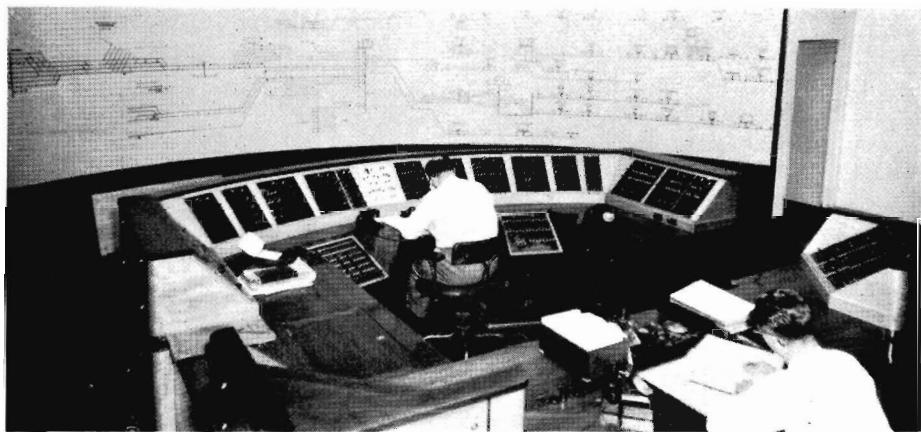
The Victorian Railways electrified system now comprises 264 route miles, and the total track mileage, including sidings, is 627.

Proposals for electrifying other country lines have been under consideration in recent years, namely, Geelong, Seymour, Bendigo and Ballarat. In 1950, the Parliamentary Public Works Committee recommended that the railway from South Newport to Geelong be electrified and partially duplicated at an estimated cost of £1,188,000. Duplication of the line was started early in 1958, but, owing to lack of finance, and other considerations, the electrification of this line, as well as other country lines, has been postponed.

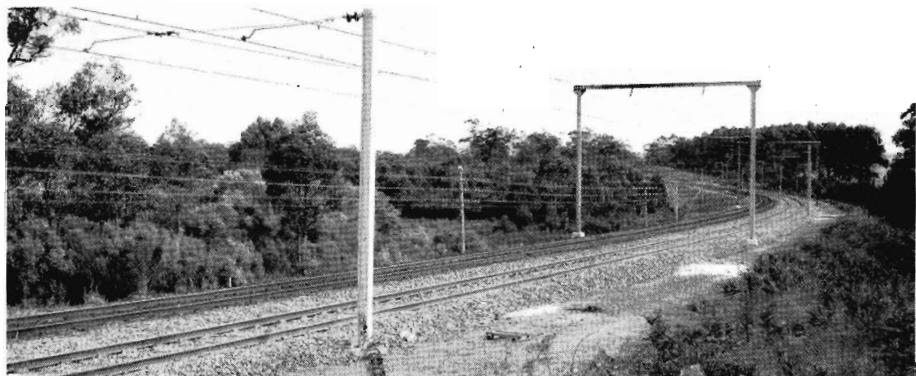
Commenced in 1949, a comprehensive long-term programme for the replacement of obsolete 25-cycle rotary converter sub-stations by 50-cycle, mercury-arc rectifier units will continue for many years.



*Test run of first electric train
in Australia, October 6, 1918*



Power Operation Room, Batman Avenue



Section of electrified line, Gippsland



First electric train between Melbourne and Traralgon, March 14, 1956

Planned in "areas", the Caulfield-Frankston-Dandenong group of 11 new sub-stations has been completed. In the Camberwell area, containing Lilydale, Ferntree Gully, Glen Waverley and Alamein lines, five new installations are in service.

The remainder of the suburban electric traction system is divided into :

North Fitzroy area : Hurstbridge, Thomastown and Coburg lines.

Newmarket area : Broadmeadows line.

Newport area : Williamstown, Albion and Altona lines.

Jolimont area : Sandringham line.

DATES ELECTRIFIED LINES WENT INTO SERVICE

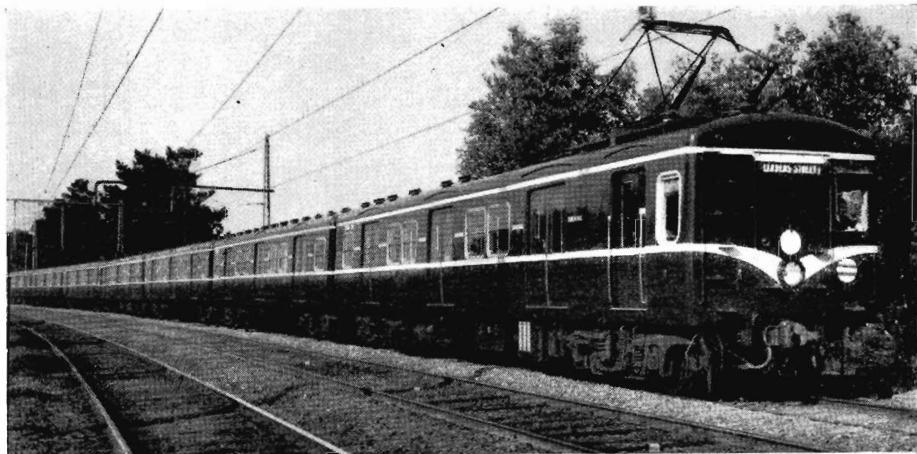
1919 : May 28	Essendon to Sandringham, inc. Flemington Racecourse
August 31	Flinders Street to St. Kilda
October 26	Flinders Street to Port Melbourne
1920 : August 27	Flinders Street to Williamstown
December 2	Flinders Street to Fawkner
1921 : July 31	Princes Bridge to North Fitzroy
	Clifton Hill to Reservoir
	Clifton Hill to Heidelberg
September 4	Essendon to Broadmeadows
October 2	Footscray to St. Albans
1922 : March 5	Flinders Street to Oakleigh
	Caulfield to Glenhuntly
June 6	Glenhuntly to Mordialloc
August 27	Mordialloc to Frankston
December 11	Oakleigh to Dandenong
December 17	Flinders Street to Box Hill
	Hawthorn to Kew
	Burnley to Darling
1923 : January 30	Box Hill to Ringwood
April 15	Heidelberg to Eltham
1924 : October 30	Camberwell to Ashburton
November 28	Ringwood to Croydon
1925 : October 12	Ringwood to Upper Ferntree Gully
November 30	Croydon to Lilydale
1926 : August 2	Eltham to Hurstbridge
October 2	Williamstown Racecourse to Altona
1929 : February 3	Darling to Eastmalvern
December 16	Reservoir to Thomastown
1930 : May 5	Eastmalvern to Glen Waverley
1948 : June 28	Ashburton to Alamein
1954 : July 22	Dandenong to Warragul
September —	Spotswood to Newport Power Station
1955 : September 19	Warragul to Moe and Yallourn
1956 : March 15	Moe to Traralgon
1959 : August 17	Fawkner to Upfield
November 30	Thomastown to Lalor
1962 : February 19	Upper Ferntree Gully to Belgrave

ELECTRIC ROLLING STOCK : 1962

Locomotives

Main line	25			
Suburban goods	10	Total	35	
Coaching stock				

			Swing-door	Sliding-door type	Total	
			type	" Tait "		
<i>Motor carriages</i>	109	259	99	467
<i>Driving trailers</i>	29	25	--	54
<i>Trailer carriages</i>	93	320	132	545
Totals	231	604	231	1,066
<i>Parcels vans</i>				9



“Harris Train”



R. Ford



R. Speight



A. J. Agg

CHAPTER EIGHTEEN

MANAGEMENT OF THE VICTORIAN RAILWAYS DEPARTMENT

Trustees ; Board of Land and Works ; Victorian Railways a temporary department ; Leasing the railways ; Effects of political changes ; Commissioners appointed ; Octopus Act ; Land boom ; Dismissal of Commissioners ; Economies ; Speight v Syme ; Rehabilitation

When the Government purchased the rights and property of the Melbourne, Mount Alexander, and Murray River Railway Co. in 1856, the undertaking was vested in the control of two Trustees — the Commissioner of Public Works and the Surveyor-General. The Trustees were immediately responsible to the Legislative Council—and the internal administration of the newly-formed Railway Department was directed by an Engineer-in-Chief and a Secretary. The Department's activities during 1856-57 were applied to the completion of the Melbourne to Williamstown railway and the preparation of plans and specifications for the various sections of proposed main trunk lines surveyed in 1855.

A Board of Land and Works, with David Moore as President, was established by proclamation of April 28, 1857, and assumed control of the Railway Department.

Later, concurrent with the Government's decision to build trunk lines, the Board of Land and Works was ratified (Act No. 31, November 24, 1857) with authority to construct any railways, among other public works, authorized by the Government, and given power to at all times inspect and supervise all railways, whether Government or private, in the Colony. By these enactments, control of the Railway Department was transferred from the Trustees to the board. Charles Pasley (Commissioner of Public Works), Clement Hodgkinson (Surveyor-General) and David Moore, M.L.A. (who was elected President) constituted the first Board of Land and Works. An amendment in 1858 to the board's Act of Establishment provided for the appointment of a Vice-President, dele-

gated, as a general rule, to the Commissioner of Public Works, who directed railway affairs. The board's first work was to call tenders and allot contracts for the construction of the trunk lines from Melbourne to Bendigo and from Geelong to Ballarat, the building of which commenced in June and August, respectively, 1858.

When the Government purchased the Geelong and Melbourne Railway Co. in 1860, the property was vested in the Board of Land and Works, which, under the powers of the purchase Act (No. 96) became an incorporated authority.

During the next few years, certain laws passed by Parliament produced some conflicting results in connexion with the position of the Railway Department. The Civil Service Act (No. 160) of June 18, 1862, for regulating the conditions of public servants, relegated the railways to the category of a "temporary" Department, probably because of the original intention to lease the railways when building was completed. This "temporary" status had, however, no time limit and the Department remained as a lawfully constituted body. The application of the Act seems to have affected certain conditions of staff privileges only.

In 1863, an Act for the Better Management of Railways (No. 186) gave authority, among other things, for the Board of Land and Works to lease the Government owned railways "to any person willing to take the same at any time for any term not exceeding seven years". The board was declared to be "a common carrier"; it was excluded from payment of municipal and other rates; and it was empowered to make by-laws for the general regulation and management of railways. The Public Works Act of 1865 (No. 289) consolidating the laws relating to public works, confirmed the powers of the Board of Land and Works concerning the management of railways.

The matter of leasing the railways had its genesis at the time the Government first considered building trunk lines.* It continued a familiar subject for questions in Parliament between 1860 and 1865, but successive Ministries expressed objection against any proposal to hand over the railways to private operation. However, there was no indication at any time that private enterprise was willing or able to accept the responsibility. In the late "seventies", when "cheap railways" was still a favourite topic in Parliament, the leasing of the railways again came up for consideration, without success.

In the years following the inauguration of the Government railways, and especially after the establishment of the Railway Department, the effects of considerable political influence were felt. This was the inevitable result of the many changes of Ministry that occurred. During the 26 years from the establishment of the Board of Land and Works in 1857 until the passing of the Victorian Railways Commissioners Act in 1883, there had been 20 Ministries in office; 24 Presidents of the Board of Land and Works had occupied the position; and 32 Ministers, under the various titles of Vice-President of the Board of Land and Works and Commissioner of Public Works, or Commissioner of Railways, or Commissioner of Railways and Roads, had dabbled in the management of the Railway Department. Each had his own particular views as to how railways should be directed. As an item for historical mention, Thomas Loader was

*p. 8; Ch. 4, p. 19

the first to be listed as "Commissioner of Railways", holding office from November 26, 1860, to December 4, 1860; but the usual title for the position was Vice-President of the Board of Land and Works and Commissioner of Railways and Roads.

Obviously, the business management of the Department was adversely affected by the procession of political heads. Nepotism existed; intrusion in railway affairs, particularly engineering matters, was apparently the assumed prerogative of members of Parliament, several of whom were shareholders in the only remaining privately-owned railway in the Colony. There is sufficient evidence that, at several periods in the early history of the Railway Department, supervision was lax, standards of efficiency needed improvement, extravagance often went unchecked, and the service generally called for stabilized guidance.

Nor had the stability of the Department been helped by the events of "Black Wednesday". In the general election of May, 1877, the Graham Berry party was voted into power in the Legislative Assembly. Berry (later Sir Graham) and his Ministry favoured payment to members of Parliament; the Legislative Council opposed the principle. Arising from attempts by the Assembly to force a measure providing £300 yearly for members, the Council in December, 1877, rejected an Appropriation Bill. This action debarred the Government from obtaining money to carry on public services. A political deadlock occurred; Berry adjourned the Legislative Assembly until February 5, 1878.

To conserve the funds previously granted to the Government, the Berry Ministry proclaimed an expedient, infamous for its injustice and the hardships caused. On the afternoon of January 8, 1878, a Government Gazette Extraordinary was issued, naming 137 officials removed by the Governor-in-Council. Included among the judges, magistrates, coroners, heads of departments, and many civil service subordinates ruthlessly sacked were the Engineer-in-Chief of the Railways (Thomas Higinbotham) and several of the staff. The dismay which the dismissals caused gave the name "Black Wednesday" to the day, in sardonic parody of "Black Thursday", February 6, 1851—Victoria's day of widespread bushfires.

More dismissals were made by later proclamations; a state of near panic struck as money values fell, and trade and commerce were partially paralysed. By various political methods, the Government obtained money to restore some economic order, and eventually the deadlock between the two Houses of Parliament was ended. By April, 1878, most of those dismissed were re-employed; those not restored, including Higinbotham, were compensated.

A desire to place the Department on an improved basis of management had been gaining strength for some years. On November 1, 1883, The Victorian Railways Commissioners Act 1883 (No. 767) was passed by Parliament "to make better provision for the construction, maintenance and management of the State Railways". The Act, which became operative from February 1, 1884, provided for the appointment by the Governor-in-Council of three Commissioners as a body corporate by the name of "The Victorian Railways Commissioners", with perpetual succession. The authority of the Board of Land and Works



Royal train provided for the use of
Princess Alexandra, 1959.



"Puffing Billy's" last trip between Upper Ferntree
Gully and Belgrave, February 23, 1958.



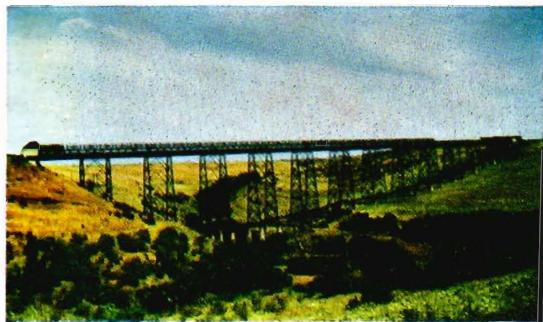
Peaceful gardens at Newport Workshops provide a
contrast to the activity of the 'Shops.



Garratt locomotive hauls pulpwood logs on the Beech Forest
narrow-gauge line, closed June 30, 1962.



Diesel-hauled passenger train
crosses the now picturesque
Malmsbury Viaduct.



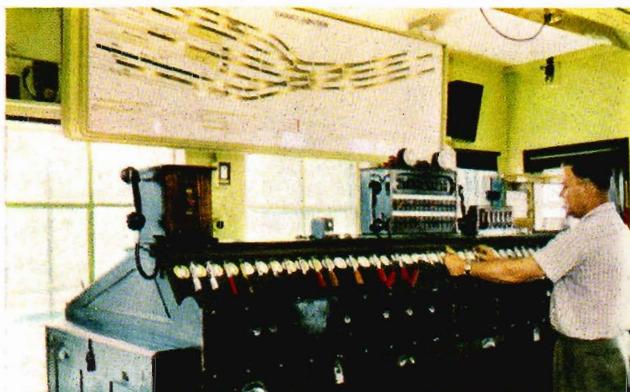
Victoria's highest railway bridge, over the Maribyrnong River, between Albion and Jacana, was built in 1929.



Building the bridge over the Broken River, Benalla, 1960, to carry the standard gauge track.



Flinders Street station, hub of Melbourne's suburban rail service



Miniature lever frame, Viaduct Junction signal box, Spencer Street



Seven-car "Tait" carriage suburban train



One of second batch of 30 "Harris Trains" for suburban service



Experimental suburban carriage, from which the design of the "Harris" cars was evolved.

relating to the construction, maintenance and management of the Railways was vested in the Commissioners by virtue of the Act, and the board was thus entirely separated from the Department. Control by Parliament was retained by the fact that the Commissioners had no funds except those provided for their use by the Legislature, and that regulations and by-laws (including those fixing fares and freights) had to be confirmed by the Governor-in-Council.

The first Commissioners were Richard Speight, who was brought in from the Midland Railway Co., England, as chairman, Alfred John Agg, and Richard Ford. The Department's organization consisted of the following branches :

Engineer-in-Chief's ; Existing Lines ; Secretary's ; Traffic ; Accountant's ; Locomotive ; and Telegraph (dates of branch formations are detailed in the Appendix).

Additional to the management of 1,600 miles of railway already in operation, the new administration started off faced with a stupendous programme of railway construction, authorized by Parliament, whereby 66 lines were planned by one of the "Octopus" Acts, No. 821. Greater even than the extravagances of the gold era, there arose in the "eighties" a frenzy of speculation in real estate ; a period of financial riot recorded in Victorian history as the Land Boom. The Government, unable to keep pace with the whirl of spending, allowed the situation to get out of control. The inevitable crash and resultant chaos brought ruin to thousands of Victorians, and severe economies in public works expenditure. The Railways, which returned a profit of £34,000 in 1889, incurred successive deficits totalling £1,330,000 during the next four years.

Inevitably, the Railway Department received heavy attacks from critics, many of whom had clamoured for additional (and often unsuitable) lines. Parliament, with the rosy optimism of the day, had ardently granted funds for the construction of railways in all directions ; but it now realized the need for a much closer examination of the probable financial consequences. To do this, a Parliamentary Standing Committee on Railways was established in 1890 (Act No. 1177) to consider and report on all railways to be constructed in the future (except those already authorized) where the cost of the work exceeded £20,000.

In addition, Parliament considered it desirable to separate the work of constructing railways from that of operation and maintenance, and also to institute a check upon the activities of the Commissioners in various respects. It did this by means of Act No. 1250, effective from January 1, 1892. This Act restored the Board of Land and Works as the railway construction authority ; also, it greatly extended the powers of the Minister of Railways, in his relations with the Commissioners, and required the Commissioners to obtain the consent of the Governor-in-Council in a number of matters that had not previously been subject to direct control. The methods of control thus introduced are still retained, except that some of the Ministerial powers were later transferred to the Governor-in-Council.

The Board of Land and Works (Railway Construction Branch) is still the constructing authority for all new railways. The executive head of the Railway Construction Branch is the Chief Engineer for Railway Construction, the title having been changed from Engineer-in-Chief in 1907.

Soon after Act No. 1250 came into force, urgent and drastic retrenchment became the order of the day. The Commissioners (Speight, Ford and Greene) were called upon by the Minister of Railways, William Shiels, to prepare a plan to reduce expenditure by £100,000 and increase revenue by £150,000. Their proposals were not satisfactory to the Minister, who regarded the Commissioners' attitude as obstructive rather than co-operative. Shiels, who became Premier in February, 1892, arranged for the suspension of the Commissioners by the Governor-in-Council. On March 17, 1892, their appointments were terminated.

Then followed for the next four years a succession of Deputy Commissioners and Acting Commissioners, who had to carry out the difficult task of financial rehabilitation of the Department.

During this period of financial stringency and ruthless economies, there arose the sensational libel case of Speight versus Syme. Between 1890 and 1893, "The Age" newspaper (Melbourne) published a series of articles severely criticizing the administration of Messrs. Speight, Ford and Greene. The articles repeatedly accused the Commissioners of condoning political influence, of extravagance, waste and incompetence, of indulging a "huge and rotten administrative system", and of defiance of Government authority. The writings created intense public interest and controversy.

Speight issued a writ for libel, covering 11 specific instances, against David Syme, proprietor of "The Age", claiming £25,000 damages. The case opened at Melbourne on June 1, 1893, before a judge and full jury, and continued for seven months. On January 2, 1894, Speight was awarded £100 damages on one instance, but the jury could not reach agreement on the other 10 items.

A second trial commenced on April 17, and lasted until September 26, 1894. Speight gained a verdict of one farthing damages on one charge, but the jury found in favour of Syme on the remaining nine items.

These contemptuous assessments of damages gave a moral victory to Syme, who, in later years, was reported to have said that the case cost him £50,000. Speight's expenses were at least £12,000. Financially ruined and broken in health, he retired to Western Australia, where he died in 1902.

Towards the end of 1895, an attempt was made in Parliament to completely change the form of management of the Railway Department. Sponsored by the Minister of Railways (Henry Roberts Williams) a Bill to create a Victorian Railways Trust and to further amend the law relating to the Victorian Railways was introduced in November.

The Bill provided for the abolition of Railways Commissioners and the substitution of a Trust, consisting of the Minister of Railways, as ex officio Chairman, and four members appointed by the Governor-in-Council. However, the proposal lapsed, but an Act (No. 1439), passed on March 6, 1896, reduced the number of Commissioners from three to one.

John Mathieson was appointed sole Commissioner on July 1, 1896, and continued in office until 1901. During his term of management, he was compelled to maintain the rigid economies forced upon his predecessors. But deficits were still the melancholy result at the close of each year, though tending



W. F. Fitzpatrick



J. Mathieson



T. Tait

to be smaller. In the five years that Mathieson was Commissioner, the deficiencies of revenue to meet interest charges amounted to £1,500,000 compared with £1,700,000 during four years prior to his term.

When Mathieson resigned in 1901, William Francis Fitzpatrick became Commissioner. His period of office was marked by a season of drought in 1903, which brought a sharp increase in the deficit for that year. Probably the necessity for easing the great burden of managerial responsibility, carried by one man, caused the Government to enact legislation for the restoration of three Commissioners. This was authorized by Act No. 1825, assented to on April 6, 1903, when Thomas (later Sir Thomas) Tait, former Assistant General Manager of the Canadian Pacific Railway Co., was appointed Chairman, with Charles Hudson and W. F. Fitzpatrick as Commissioners.

Since that year, management of the Victorian Railways has remained under the jurisdiction of three Commissioners, who, through the Minister of Transport, are responsible to the Government. They are appointed for varying terms, the Act prescribing seven years as the maximum. Though several Royal Commissions of inquiry have, on various subsequent occasions, examined the general affairs of the Department, there has not been any serious suggestion for an alternative form of management.

The last was in 1949, when Mr. (later Sir) John Elliot was invited by the Government to investigate and report upon the Railways and generally to review the transport arrangements of Victoria. Mr. Elliot, who was then Chief Regional Officer, Southern Region, British Railways, mentioned in his report :

"I questioned Commissioners, Heads of Branches and District Officers on every phase of railway activity. I made careful and indeed searching inquiry concerning the theory and practice by which the Victorian Railways are administered and operated.....I am of the opinion that the Victorian Railways are efficiently managed, the Heads of Branches and their principal assistants are men of high professional competency, the staff are well trained, and the standard generally, but particularly in safe operation, is fully equal to that on systems of similar size and character in other parts of the world.

I met and held discussions with superintendents, managers, foremen, drivers, firemen, guards, signalmen, shunters, stationmasters, porters, clerks and typists. It has been a gratifying experience to meet so fine a body of men and women with such a universal pride in their calling.

Generally speaking, they have revealed a high standard of technical and operating training and ability".

The organization of the Railways is now on the modified departmental system, with nine separate branches, their heads being responsible directly to the Commissioners.

Under the direction of the Secretary for Railways, the Secretary's Branch is responsible for important policy and high administrative work. Its Staff Board is the " clearing house " for all matters concerning the wages, hours and working conditions of the 600-odd grades in the service ; this board also prepares and submits material to the Commonwealth Arbitration Court and other Industrial Tribunals.

The Commissioners' Representative, Transport Regulation, is primarily concerned with the effect of, and action taken to meet, road-motor and air service competition. Also included in the branch is the Public Relations and Betterment Board, which is responsible for publicity, and suggestions for improvement ; the legal and medical sections and the ambulance organization.

The Rolling Stock Branch is under the direction of the Chief Mechanical Engineer, who is responsible for the design, construction, operation and maintenance of all locomotives and rolling stock. The operating section of the branch is divided into five districts, each supervised by a Superintendent—one located in Melbourne and the others at Ballarat, Bendigo, Geelong and Seymour.

The workshops section of the branch comprises five workshops, located at Newport, Jolimont, North Melbourne, Ballarat North and Bendigo North, with a Workshops Manager directly in charge of each location.

The Way and Works Branch, under the direction of the Chief Civil Engineer, maintains all tracks, bridges, structures, buildings, signals, interlocking and communications, as well as providing the design and organization for any replacements, remodelling or regrading of way or works.

Six District Engineers are responsible for maintenance in their respective districts, and for minor capital expenditure. Workshops exist at Spotswood and North Melbourne.

The Chief Traffic Manager controls the operation of passenger, goods, live-stock, and parcels traffic by rail and also by departmental road services. For operating purposes, the State is divided into six districts, each under a District Superintendent.

The Chief Electrical Engineer designs, operates and maintains the electrical distribution system, the sub-stations and the overhead gear for the electric traction system. He is also responsible for the installation and maintenance of station lighting and other electrical equipment.

Under the Comptroller of Accounts, the Accountancy Branch is responsible for the collation and preparation of the annual estimates of expenditure ; the recording of all financial and statistical transactions ; the audit of disbursements, payrolls, accounts, claims, etc. ; the control, safe custody and audit of revenue cash, deposits, securities, and other funds ; and the payment of salaries and wages and certain accounts.

The Commercial Branch is administered by the Chief Commercial Manager who is responsible for goods, live-stock, and parcels rates and passenger fares; weighing, solicitation of traffic and meeting competition ; claim prevention and correct packaging of goods ; the settlement of claims for loss and damage of goods ; and action against Railway by-law offenders.

The Stores Branch is under the control of the Comptroller of Stores, who is responsible for the purchase, receipt, custody, issue, and accounting for all stores and materials. Other activities include the control of the Printing Works, North Melbourne, and the Reclamation Depot where obsolete and surplus stores and materials are sold. To facilitate operations, Storehouses are established at all appropriate points. The Comptroller of Stores is represented by a Storekeeper in each of five districts and at main metropolitan Storehouses.

The Refreshment Services Branch is under the direction of a Superintendent who controls the whole of the food, fruit, confectionery, drinks, tobacco, and bookstall services conducted by the Department. The sale of advertising space on railway premises ; and the management of a guest-house at Mt. Buffalo National Park, together with staff hostels, hair-dressing saloon, flower stall, bakery, butchery, poultry farm and laundry, are among other activities of this branch.



H. W. Clapp



N. C. Harris



R. G. Wishart



E. H. Brownbill



G. F. Brown



E. P. Rogan

BRANCH	TITLE OF HEAD	FUNCTIONS
SECRETARY'S	SECRETARY FOR RAILWAYS	Policy and administrative work ; general staff matters ; transport regulation as it affects the Railways ; public relations ; legal and medical sections
ROLLING STOCK	CHIEF MECHANICAL ENGINEER	Design, construction, operation and maintenance of all locomotives and rolling stock
WAY AND WORKS	CHIEF CIVIL ENGINEER	Maintenance of tracks, bridges etc. ; construction and maintenance of station buildings and other works ; installation and maintenance of signalling, interlocking, telephone, and telegraph equipment
TRAFFIC	CHIEF TRAFFIC MANAGER	Operation of passenger, goods, livestock, and parcels traffic by rail and road
ELECTRICAL ENGINEERING	CHIEF ELECTRICAL ENGINEER	Design, operation and maintenance of electrical distribution system, sub-stations and overhead gear ; installation and maintenance of station lighting and other electrical equipment
ACCOUNTANCY	COMPTROLLER OF ACCOUNTS	Collation and preparation of annual estimates of expenditure ; recording all financial and statistical transactions ; audit of disbursements and revenue ; payment of salaries and wages
COMMERCIAL	CHIEF COMMERCIAL MANAGER	Goods, live-stock, and parcels rates and passenger fares ; weighing ; solicitation of traffic and meeting competition ; claim prevention and correct packaging ; settlement of claims ; action against by-law offenders
STORES	COMPTROLLER OF STORES	Purchase, receipt, custody, issue, and accounting for all stores and materials ; control of printing works and reclamation depot
REFRESHMENT SERVICES	SUPERINTENDENT OF REFRESHMENT SERVICES	Controls food, fruit, confectionery, drink, tobacco, and bookstalls services ; advertising space on railway property ; The Chalet, Mt. Buffalo ; staff hostels, bakery, butchery, poultry farm and laundry



Revenue; Depreciation; Loan liability; Fares and rates; Effects of First World War; Fare reductions; Rate wars; "Operation Phoenix"

The Railway Department has no power to dispose of its revenues. Financially, it is in the same position as a junior who hands his wages to his parents, and in turn receives an allowance for his expenses. All railway earnings are paid into the State's Consolidated Revenues, and all working expenditure is met from Treasury votes passed by Parliament. With an annual allotment, as determined by Parliament, the Department is often placed in an invidious position for forward planning.

From the Department's inception, revenue each year (with a few exceptions) has exceeded expenses to produce an average investment return of three per cent on capital. The greatest deficit in the Department's history occurred in 1951-52 when the net revenue was £3,600,288 short of working expenses, plus £2,348,296 for interest and other charges : £5,948,584 in all. The biggest surplus, after payment of fixed liabilities amounted to £787,703 in 1942-43. Highest gross revenue of £43,037,446 was received in 1960-61.

Since 1856, the capital cost to Victoria for the construction of its railways has been £162,000,000. The financing of this huge amount has been met, mainly, from loans raised by the State until 1927, and, since that year, by the Commonwealth Government on behalf of all the states and itself. For many years, the greater portion of loan money was subscribed by British investors, but since the early "nineteen-hundreds", funds have been obtained mostly from local sources.

The first liability for the Victorian Railways was incurred in 1856 by the issue of debentures for £68,100 to purchase the Mount Alexander Railway Co. In November, 1857, Parliament granted authority to raise £8,000,000 for the construction of trunk lines Melbourne to Bendigo and Echuca, and Geelong to Ballarat. As new lines, extensions and works were undertaken in succeeding years, additional loans were raised. Occasionally, for surveying new lines and other purposes, interest free treasury grants were authorized. These allotments were added to the Railways capital account.

Unfortunately, no serious attempt was made until 1937 to establish a depreciation fund for Railway assets. The value of Departmental property—lines, buildings, rolling stock and other equipment—remained at original cost throughout the years. Thus a considerable portion of this book value consisted of depreciated or vanished assets.

Especially was this so for rolling stock, many units of which had been scrapped or sold, or had by age and wear become unserviceable. All were included in the stock lists until the matter was corrected about 50 years ago. Since then, only existing units are shown in the registers each year.

On several occasions, between 1866 and 1870, Engineer-in-Chief Higinbotham recommended that, to maintain the value of Departmental property, a Renewals Fund be established, accumulating at interest, to finance the purchase of engines, rolling stock, and rails when required, instead of making a direct charge on loan funds or debiting the revenue account. The recommendations were not adopted.

More than 40 years ago, the Commissioners urged that the Department be relieved of the burden of "dead" or fictitious capital, and reiterated the plea at recurring intervals. They were supported in their recommendations by various Commissions of Inquiry on railway affairs.

Eventually, by Parliamentary authority, £30,000,000 of Railways loan liability was transferred to the State's General Account, as from July 1, 1937. There was also established a Renewals and Replacements Fund to finance all renewals and replacements, other than ordinary maintenance. Under the Act, a minimum of £200,000 yearly is credited to this fund from Consolidated Revenue, together with any other amount Parliament may authorize. Since 1937, £13,000,000 has been charged to Departmental working expenses as contributions to the Railways Renewals and Replacement Fund, but, from that year, the calculated depreciation has amounted to £32,000,000. At the present time, the Railways interest bearing loan liability (as reduced) is £79,000,000.

Under Act 6831 of 1961, interest and other charges on moneys borrowed for railway purposes are no longer included in the accounts of the Railway Department.

In 100 years—1856 to 1956—a total of £170,000,000 for interest and expenses has been paid by the State on loans for Railway purposes. Exchange on overseas interest payments since 1931 incurred £5,500,000, and contributions since 1937 to the National Debt Sinking Fund in respect of the Railway loans amounts to £2,599,500.

From 1857, when the Victorian Railways first earned revenue from running rights on the Newport-Williamstown line operated by the Geelong and Melbourne Co., to 1961-62, surplus revenue over working expenses totalled £123,870,572. This left £63,954,236 to be paid by the Treasury to meet the accumulated deficits between net revenues and interest and other charges.

Railway Fares and Rates

Passenger fares and freight rates for goods and live-stock on the Victorian Railways were based, for the first years of working, on the methods of assessment operating on the British railways. The local tariffs were slightly more than 50 per cent above British charges, due to labour and material costs in Victoria being double, and even treble, those of Britain.

ICTORIAN RAILWAYS.
 NORTH FITZROY
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 WILLIAMSTOWN
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 DAY FOR WINNERS OF PRIZES.
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 89, 16,947.
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 the Offices of the PORTFOLIO
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 Queen Street, Melbourne, on
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Winning Numbers advertised
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 advertisement top this page

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 ITS WEIGHT OF COMMON SOAP!
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 subject to the published By-Laws of the Victorian Railways, and to the condition that the holder will not be allowed compensation for the stoppage of the train unless it be for 24 hours or more, in which case a proportionate rebate will be made.

P. Robertson
 Secretary.

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JACK COHEN,
 EXECUTS COMMISSIONS
 ON ALL EVENTS
 RUN IN THE
 COLONIES.

THE LEVIATHAN

All Letters
 and Telegrams
 should be addressed
 JACK COHEN,
 VICTORIAN CLUB, MELBOURNE.

After the opening of the main lines to Ballarat and Bendigo, the approximate passenger fares were 3½d. a mile, 1st-class, and 2½d. a mile, 2nd-class ; goods rates were 5d. a ton mile. In contrast, passengers by road coaches paid up to 7d. a mile, while goods cost 1/2d. a ton mile.

For nearly 10 years after the inauguration of services, the Department provided 1st and 2nd-class passenger accommodation. The Geelong and Melbourne Railway Co., alone among the private railways in the Colony, supplied 3rd-class carriages during the three years of the company's existence from 1857 to 1860.

On November 1, 1868, the Railway Department introduced 3rd-class fares to encourage travel on country lines. Substantial reductions were made on the existing fares to all stations between Melbourne, Bendigo, Echuca, Geelong and Ballarat. The fares on the Williamstown railway, the only suburban line operated by the Department at the time, were left unchanged.

Third-class travel became very popular. A big increase in passenger journeys resulted, but there was an appreciable reduction in revenue. In addition, the cost of converting and maintaining the carriages required for this traffic resulted in a heavy increase in working expenses and the final result was that the Department was losing money because of the introduction of 3rd-class travel. Investigation disclosed that increased net revenue could be obtained by simply reducing 1st and 2nd-class fares, and 3rd-class travel was accordingly abolished on September 19, 1870.

With the extension of lines to Wodonga and the north-west, fares on all routes were lowered by one-third as from May 1, 1874. Certain reductions and adjustments on rates for farm produce came into operation on September 7, 1875. A novel and convenient innovation began on January 1, 1878, with the use of freight prepaid stamps for parcels. These stamps, which were on sale at all railway stations and at most post offices, conferred a freight concession on parcels.

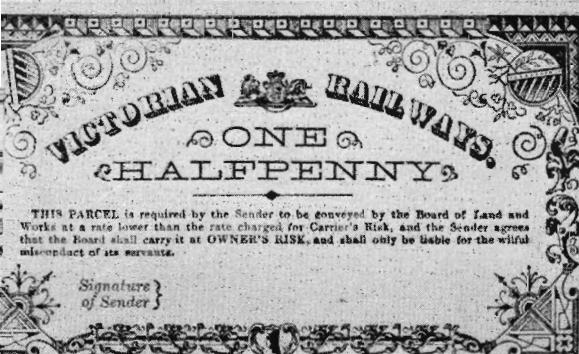
Although excursion tickets had been, for many years since 1859, a regular and popular concession, tourist traffic, as such, was not exploited till 1885. In that year, reduced fares to tourist resorts were introduced.

The issue of return tickets, abolished in 1874, was restored in 1886 and the suburban radius was extended to a distance of 20 miles from Melbourne. During the next two years, further reductions and concessions in both fares and freight rates were made. The opening of the direct line from Melbourne to Ballarat (instead of travelling via Geelong) on December 4, 1889, brought a decline in receipts of £75,000 yearly. The distance by the direct route to Ballarat is 73½ miles, compared with 96¼ miles via North Geelong ; consequently a cheaper fare was applied.

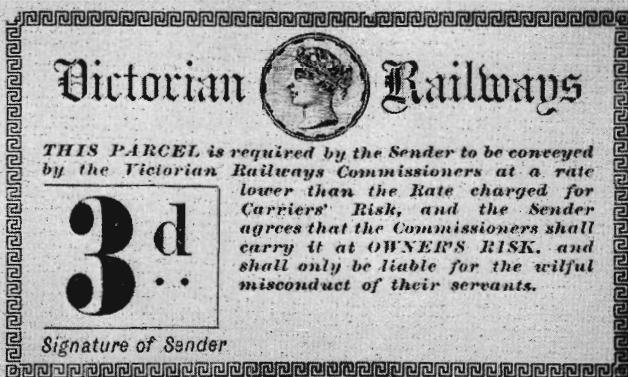
In approximately seven years from November 1, 1883, when the management of the Railway Department was transferred to the Commissioners, reductions in fares and rates totalled £800,000.

By 1890, the privately owned Melbourne Tramways had grown to be a serious competitor to the Victorian Railways suburban services, causing a substantial decline in revenue. Coupled with the financial depression in the "nineties" following the Land Boom, huge deficits accrued with unfailing regularity each year. In an attempt to offset the losses caused by reduced traffic and competition, fares and rates were increased in 1892, for the first time in the Department's history.

A further and immediate loss of revenue resulted. Due to the prevailing conditions, opposition to Railway transport arose from horse-drawn competition operating to all parts of the colony. The road hauliers, having the advantage of low wages, cheap horses, and glut prices for feed, plus free use of the roads, offered transport at rates considerably below those charged by the Railways. Stimulated by the economic depression, this competition, together with that from sea-borne traffic to outer Victorian and inter-colonial ports, rapidly developed into a menace to Railway revenue. To counteract this, the Government authorized a comprehensive reduction in fares and rates in 1894.



Railway
parcels
stamps



During the next 18 years, freight rates were lowered on three occasions. Early in 1908, reductions ranging from 8 to 16 per cent and the extension of concessions were announced; reductions in both fares and freights, amounting to £110,000 yearly, followed in the same year; further cuts on many items of goods traffic were granted in 1912.

The 1914-15 droughts caused a huge falling off in revenue, and working expenses were increased by the necessity to provide emergency services to affected country areas; in 1915, the Railway deficit was £842,000. This condition of affairs forced the Government to impose a 5 per cent increase in fares and freights, and 10 per cent in parcels charges, from October, 1915.

Inflated costs following the outbreak of the First World War added to the burden of falling revenue and mounting expenditure.

A Royal Commission of Inquiry into the management and working of the Railway Department in 1917 recommended a general increase of 10 per cent in fares and freights. The higher charges commenced on July 1, 1917; but the

Government of the day subsequently directed that the increase be cut back to 5 per cent only. This amendment was applied to goods from April 1, 1918, fares from July 1, 1918, and live-stock from August 12, 1918.

The 1917 Royal Commission, conducted by T.R. Johnson, former N.S.W. Railways Commissioner, recommended that legislation, in force since 1896 but never invoked, whereby the Railways Commissioners were entitled to be credited from the Public Account, under section 102 of the Railways Act, with losses on new (and developmental) lines, be put into force. Accordingly, the first of many such claims — for £45,062 — was made for 1917–18. The Government refused to pay. The next year £73,424 was claimed—and received ; in 1920, the claim of £91,355 was refused. After that, claims were met each year, while in 1924 the two earlier unpaid claims were made good. Payments were made each year until June 30, 1937, when they were abolished under section 6 of the Railways Finances Adjustment Act (No. 4429), so far as any matter which arose prior to that date was concerned. Since then, only claims based on losses of revenue or increases in working expenditure occasioned by directions of Parliament or the Governor-in-Council since July 1, 1937, have been payable under section 102.

Working expenses continued to rise sharply, especially after the termination of the war in 1918, necessitating further inflation of fares and freights. From May 17, 1920, tariffs were advanced up to 15 per cent; and on January 1, 1921, further increases up to 18 per cent were applied.

Inflation of rail transport charges during and after the First World War was world-wide. Comparisons disclose that during the 10 years from 1913 to 1923, overall increases in fares and freights amounted to 100 per cent on the British railways, 93 per cent in the United States of America, and 43 per cent on the Victorian Railways.

Following increases in tram fares, the fares for travel on suburban railway lines within the tramway competitive area were increased by 11 per cent on May 1, 1926. Then, as from September 15, 1926, the last pre-World War II revision was made, when fares and freights were increased (mainly by 5 per cent) to bring in an estimated additional revenue of £560,000 yearly. This expectation did not materialize, and in the next year commenced a long series of crushing deficits in Railway finances, which continued through the calamitous financial depression of 1929–33.

June 3, 1928, saw an innovation in suburban periodical tickets when ordinary weeklies—distinct from workmen's weeklies with their restricted travel—were introduced at one quarter of the monthly fare, on the grounds that, as wages were received weekly, it was more convenient for many travellers to pay on the same basis with the same benefits as the monthly ticket. To stimulate suburban travel and spread traffic away from business loadings, off-peak return fares to Melbourne were offered at a discount up to 30 per cent as from April 1, 1936. In December, 1938, a similar concession was given for Sunday return travel between any suburban stations, without restrictions as to trains used.

To induce outer suburban settlement the Government directed that, from October 1, 1938, periodical fares for distances eight miles or more from Melbourne be reduced 20 per cent, with the new eight miles rate to be the maximum for any station within the eight miles radius. Under section 102 of the Railways Act, the Department was recouped for the lost revenue by an annual payment commencing at £45,000 and reducing by £3,000 each year until it disappeared 15 years later. The theory of this reducing instalment basis was that public patronage would gradually increase and the Department would not be a loser.

The financial position of the Department each year improved, until 1938-39, when a severe drought upset the State's economy and a six months outbreak of infantile paralysis cut back passenger revenue by £250,000. A total deficit of £943,000 resulted.

While the Department was endeavouring to overcome these set-backs, the outbreak of war added grave complications to the problem. But, the Victorian Railways successfully coped with the tremendous volume of civil and military transport requirements throughout the six years in which the nation was engaged in its "total war" effort. In these years, the system worked at capacity, reflected in the surpluses of 1941-45.

Sustained and continuous post-war growth of labour and material costs, coupled with falling revenue, caused a succession of comprehensive increases in fares and freights starting on October 1, 1947, when passenger fares were lifted by 7½ per cent to 20 per cent and goods rates mainly 15 per cent. In each of the four years from 1949 to 1952 further increases were imposed, ranging from 7½ per cent to 25 per cent for passenger fares and from 10 per cent to 66 per cent for goods. A selective increase of about 20 per cent was made in goods rates in 1953, and, in November 1955, country passenger fares were lifted by an average of 15 per cent and suburban fares by 25 per cent.

An experimental reduction of 20 per cent for country return travel made between Tuesdays and Thursdays, inclusive, when traffic was lightest, was introduced on October 1, 1957. It was withdrawn after September 25, 1958, the additional revenue from extra passengers having failed to offset that lost by the lower fares. If nothing else, the trial did effectively answer those critics who proclaim that lowering fares is the means of winning profitable traffic.

A major alteration in the suburban fare structure took place on September 14, 1958, when one-class travel was introduced and the basis of fare calculation was made uniform—on a mileage rate that decreased with distance travelled—to eliminate anomalies created in the past by conceding reduced fares at certain stations to meet tram competition. At the same time, the extremely low cost workmen's daily and weekly fares were abolished on the grounds that working men were no longer so relatively poorly paid as they were when these fares were introduced.

To allow for the anticipated loss of patronage and provide for 16.9 per cent more suburban revenue, fares were increased by an overall 19 per cent.

From March 6, 1960, suburban and country fares were increased by 10 per cent and goods rates by $7\frac{1}{2}$ per cent. Certain competitive fares and rates were exempted.

At the same time, the area embraced by the suburban fare tariff was extended to include a number of stations within 28 miles from Melbourne on the Healesville, Warburton and Stony Point lines.

For a true picture of these fare and freight rises, the increase in the living wage must be considered.

From the time of the last pre-war adjustment, the basic wage alone had more than trebled while additional income from improved margins and overtime payments had considerably augmented earning capacity.

From the outset the Railways, as well as providing essential transport service, have been used as a matter of Government policy for developing the State's primary and country manufacturing industries. This policy is reflected in the comparatively low rates charged for moving manures (including superphosphate), and primary products generally. Most live-stock is carried at rates that do not cover the cost of the service.

Country industries also receive concessions estimated to be worth £1,000,000 annually. In effect, the Department is functioning as a subsidizing agent for these and all primary industries.

Rate Wars

As the railways in Victoria, New South Wales and South Australia neared the borders of the respective colonies in the "eighties", competition arose between the systems serving the districts adjacent to the borders. Victoria sought to induce traffic from the Riverina area of New South Wales by offering concession rates for carriage of goods to and from Melbourne; New South Wales and South Australia offered similar inducements to Victorian consignors close to their boundaries.

During the "nineties", a "rates war" began, and the three Departments offered competitive and preferential rates, details of which were not made public. To rationalize conditions, the New South Wales and South Australian Railways Commissioners conferred with the Victorian Commissioners in 1894 for the mutual adjustment of tariffs. At a conference of the three Departments at Melbourne in April, 1895, an agreement satisfactory to the three authorities was adopted. This, however, was not ratified because, it was suggested, of political considerations affecting the states concerned.

Final settlement of the border rates problem was reached 10 years later. Effective as from March 1, 1905, the competitive tariffs were adjusted to conform with the normal schedules. Any preferential rates that were inconsistent with the provisions of the Constitution Act of the Commonwealth of Australia (1901) were abolished. No special rebates or concessions were to be offered to gain traffic in the border areas and all rates were to be publicly announced.

Freight rates set to compete with shipping between Melbourne and the eastern and western coastal districts of Victoria were abolished on January 1, 1913,

after being in operation for many years, and the ordinary mileage rates were adopted. This was part of the Government's campaign to assist the development of the State's outer ports.

Local rates on new lines were cancelled on July 1, 1914 ; these rates had been charged on any new line until the revenue was sufficient to pay working expenses and interest on capital cost from the date the line was opened for traffic. Ordinary scheduled freights were then applied to the new lines so affected, and to all other lines as they became available for public business.

With the development of motor transport, the Railways were faced with intense competition, particularly as the 1929 depression descended on Australia. The threat was met by a state-wide drive for business and the introduction of special contract rates with traders. The road hauliers, without awards or controls, their trucks on time payment, cut their rates to ribbons. The Railways, through their contracts, replied in kind on a policy that their competitors would be left without "a feather to fly with".

To regulate competition in the transport business, the Transport Regulation Board was set up in 1933 under an Act sponsored by the then Minister of Railways, Robert Gordon Menzies, later Prime Minister of Australia.

A severe blow against regulated competition fell when, on November 17, 1954, the Privy Council's judgement in the appeal of Hughes and Vale Pty. Ltd. v. the State of New South Wales and others, and the Commonwealth of Australia, on section 92 of the Constitution, gave freedom of the roads to interstate hauliers ; the Court ruled that any attempt by the states to regulate these operators was beyond the law. A conference of Railways Commissioners in Sydney followed shortly after, when it was decided to meet competition from the now completely unregulated interstate road hauliers with cut rates through agreements with forwarding agents, manufacturers, and merchants. This move met with considerable success. An interesting trend is the increasing use of various containers, that enable simple transfer between road and rail vehicles, and at break of gauge stations.

"Operation Phoenix"

During the severe financial depression of the 1930's, no money was available for replacements of rolling stock and the completion or commencement of important and necessary works. After some years of stringency, the national economy began to reflect possibilities of improvement. Then came World War II. The tremendous strain placed on the large numbers of already patched-up engines, carriages and wagons during those six years when Australia was absorbed in total war caused further deterioration and, by 1946, the Department's rolling stock and works were in an almost desperate condition of wear and obsolescence.

Systems of comparable size to the Victorian Railways needed yearly replacements of 20 to 25 engines, 30 to 40 carriages, and 500 wagons to continue with efficiency, besides track renewals of up to 50 miles. But Victoria, because of shortages of labour, materials and money, could provide a yearly average

of only four locomotives, five carriages and 230 wagons during the period from 1929 to 1950.

p. 123 The 1949 Elliot report stated that "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 plans, and they seem to be sound and sufficiently far-reaching to serve the main purpose for which they are designed.

"I can only affirm 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".

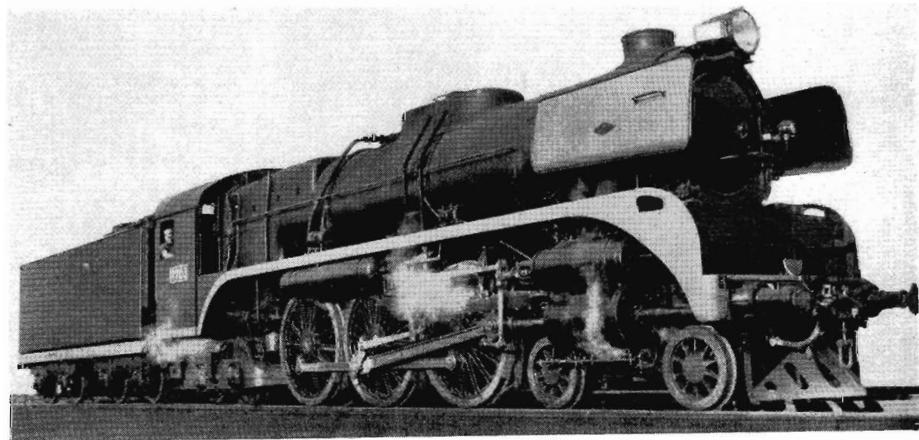
Following this report "Operation Phoenix" was born ; it provided for the expenditure of £80,000,000 over 10 years.

By 1950 the overall plan had been prepared. Its general 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 inauguration of "Phoenix" took place under difficult circumstances. Man-power and materials were in short supply and increasing costs were seriously affecting railway finances. The solution was found by placing orders with private contractors for urgently needed locomotives and other rolling stock. Initial contracts included :

<i>Diesel-electric main-line locomotives</i>	26
<i>Diesel-electric shunting locomotives</i>	10
<i>Electric main-line locomotives</i>	25
<i>Steam locomotives</i>	170
<i>Diesel rail-cars</i>	39
<i>Diesel rail-car trailers</i>	15
<i>Open goods wagons</i>	3,000

The first improvement to be felt under the new plan was the introduction of diesel rail-cars on country lines. Their use practically eliminated mixed



R class
locomotive



Restaurant car, 1955-59

trains, the mileage of which was reduced by 90 per cent 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.

Since mid-1952, when industrial conditions improved, country passenger train mileage (apart from rail motors) has increased from 49,000 to over 56,000 miles weekly, most of this mileage being operated by diesel-electric and main-line electric locomotives. More frequent and faster running resulted on many lines.

As the rolling stock construction programme got under way such trains as "The Daylight" and "Mildura Sunlight" came into being*; twinette and roomette sleeping cars were introduced on "The Overland", which, with "The Gippslander" and other trains, were given steel, air-conditioned sitting carriages with adjustable reclining seats. Buffet type restaurant cars were also introduced in major country routes. For the suburban system, the distinctive blue "Harris Trains" with foam rubber seating and fluorescent lighting were introduced, while the rehabilitation of existing carriages was tackled with vigour; more trains were extended to outer terminals.

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 higher average speeds to cope with the increasing traffic from the Latrobe Valley. A new spur line between Moe and Yallourn facilitated the handling of brown coal and briquette traffic. Other track work under "Operation Phoenix" included relaying and reconditioning, replacing timber bridges with bridges of steel and concrete, duplication of sections of suburban lines, and the construction of long crossing loops. Centralized traffic control signalling* was introduced from and beyond Eastmalvern.

Of station rebuilding, the major work is at Richmond where extra tracks and platforms are being added to open out a bottleneck and so allow more express running of trains, as well as providing for connexion with the future city underground railway.*

*Ch. 36, p. 259

*p. 175

*p. 189

To cater for increasing goods business at Melbourne, additional terminal facilities have been provided at Dynon by building two new depots. Signalling and communications have been, and are being, further improved, while new substations have been built for the suburban power supply. Up-to-date equipment has been installed in Railway workshops, and various machines introduced to mechanize track work.

Spectacular reductions in running times have taken place on fast goods services. Between Melbourne and Adelaide there has been a reduction of almost 17 hours westbound and 16 hours in the opposite direction. Comparable results have been obtained by the "Fruit Flier" service between Melbourne and Mildura.

The introduction of diesel-electric traction under "Operation Phoenix" is estimated to have saved over £1,000,000 annually in running costs as compared with equivalent steam services. Electric main-line locomotives are also contributing valuable economies to the general economic structure of the Railways.

With ample rolling stock now available the emphasis in the future will move to more improved signalling, better tracks, electrification of inter-suburban services, further dieselization, and an underground railway to relieve congested city traffic conditions.

Despite intense competition from road and air transport, the Railways feel that, with the growth of Australia, there will always be ample traffic to justify their existence.

Government authorizes railways, public funds finance construction, engineers design them, skilled and unskilled labour builds them. When completed, experts administer operation and maintenance, with a staff proficient in hundreds of callings to carry out the work.

It can be said that the true history of a railway is made by "Railwaymen Anonymous". Train drivers, guards, signalmen, station staff, though visible, are impersonal beings. Unseen, and mostly unthought of, are the men and women of workshops, tracks, offices, and kitchens, combining with their visible counterparts into the great railway team. Without their enthusiasm and loyalty, no system could function with any degree of efficiency.

GY
open
wagon





Robert Watson (Engineer in Chief)

CHAPTER TWENTY

THE STAFF

Variety of occupations; Appointments, wages and conditions; Apprentices; Housing; Discipline; Superannuation; Industrialism

The magnitude of staff employed on a railway system depends upon the volume and nature of the traffic, the operating and maintenance methods, and the policy adopted in regard to the construction of locomotives, carriages, and wagons and the numerous articles used in service. Where it is the established principle, as in Victoria, to construct rolling stock and other articles at departmental workshops, more employees are needed than for a system of equal size that relies on outside manufacturers for its requirements.

Financial prospects affect both capital and renewals programmes. With seasonal and other factors, these may cause substantial variations in the number of employees.

Complete records of the staff employed by the Department during the first years of operations are not now available. When the Government Railways opened in January, 1859, the number is estimated at 200, comprising professional and administrative grades, locomotive, traffic and track men. The actual total in July, 1863, was 1,520. By 1903, employees in all grades numbered 11,827 ; and at January 13, 1959, the payroll listed 29,653 individuals in the service.

The work of many operating grades is familiar to the general public but, as there are more than 600 distinct classifications of employees in the Railway Department, many strange titles, and unusual occupations not expected in railway working, are found. Included in these are :

BLOCK RECORDER : records the movement of trains in a "block" or section of line

HOSTLER : stables a locomotive

LIGHTER UP AND WASHER OUT : lights the fire in a steam locomotive and washes the sediment from its boiler

NUMBER TAKER : records the numbers on wagons in principal goods yards

NURSERYMAN : gardener

PLANT ATTENDANT : operates the auxiliary plant of large electric generators

PULLER OUT : pulls out timber in a saw mill as it leaves the circular saw

PUTTER ON : places a load on a hand trolley in a goods shed

SAILMAKER : makes tarpaulins, water bags, etc.

SAW DOCTOR : sharpens, sets and repairs saws, mainly circular and band saws

SEAMSTRESS : makes and repairs cushions, curtains, flags, table cloths, etc.

SLINGER : adjusts slings around loadings for cranes

STOWER : stacks goods securely in wagons

TRUCKER : loads goods by trolley into the wagons

Appointments, Wages and Conditions

During the foundation year of the Victorian Railways Department, and continuing through the regime of the Board of Land and Works from 1857 to 1883, appointments to the professional and administrative staffs were made and salaries determined by the Governor-in-Council. Confirmation of this method was, in part, established by the provisions of the Civil Service Act (No. 160) of June 18, 1862, and further enacted by the Public Works Act (No. 289) of October 12, 1865.

Artisan and other daily paid grades were appointed on the recommendations of the departmental management. Wages were fixed, apparently, at the discretion of the Engineer-in-Chief and the Secretary (subject to the approval of the Minister) at something equal to, but usually less than, the average rates paid by private enterprise.

A comparison of the daily wages of certain grades in the first year of Government ownership and, 100 years later, is interesting :

	1859	1959
<i>Engine driver</i>	18/-	66/4d.
<i>Fitter</i>	14/-	56/4d.
<i>Boilermaker</i>	13/3d.	56/4d.
<i>Blacksmith</i>	14/6d.	56/9d.
<i>Carpenter</i>	12/-	56/9d.
<i>Painter</i>	12/-	56/6d.
<i>Labourer</i>	10/-	43/10d.

Since the appointment of the first Railways Commissioners in 1883, the Railway Acts specified the methods to be adopted for appointing staff. Broadly, permanent appointments were, until recently, generally made to the junior grades. They were subject to a prescribed system of calling for applications by advertisement ; selection of candidates by a special board ; examination as to physical, vision, and hearing proficiency ; educational tests ; and, if necessary, a ballot to determine final section and seniority position. This procedure still applies in the case of apprentices, and other junior grades. The Governor-in-Council could also—and still can—appoint persons of “known ability”.

The Railway Acts provided for the employment of supernumeraries—staff additional to the prescribed number. Except in the cases of those engaged as day labourers, and persons forming survey parties, the Acts prohibited the employment of supernumeraries for longer than six months in any one year. The term day labourer, however, was given a very liberal interpretation for many years.

Over a long period, various special Acts have empowered the Commissioners to appoint to the permanent staff any person who had been employed “temporarily” for some specified period. Notable instances of such Acts were the appointments in 1920 and 1921 of thousands of returned soldiers. In 1946, by Act No. 5195, Parliament decreed that supernumeraries, after two years’ service, should have the right, subject to compliance with certain conditions, to permanent appointment.

From 1883, the rates of pay and conditions of employment were prescribed by regulation ; salaries and wages were included in the appropriation votes passed by Parliament. This control of pay rates by regulation continued until 1917, when the Railways Classification Board was formed.

However, the legal definition of the railwaymen's position in regard to pay and conditions did not prevent many retrenchments. On three occasions, railway employees (in common with other public servants) had earnings cut by percentage deductions, short time, loss of position, reduction of status, withdrawal of privileges, discontinuance of overtime payments and other curtailments.

The financial crash of 1893 that followed the Land Boom of the 1880's, struck heavily on the railways during the ensuing years of economic chaos. The prolonged drought in the first years of the present century brought a recurrence of economies on the staff. Again, for several years from 1930, while the world struggled painfully through the great world-wide financial collapse, railwaymen incurred drastic reductions of earnings and status.

As economic recovery emerged after the 1893 breakdown, a slight improvement to staff conditions resulted in 1898, when a new classification of positions brought some increases in salaries and wages. A few years later, a further review of pay and conditions was made, but the prevailing drought restrictions prevented any general improvement.

In 1908, Regulation No. 51 was issued, granting increased pay and liberalized conditions, as did a further revision authorized by Regulation No. 56 in 1911. Other regulations that followed in later years further increased wages and conditions in conformity with Wages Board determinations in outside industries.

This fixing of wages and working conditions by regulation failed to satisfy the staff. As a result of their requests, continued over some years, for an independent tribunal, the Railways Classification Board was established.

This board submitted recommendations to the Commissioners. It commenced preliminary work in March, 1917, and consisted of :

<i>William Edward Nicholas Keast</i> (General Passenger & Freight Agent)	<i>Chairman</i>	<i>Appointed by Commissioners</i>
<i>John Marmaduke Ashworth</i> (Assistant Engineer of Way)		
<i>George Cox Locke</i> (District Rolling Stock Inspector)		
<i>James Fogarty</i> (Running gear repairer)	<i>Elected by employees</i>	
<i>Francis Patrick Gibney</i> (Car painter)		

After a comprehensive examination of claims, the board was disbanded in June, 1918. Its recommendations resulted in substantial increases of salaries and wages being conceded to large numbers of the staff. The board was re-instated in April, 1919, but, owing to a subsequent Government decision to appoint a differently constituted board, with an independent chairman, the re-instated board did not resume, and was again disbanded.

A Railways Classification Board was established by Act No. 3006, assented to in October, 1919. It comprised a County Court Judge as Chairman, two nominees of the Commissioners (one a private business man, and the other a departmental senior officer) and two representatives, elected by ballot of the employees. It was empowered to determine—subject to the approval of the Governor-in-Council—the remuneration and working conditions of the railway staff.

The original Board consisted of :

His Honour Judge Henry Christian Winneke, Chairman ; William John Griffiths (of McKenzie and Holland Pty. Ltd.) and William Edward Nicholas Keast, Commissioners' nominees; and Barclay Batholomew Deveney and James Patrick Fogarty, employees' representatives.

In 1924, the principal railway industrial organizations submitted claims to the Commonwealth Court of Conciliation and Arbitration, after it had been established by appeal to the Privy Council that they were eligible so to do. From then on, for several years, determinations on railway wages and conditions were mainly issued by this Court, whose awards superseded those of the Railways Classification Board—a state tribunal. An arrangement was made, in 1934, by which the board functioned as an instrument of the Arbitration Court for examining and reporting on claims made by certain railway union groups.

By an instruction of the Arbitration Court, a Local Industrial Board was set up in the Department in March, 1947, superseding the Railways Classification Board. The Local Industrial Board, which was formed from the personnel of the Classification Board, investigated and reported to the Arbitration Court on the wages and conditions of sections of the daily paid staff. Following the appointment of Conciliation Commissioners for the railway industry, under the terms of the amended Arbitration Act, the Local Industrial Board was dissolved in 1949.

(32a)



VICTORIAN RAILWAYS.

Traffic Manager's Office.

Spencer-Street Station

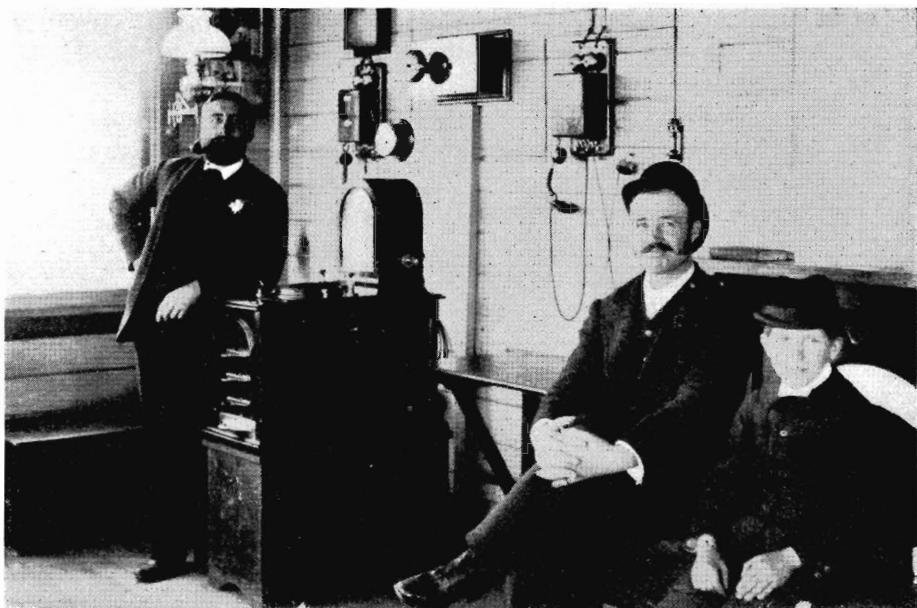


1 Dec 1880.

Memo for goods page Dowsett
Sandhurst

The attention of the Hon. P. Commissioner having been directed to your meritorious conduct at the capture of "Red Kelly" the bushranger, desires to express his approval of the spirit which animated you on that occasion & has promoted you to the position of passenger guard at an increase of £. a day from the 1st inst.

Mr. Accessor
Traffic Manager



First Tablet Instrument installed in Victoria—Seymour signal box



FIRST NEWPORT WORKSHOPS FIRE BRIGADE, 1886

back row: J. Quinn, J. Harrigan, N. Candy, J. G. Wilkins, H. Payne and J. McLeod

centre: T. Kirke, J. Gibbs (Capt.), J. Findlay and J. Lawson

front: G. P. Jones and W. Wilkins

Rewards for Suggestions

To encourage and handle suggestions from the staff, a Suggestions, Inventions and Betterment Board was set up in April, 1921. On February 15, 1922, a Publicity Office was established by the Commissioners to form part of the board's activities, and a year later the board was required "to scrutinize all Press matter before publication".

Ideas submitted have totalled more than 60,000—including at least six for perpetual motion. Over 9,600 have been adopted, with cash awards exceeding £34,000 paid to successful suggestors.

The Superannuation Fund

By the authority of the Civil Service Act of 1862, Railway employees were granted the right to a pension on retirement. Under the provisions of the Act whereby the first Railways Commissioners were appointed, pension rights became limited to those who were in the service at the date of the passing of that Act—November 1, 1883. The Act did not become fully operative until February 1, 1884.

A system of compulsory insurance was instituted for employees who entered the service on and after February 1, 1884. The insurance scheme provided for a specified policy, maturing and payable at the statutory retiring age (or at death, if earlier) as a financial protection in retirement. As it was found to be an inadequate substitute for the pension, the Commissioners in 1885 recommended the establishment of a pensions fund, to which the employees and the Department should jointly subscribe. They repeated their recommendation in subsequent years, but without success.

After forty years of agitation by the employees of the Railways and other Government departments for its establishment, a State Superannuation fund, authorized by Act No. 3408 of November 25, 1925, became operative in January, 1926. The scheme provides pension benefits, towards which both employees and the Government contribute equally. The benefits cover retirement at the statutory age, or earlier incapacitation. The compulsory insurance requirements were abolished by the Superannuation Act.

The scheme also provided pension benefits for a group of employees known as "twilighters". These men entered the service in the "uncovered" period, after November 1, 1883, and before February 1, 1884. Consequently, they were not eligible for statutory pensions, nor were they brought under the compulsory insurance provisions. When the Superannuation Act became operative, 108 of these men still remained in the service and were subsequently granted pensions. But the original number was considerably more than this. Many "twilighters" had died or left the Department before the Act was passed.

There is no doubt that the superannuation scheme had been of general benefit to the staff, and helped to attract employees and retain them in the Railways. Its value as such, however, has been reduced to some extent by the decreased purchasing power of money (though the pensions payable have been increased), and the privileges now becoming available under Commonwealth Social Security legislation and in private industry.

A major change in the superannuation scheme occurred during 1961 as part of the settlement of the service grant dispute.* Superannuation provisions were varied so that employees participating in the scheme could limit their contributions and so qualify for a weekly service grant based on years of service. Employees not participating in the superannuation scheme became eligible for a lump sum gratuity on retirement or death, as well as the service grant.

The 8-hours Movement and Industrialism

Monday, April 21, 1856, is an important date in Victorian history, the significance of which is forgotten or unknown by most people today. On that day, the 8-hour working day was inaugurated in Victoria. An informal procession through the streets of Melbourne marked the occasion—the first 8-hours Day celebration.

Other than for the Operative Masons' Society, artisan grades and others engaged in industry generally worked ten hours daily. This condition applied to the Railway Department from 1858, where traffic staff were required to work up to 14 hours daily, and often for seven days a week.

The impact of the 8-Hours Day movement first struck the Railway Department in September, 1859, when the Trades Hall requested its application to railway artisans. The management had previously made some inquiries about a possible reduction of hours, with a proportionate reduction of wages.

Resulting from all this, an 8-hour working day was instituted at the Williams-town Workshops about October, 1859, with a reduction of wages by one-fifth. Petitions from the workmen requested the restoration of a 10-hour working day and full wages.

By this time, however, a general decline in wages was in process, following the settling down of economic conditions as the earlier gold-fever extravagances began to subside. In a desultory here-and-there fashion, the 8-hour day began to extend, and the decline of wages steadied to a halt. The rates for iron trade artisans in private industry became fixed at an average of about 12/- a day, with slightly higher rates in the Railway Department. From about 1868, wages in general fluctuated in accordance with financial conditions, and according to the inevitable law of supply and demand ; the main trend for many years was downwards. The 8-hour day was not fully observed in the railways till the late 1870's.

The industrial movement in the Department was a plant of slow growth. By an official ordinance promulgated as early as 1859, public servants (including railwaymen) were prohibited, under penalty of dismissal, from belonging to political associations. This included trade unions and similar organizations.

This drove railway industrial associations underground. The management was aware of the existence of railway membership in unions such as the Amalgamated Society of Engineers, but, so long as the unions and their members remained quiescent, no particular action was taken by Departmental authorities. Trade unions were regarded as "secret" societies in official correspondence, even as late as 1883.

Eventually, a tacit acceptance of trade unionism was acknowledged by Government departments in general, but the embargo on membership of political associations remained. A short-lived trial show of strength between the management and one of the unions occurred in 1903,* when the engine-drivers went on strike, but ultimately there emerged from this episode a free acknowledgement of the right of railwaymen to openly espouse unionism, and the removal of certain obnoxious restrictions on political affiliations.

Apprentices

The apprenticeship system in the Railway Department during the regime of the Board of Land and Works, and for many years after the appointment of Railways Commissioners, was very different from the encouragement and facilities for improvement now offered to boys who desire to qualify as tradesmen.

Records disclose that apprentices were first admitted to the Railway workshops at Williamstown in 1860. The pioneer in this grade was Thomas Hale Woodroffe, who subsequently became Chief Mechanical Engineer, and also acted as a Commissioner for a period.

An apprentice was accepted on recommendation and selection as to suitability ; training covered seven years, the first without pay. (This latter condition was later modified.) No form of indenture bond was executed, and, on completion of the term, the apprentice was raised to journeyman status and retained in the Department, if suitable. For probably the first 25 years of the Railways' existence, the number of apprentices taken on was very small. However, as the lines extended and workshops capacities increased, the intake of apprentices also increased.

To encourage apprentices to adapt themselves to their trade courses, and to widen their prospects of promotion, the Railways Commissioners in 1905 arranged for a three-year term in educational subjects to be completed at the Working Men's College (now the Royal Melbourne Institute of Technology) by each apprentice. The Department paid all fees, and awarded prizes to the most successful students each year.

The educational course continues to be a requirement of apprenticeship training. Some slight alterations have resulted, particularly since the Department opened the Railway Technical School at Newport in 1922. Apprentices attend classes there entirely in working hours and, in the case of certain trades, training is carried out at technical training centres conducted by the Education Department. Boys at the main country workshops are tutored at local colleges. Scholarship facilities are available to apprentices in either electrical, mechanical, or civil engineering. Courses of up to five years are awarded at approved institutions, during which time the apprentice is paid a special rate.

Apprentices trained under the railway system have for many years filled vacancies arising in professional positions in the Department. This is especially so in the mechanical and electrical branches. Former apprentices have become Commissioners, Heads of Branches, and Workshops Managers; numerous



Robinson Jackson,
Manager,
Williamstown
Workshops

Newport Workshops
Dining room, 1912

Victorian Railways.
Loco. Branch;
Engineer in Chief's Office.
Melbourne, June 16th 1870.

Certificate of Apprenticeship.

I certify that Thomas Hale Woodroffe
has been employed as fitter's apprentice without
indenture in the Locomotive engine repairing
works of the Victorian Railways at Williamstown
for a period of seven years from January 15, 1861
to January 15, 1868, and that he has been attentive
to his work, steady, and industrious, and is a
fair workman.

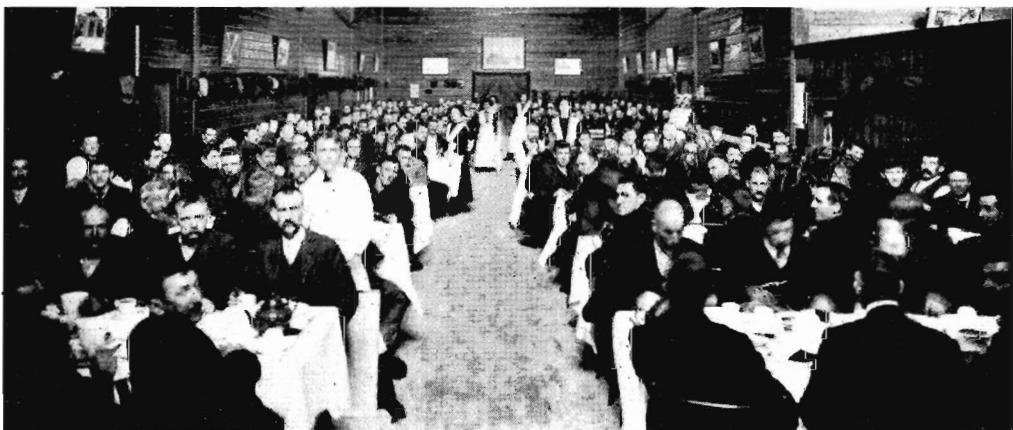
The Railway Department does not
receive apprentices bound by indenture, consequently
no indenture has been executed in this case.

M. Christie

Loco. Secty.

Victorian Railways.

Signature of Apprentice, T. Hale Woodroffe.
Witnessed by, R. Haughton, Foreman.



others have entered other Government establishments and private enterprise, where they have gained high advancement for themselves and reflected credit on their railway training.

Pupil engineers or architects are, from time to time, appointed to the staff. They are trained at the Melbourne University and the Royal Melbourne Institute of Technology entirely at the expense of the Department. Cadet engineers receive part-time training at the latter institution.

Housing

From the inception of Government railways in Victoria, staff residences have been provided at certain stations, crossings, and other places for stationmasters, gatekeepers, gangers and the like. In the main, they are let to the occupants at a reasonable rental, but some are free.

After World War II, staff recruiting was hindered by a prevailing lack of house accommodation. A campaign to attract migrants from the United Kingdom for railway work was organized in 1949 and, to encourage this, the Government authorized the Department to import pre-cut houses from England. This became known as "Operation Snail". An order for 1,000 houses (later increased to 1,500) was placed with W. V. Simms, Sons, and Cooke, Ltd., Nottingham. Approximately half of these were allotted to British migrants with families, and the remainder to local railwaymen.

The Department was also authorized to control the importation of houses for the State Electricity Commission, the State Rivers and Water Supply Commission, the Melbourne Harbour Trust, and a small consignment for the Commonwealth Government. In all, 3234 houses were ordered, of which 1,500, costing £4,500,000, were for the Railways' use.

For accommodation of single migrants from the United Kingdom and Europe, large hostels and batching camps were provided at many places, usually in close proximity to the particular works area. Because of greater availability of labour, most of the hostels are now closed.

Discipline

Under the management of the Board of Land and Works, penalties for breaches of Departmental rules and regulations were imposed in accordance with the provisions of the Civil Service Act, 1862. On report, the Minister could impose a fine for a misdemeanour. For a serious offence, where dismissal was recommended, the penalty was subject to the approval of the Governor-in-Council. Appeal against any penalty imposed was permitted. Daily paid staff could be fined or dismissed by the Minister.

The Railways Commissioners Act of 1883 empowered the Heads of Branches to impose a limited fine on an employee or to reduce or suspend him for a breach of the regulations. Dismissal could be inflicted only by the Commissioners, who also constituted a Board of Appeal against any penalty imposed by a Head of a Branch.

An improvement on this set up was found desirable, and in 1896 amending legislation was passed by Act No. 1439, whereby an Appeal Board was established. The board, consisting of two Heads of Branches and one representative elected by the employees, dealt with appeals against penalties imposed, or with charges involving possible dismissal or penalty more severe than a Head of Branch was empowered to impose. In the case of reduction in status or of dismissal, an appeal to the Commissioners was still permitted.

After some years, this system was found to interfere with the normal duties of the Heads of Branches serving on the Appeal Board. Accordingly, a Departmental Board of Discipline was formed, as authorized by Act No. 3227.

The board comprises three members : a Chairman (who must have been an Officer of the Railway Department, or who, if still in the service, must vacate his position), a nominee of the Commissioners, and an elected representative of the staff. This system still operates.



Pre-cut house

INDUSTRIAL DISPUTES

Early conditions ; First strike ; Affiliation with Trades Hall ; 1903 Strike ; Arbitration Court ; Conciliation Commissioners

Except for the strike of enginemen in 1903, the Victorian Railways Department remained free from industrial stoppages for nearly 90 years. This happy state of affairs, which the successive administrations referred to with pride, was shattered by several strikes during the years 1945 to 1951.

Since 1856, probably 300,000 employees have served in the Department. It must be expected that among this huge number there would be many who, from time to time, considered improvements in industrial conditions should be sought. Such requests were dealt with by the management of the earlier periods in such manner as the sentiments of the time dictated—with decisions not often favourable to the staff.

Looking back over the years, history points to many instances when the Railway staff were not recompensed to the extent their services warranted. The natural desire of railwaymen to improve their conditions of life often ended in disappointment when the management (however sympathetic, but handicapped by the necessity to keep expenditure at the lowest possible figure) declined to make adjustments sought. But, in the more recent years, the setting up of tribunals under State and Commonwealth legislation has given the staff opportunities for their requests to be decided by independent adjudicators.

The first instance of a strike (a minor dispute) in the Department occurred during the middle 1870's. A small number of men employed at Spencer Street goods sheds ceased duty in protest against certain conditions of overtime and non-payment for the extra work. The strike was speedily settled by adjusting the men's grievance, which had arisen through the unauthorized actions of a subordinate officer.

Resulting from proposed reforms to the Victorian Constitution, labour organizations became very active in political affairs during 1900-02. The reforms provided, among other things, that railwaymen would have a separate representation in Parliament, by two specially elected members. This meant that railwaymen had no rights in the election of the "local", or district, members. This was not acceptable to the railway industrial groups who were particularly active in opposing the reforms.

Further, severe retrenchments in the Department, owing to financial difficulties, had caused much discontent. Strike threats emanated in 1902 for the first time.

In January, 1903, the Locomotive Engine Drivers' and Firemen's Association affiliated with the Melbourne Trades Hall. This action was unfavourably received by both the Government and administration. Other industrial organizations that included railwaymen in their membership had earlier linked with the Trades Hall. As a Departmental regulation prohibited employees from

membership of any political association, the Acting Railways Commissioner instructed the industrial groups concerned to terminate their connexion with the Trades Hall.

The unions refused to obey the instruction, and commenced negotiations with the management and the Government to be allowed to retain affiliation with the Trades Hall. After discussions extending for over three months, the Engine Drivers' and Firemen's Association declared a strike as from midnight on May 8, 1903. Most of the drivers and firemen ceased duty.

Volunteer engine crews were recruited by the Government to supplement the men who remained at work. A very restricted train service was instituted and, gradually, increased from day to day.

Inefficient organization by strike leaders, division of opinion among kindred unions on the matter of support, and opposition from the majority of the public, plus the unyielding firmness of the Government, doomed the strike to failure from the beginning. On May 15, the drivers and firemen capitulated.

Industrial harmony ensued for more than 42 years, but immediately after the termination of World War II, a stoppage occurred. In protest against a departmental application for a revision of percentage concessions for shift work, a one-day strike by some of the railway unions on August 28, 1945, caused a complete cessation of traffic for 24 hours.

This incident was the prelude to a series of industrial disputes during the next five years.

On September 16, 1946, a section of the traffic employees ceased work for 24 hours as an agitation for increases in the daily overtime penalty rates. Goods trains did not work on that day.

A general one-day cessation of work followed on October 7, 1946, in support of claims relating to increased annual leave, basic wage and other increases, overtime rates, a 40-hour week, and other matters.

Concurrent with these claims, the employees of the Melbourne and Metropolitan Tramways Board sought improved conditions. In joint action to enforce their demands, the great majority of railway and tramway employees ceased work on October 21, 1946. All railway services were suspended for nine days.

When engineering unions in outside industries went on strike late in 1946 for increased wages, the strike was extended on March 24, 1947, to the engineering union employees in the metropolitan areas of the Railway Department; members of other organizations ceased work in sympathy with them. On April 14, additional employees were withdrawn from the railways power station. Production of electric power ceased and all suburban train services were stopped. Engineering union members at country workshops and depots were called out on April 30, and the restricted steam train services ended. Intervention by the Arbitration Court brought about the termination of the strike, and railway services were resumed on May 8, 1947.

Metropolitan traffic was suspended for part of the day on August 29 and October 2, 1947, and January 16, 1948, due to sections of the staff protesting

against certain matters on which the departmental administration had no power to act.

A one-day general stoppage occurred on September 4, 1950, as a protest against the long shifts worked by some traffic sections.

Because of the refusal of the Conciliation Commissioners to vary awards relating to this and other conditions of working, there followed a complete state-wide cessation of train services from October 15 to December 8, 1950—a period of 55 days—during which no trains ran.

Further refusal of the Conciliation Commissioners to vary the awards brought about another one-day stoppage on January 25, 1951.

Late in 1959, when the Commonwealth Conciliation and Arbitration Commission declined an application by unions for service grants for their members, the organizations concerned adopted "go slow" tactics and placed a limitation on the working of overtime.

This immediately exaggerated the shortage of operating staff, and it was necessary to cancel Sunday passenger trains, except interstate and Mildura expresses, from February 14, 1960. Some week day country services were also effected.

It was not until December, 1960, when the unions modified their limitation on overtime working, that services were restored.

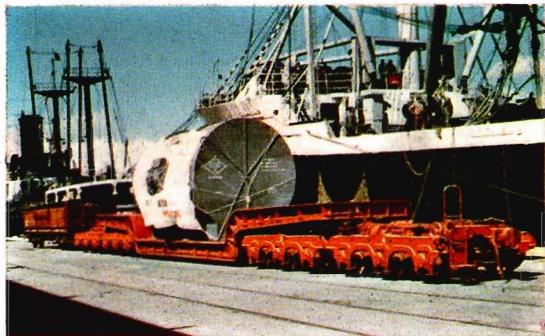
The dispute was settled on February 2, 1961.



First standard gauge train—for ballast—working at Wodonga, July 6, 1961, with W class diesel-hydraulic locomotive.



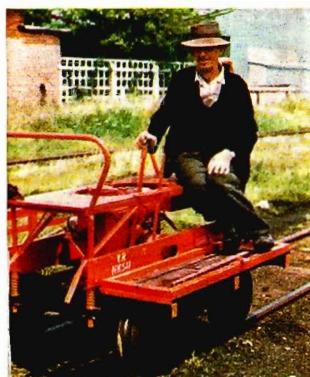
Original double-deck wagon for transporting motor cars from the factory, built 1958.



150-ton well wagon carrying a 116-ton stator for the State Electricity Commission.



"Flexi-Van" service starts on the Melbourne-Adelaide run, September 22, 1961.



Ganger's track inspection motor, for 2' 6" gauge track.

Rail tractor, built in 1930 by Railway Construction Branch and used in construction and operation of Yarrawonga-Oaklands line.



Rail tractor used for shunting in station yards.





Railway road van for the carriage of parcels.



Overhead emergency van for use in power failures.



Modern railway station building, at Eltham, combines contemporary design with utility.



Busy scene in the Melbourne Goods Yards.



8-ton electric crane at Swan Hill is typical of the specialized equipment installed at various stations to speed loading and unloading of freight.



Matisa tie tamper packs the ballast firmly and evenly to ensure a perfect track-bed.

VICTORIAN RAILWAYS INSTITUTE

Volunteer organization ; Library ; Monthly magazine ; New building ; Country centres ; Administration

Taken on its record of achievements, and the advantages for improvement it offers to railwaymen, the Victorian Railways Institute can justly claim to be one of the largest and most successful social clubs in Australia.

The desirability of establishing a club or institution to provide social and educational amenities for railwaymen was first mooted during the 1880's.

Organized by the Department, the Victorian Railways Ambulance Corps and Victorian Railways Fire Brigades were formed of volunteers in 1884. Though established as protective auxiliaries to departmental operations, their successful inauguration and the enthusiasm of the members were largely responsible for the subsequent establishment of several social and cultural activities, which were encouraged by the administration.

Formed in 1888, the Victorian Railways Library, was, for a short period, housed in a room in the old railway offices at Spencer Street station. It was then moved to the Sailor's Rest Home (now the offices of the Melbourne and Metropolitan Board of Works) opposite the station. When the Board occupied this building after its formation in 1890, the library was transferred to the main railway offices in Spencer Street. Also in 1888, the Railways Musical Society came into being. Four years later, the Railways Military Band was established. Both regularly gave recitals for general entertainment and to assist various charities.

An illustrated monthly magazine—"The Railway Standard"—commenced publication in August, 1899. Privately edited by Victorian railwaymen, and produced in Melbourne, the magazine was a well-written and informative paper. It was circulated throughout Australia, and had the approval of all railway administrations.

In 1899, at the request of Mr. Commissioner John Mathieson, the Heads of Branches investigated the possibility of establishing a centre to provide systematic technical education for employees. Their report of February 15, 1900, recommended the formation of a Railways Institute, with accommodation for class rooms and social facilities.

The Minister of Railways (Hon. Alfred Richard Outtrim) approved of the scheme, and suggested that the Institute should be located in the proposed new Flinders Street station buildings.

The decision to establish a Railways Institute was reached in 1904. To finance the project, the Commissioners opened a special fund, into which all fines imposed on employees for breaches of Departmental discipline were paid, together with an equal amount from railway revenue. On June 2, 1909, when the fund amounted to £4,347, the Commissioners appointed a Provisional Committee, with William Robert Brown (a member of the Transportation Branch staff) as President, to prepare details for the proposed Institute. Enrolment

commenced, and more than 3,000 employees joined. The first meeting of members assembled at the Masonic Hall, Collins Street, Melbourne, on October 22, 1909.

Construction of the new Flinders Street station having been completed, the Victorian Railways Institute was officially opened there on January 22, 1910, by Sir Thomas Tait, Chairman of Commissioners. The Institute included a circulating and reference library of 11,300 volumes, reading rooms, billiard-room, and gymnasium. Tuition in accountancy, bookkeeping, shorthand, typing, telegraphy, first-aid, and railway technical subjects was available in several well-equipped class rooms under the direction of qualified instructors. A large concert hall, which also served as a ballroom, was included, and quickly became a popular rendezvous.

The original Railways Library was absorbed into the Institute. The Musical Society and the Military Band both affiliated with the Institute, and rapidly added to their talents and increased their popularity.

In February, 1911, "The V.R.I. Review"—a monthly magazine—was issued. It covered the Institute's activities, and included features of literary merit and technical knowledge. Publication of "The Review" ceased in November, 1923, when it was superseded by "The Victorian Railways Magazine", first published in January, 1924.

This 52-page magazine continued until September, 1930, when the Commissioners, due to the "grave financial position" brought about by the worldwide depression, replaced it with a four-page "News Letter" which was enlarged progressively to 16-pages by June, 1948. This is still published monthly and has a healthy list of outside subscribers.

The Victorian Railways Institute progressed steadily and extensively. On May 3, 1916, the first country centre was opened at Ballarat. In following years, additional centres were formed at Ararat, Balmoral, Benalla, Bendigo, Colac, Dimboola, Donald, Geelong, Hamilton, Korong Vale, Korumburra, Maryborough, Nyora, Ouyen, Sale, Serviceton, Seymour, Shepparton, Stawell, Sunshine, Traralgon and Warragul—23 in all. Special branches of the library were opened at both Newport and Spotswood Workshops, and library facilities were made available at all centres.

Comparison of statistics for the foundation year and 1961 shows :

	1910	1961
<i>Members</i>	4,000	17,000
<i>Volumes in Library</i>	11,000	44,000
<i>Issues of books</i>	59,000	229,000

Classes now include a variety of subjects covering accountancy, commerce, engineering, mechanics, mathematics, general education, railway working, and first-aid. Social and cultural activities are encouraged with tuition for instrumental, orchestral and band music, singing, dancing and dramatic art.

Sporting enthusiasts have the choice of boxing, wrestling, athletics, cricket, fencing, football, fishing, golf, bowls, tennis, table tennis and billiards. Interstate competitions with other railway systems are held, with a consequent increase of enthusiasm and interest.

Institute membership costs less than one shilling a week for the metropolitan area, with a lower rate for country centres. A specially reduced fee is charged for admission to some of the educational classes. Instruction in several subjects is free.

Administration of the Institute is vested in a Council of 24 of its members. Seventeen are elected annually and seven are appointed by the Commissioners. In addition, the General President and three Vice-Presidents are appointed by the Commissioners, thus increasing the Council to 28 members. Mr. Alfred Galbraith, formerly a railway signalman, was appointed first Secretary in 1909. He retired 25 years later in December, 1933. Mr. William Ernest Elliott succeeded to the office, which he still occupies.



Class at Victorian Railways Institute

CHAPTER TWENTY-THREE

THE VICTORIAN RAILWAYS AND WAR

Boer War ; First World War ; World War II ; Traffic ; Munitions ; Staff ; Patriotic funds

When war strikes a nation, the railway service is at once included in any scheme for either defence or offence. It is at times of emergency, such as a war, that communal reaction—political, military and private, alike—acknowledges the value of rail transport and its ability to successfully meet extraordinary demands in moving troops, munitions and war materials. At the same time, it maintains its function as an indispensable public utility.

Additionally, the railways contribute a proportionate share of men to the armed forces ; railway workshops manufacture large quantities of necessary war munitions. Patriotic funds and voluntary efforts on the home front are augmented by generous contributions and practical assistance from railway personnel.

Boer War: 1899-1902

The Boer War in South Africa during 1899 to 1902 brought the Victorian Railways into war for the first time. A considerable number of the staff enlisted in the several contingents that fought in South Africa, and several died on service. No information is now available as to the actual number who joined the forces. At Newport Workshops, many jobs were carried out for the Victoria Defence Department—mainly in repairing military equipment.

The staff contributed several thousand pounds to the Victorian Railways Patriotic Fund ; the Railways Musical Society and the Railways Military Band gave regular recitals to augment the Railways' and public patriotic funds.

In marked contrast to the secrecy with which troop movements were made during World War II, the departures of soldiers to the South African War became occasions for public farewells. The Railway Department ran special trains to carry the people to Port Melbourne on the days that troopships departed.



First World War : 1914-18

On the outbreak of war—August 4, 1914—nominal control of all Australian Railways passed to the Commonwealth Government. This action, however, in no way interfered with the domestic administration of the systems.

During the war, 4,509 Victorian railwaymen enlisted in the Australian Imperial Force, the Royal Australian Navy, and the new fighting force—the Australian Flying Corps. The severe incidence of Australian casualties sustained in the war is indicated by the 437 railwaymen who lost their lives.

All members of the staff who enlisted in the armed forces had their rights conserved in all matters relating to seniority, length of service, and increments. In addition, the Department paid the premiums on life assurances held by the enlisted personnel under the Departmental regulations.

Staff contributions, made through the railway organization, to the various patriotic funds during the four years of war exceeded £40,000. Articles for the Red Cross Society were made in thousands by the voluntary efforts of railwaymen. Patriotic emblems, for sale during public appeals for war funds, were manufactured in large quantities by the employees at Newport Workshops in their own time.

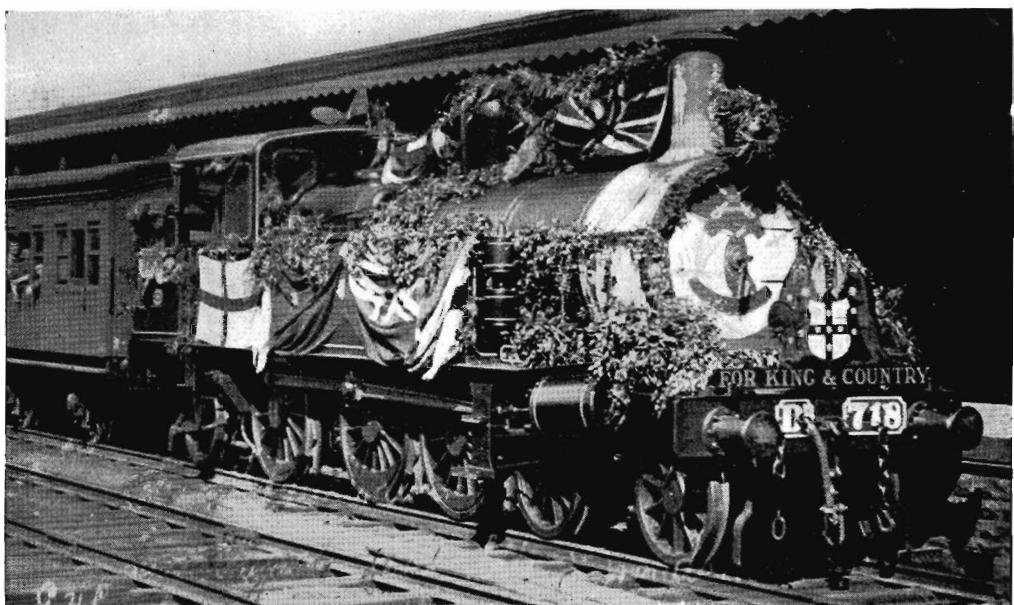
A mobile surgical operating theatre was designed and built at Newport Shops in 1915 as a donation to the Red Cross Society for use in the battle zones ; it was claimed to be the first of its type in the world. Also designed and built at Newport, an improved type of army travelling kitchen followed the First A.I.F. in some of its campaigns. Six mobile motor workshops, designed and constructed at Newport, went abroad with the Army, and a similar one was supplied to the original section of the Australian Flying Corps in India.

When the British Government in 1915 made an urgent appeal for munitions, a portion of Newport Shops was equipped to manufacture high explosive and shrapnel shells, of 4.5-inch and 6-inch calibres. After very exacting experiments, production commenced in September, 1915, but difficulties in obtaining adequate supplies of suitable steel, and of machinery from oversea, prevented a satisfactory output of shells being achieved. Later, as British home production was improving, the Commonwealth Government requested that the manufacture of munitions at Newport be discontinued.

During 1914-18, the movements of troops in Victoria consisted of transport to and from camps for embarkation at Port Melbourne, and interstate. Many hundreds of special trains were required for this. On some occasions when complete brigades embarked, the entire movements were cleared in a few hours.

Army
travelling
kitchen





Troop train, 1914



Troops detrain to embark on "Ballarat", 1917

World War II: 1939-45

As soon as the declaration of war was announced, Departmental plans for the protection of vulnerable areas, key points and communications were put into operation. Guards were set at important installations, such as Newport Power Station, and at railway bridges. Power cable routes were regularly patrolled. Auxiliary groups for first-aid treatment, fire-fighting, air raid precautions, and emergency transport were all ready to function.

When invasion of Australia appeared imminent in 1942, air raid alarm systems and shelters, bomb-blast walls and other protection for buildings were erected. Black-out precautions in trains, stations and yards were imposed and continued until the enemy menace was overcome.

On December 12, 1941, under the powers of the National Security Act, the Commonwealth Government assumed control over all railway systems in Australia. Transport authority was vested in the Commonwealth Minister of Transport, with the Chief Railways Commissioner in each state as his deputy.

To improve the efficiency of transport control, a Land Transport Board was appointed on March 25, 1942, with Sir Harold Clapp as Director-General. The War Railway Committee was reconstructed, consisting of the Director-General, the Chief Railways Commissioner of each state, a representative of the Army, and two members from railway employees' industrial organizations.

Among the first actions taken under Commonwealth control of transport was the "Priority Permit to Travel" decree, commencing on July 1, 1942. This was to ensure that persons travelling interstate on business of national importance would obtain train accommodation, and to discourage interstate travel by those whose journeys would not assist the nation's war effort.

Other matters dealt with included the fixing of special rates for carriage of defence materials, reduced fares for service personnel, and the prohibition of rail transport for racehorses and racing dogs.

Apart from such details requiring joint action by the Commonwealth and the State systems, control of rail transport did not affect the local administration of the various railway departments.

Traffic in Wartime

The transportation triumphs of the railways during the war years confounded the peacetime critics.

Because of restrictions enforced on the use of road and sea transport, the large proportion of the State's total volume of goods and passenger traffic carried prior to the war was increased enormously, as comparative statistics reveal :

Year ended June 30	Goods tonnage	Passenger journeys
1939	5,975,853	142,123,567
1940	6,186,989	144,649,075
1941	6,622,785	159,218,412
1942	7,502,640	180,981,900
1943	8,759,113	195,830,057
1944	8,294,226	194,137,624
1945	8,063,591	195,697,963

In December, 1941, after Japan's entry into the war, train services for civilian traffic were curtailed. "Non-essential" passenger traffic was eliminated, this particularly applying to special trains for holiday traffic, race meetings and similar purposes. Interstate travel was limited to defence personnel and to those civilians issued with permits by the Land Transport Board. During 1942, restricted coal supplies caused the Department's limited reserves to be entirely consumed. This condition remained until the end of the war and, consequently, civilian traffic in Victoria had to be limited to bare essentials even though, after 1943, war activities had moved to Northern Australia.

Munitions and War Implements

A considerable time before war broke out, the Commonwealth Government had formulated plans for the construction of aircraft in Australia. Subsequently, Mr. (later Sir) Harold Clapp was appointed General Manager for Aircraft Construction on July 1, 1939.

Main assembly shops for this work were erected in Victoria and New South Wales. Three sub-assembly factories were established at the principal railway workshops in Victoria, New South Wales and South Australia.

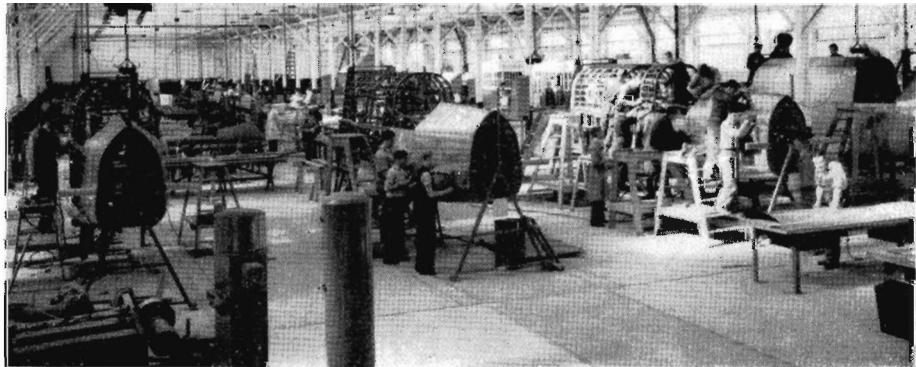
Groups of Australian railway technicians, including several Victorians, were sent to the Bristol Aeroplane Co., England, for intensive training in aircraft construction.

An annex was provided at Newport Workshops for the manufacture of complete fuselages for Beaufort bomber aircraft. Seven hundred of these were produced, together with all necessary tools and jigs.

Early in 1943, the changeover to the construction of Beaufighter fuselages required the complete reorganization of the annex equipment. Manufacture of Beaufighter fuselages totalled 364.

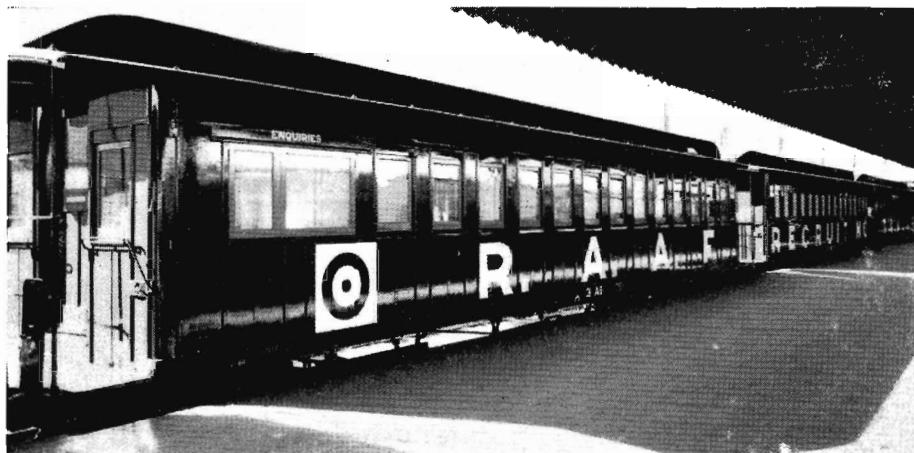
Preliminary planning for building Lincoln bombers began late in 1944. The provision of new tools and other equipment called for over 8,000 items, but the war terminated before any Lincolns were completed.

The assembly, for Beaufighters, of rear fuselage looms—the intricate electrical wiring system controlling the operations of an aircraft—was carried out at the Department's instrument annex, Spencer Street, Melbourne. In all, 435 looms were turned out.

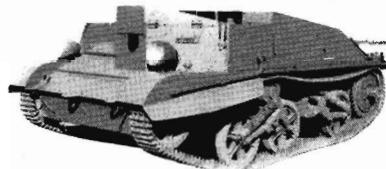


Aircraft construction, Newport Workshops

R. A. A. F.
Recruiting
train, 1940

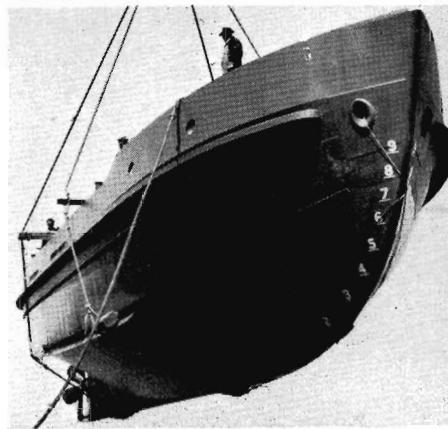


Machine gun
carrier



Other major works were the manufacture of :

1,841 machine gun carriers ;
1,000,000 shells of various calibres ;
24,000 forgings for field guns ;
500,000 forgings for submarine mines ;
16,500 forgings for torpedo engines ;
402,000 forgings for surgical instruments ;
482 portable petrol-electric generating sets ;
12,000 ammeters and voltmeters ;



Tugboat hull

8 ocean-going tugboat hulls, each 75 feet long, 18 feet wide, 17 feet deep. A specially built 32-wheel vehicle carried the vessels from Newport over a circuitous route of 16 miles to the launching place on the River Yarra near Spencer Street. Here, powerful wharf cranes lifted the tugboats and placed them in the water.

14 moving targets for gunnery training of tank crews. These were designed on the principle of the tin hare used in greyhound coursing and could attain speeds up to 40 miles per hour.

Twelve Australian Standard Garratt type locomotives were designed and completely assembled by the Victorian Railways, although some components were made by other Australian railway systems.

A target range for the R.A.A.F. was built and equipped.

Urgent, and sometimes extensive, repairs to engines and other equipment of ships belonging to the Royal Australian Navy, Royal Navy, United States Navy and the Royal Netherlands Navy were successfully handled.

Two 3-car trains were equipped for R.A.A.F. recruiting. A military ambulance train, consisting of 14 carriages and accommodating 350 bed patients, together with doctors and nurses, was fitted out in 1942. The carriages, withdrawn from running on January 24, were ready by February 6, for service as an ambulance train, complete in every detail, even to the Red cross emblem painted on the roofs and sides—an achievement of special note.

The Staff and the War

Railwaymen made an immediate and gratifying response when recruiting opened after the outbreak of war. However, it soon became apparent to both the administration and the Defence Authorities that the interests of the nation would be seriously affected if eligible staff (particularly in skilled grades) were permitted to enlist without restriction. The release of men for voluntary enlistment was added to by the mobilization of militia units, thus aggravating the labour shortages then beginning to occur.

In 1940, the Commonwealth Government enacted regulations for controlling the enlistment of employees in "key" industries, railways being so classified. By agreement with the defence authorities, a joint control on the release of key personnel was maintained to suit the requirements of the armed forces and essential home industries.

A Man Power and Resources Survey Committee was set up by the Commonwealth in March, 1941, to further implement the above-mentioned agreement. Shortly before Japan's entry into the war, the Man Power Directorate was established. From December, 1941, enlistment in the fighting forces was controlled under National Security Regulations.

By the middle of 1942, large numbers of female staff had been engaged to fill vacancies caused by the release of male employees for the Defence services, and to assist with the tremendous amount of additional work thrown on to the Railways. Women and girls, in hundreds, were now quite capably performing jobs until then regarded as the preserves of the male. In addition to office duties, women collected tickets and pushed barrows on stations, cleaned carriages, assembled delicate components for electric meters, worked paint sprayers, knocked down rivets, operated punching and pressing machines, and issued stores.

On March 3, 1943, railways were proclaimed a "Protected Industry" under the man-power provisions of the National Security Regulations. Working hours, long since extended by overtime, were increased to the limit to help ease the staff shortage. Annual leave, where possible to grant it, was generally restricted to two weeks, the balance accruing for clearance after the war. Members of the traffic staff—train crews, shunters, and station men in particular—were repeatedly called on to work excessively long shifts. Because of the great physical strain imposed on these men, everything possible was done to ease their burden. But the demands continued for more trains, more wagons, more production, more everything.

The Governments and the leaders of the Australian and Allied fighting forces, even the troops themselves, acknowledged the excellent service given by the railways during this war. With pride and pleasure, the Commissioners recorded their appreciation of the sustained efforts of the staff.

Through all the stress, Railway staff gave up much of their limited leisure time to assist the numerous patriotic efforts of the general community. Red Cross equipment and Comforts Fund amenities were made; thousands con-

tributed to the blood banks ; Air Raids Precautions organizations in every town and district included railwaymen ; and many hundreds were enrolled in the Volunteer Defence Corps. Professional staff voluntarily contributed thousands of hours of draughtsmanship, and of technical teaching on non-railway projects essential to the war effort.

The Victorian Railways Patriotic Fund raised £70,000, which was distributed in a wide diversity of comforts and amenities for the fighting forces. It is worthy of record that the Fund, administered by voluntary effort, incurred no overhead expenditure during its existence.

By means of instalment payments deducted from salaries and wages, a considerable number of the staff purchased War Savings Certificates and War Loan Bonds. At the termination of hostilities, the face value of certificates and bonds so purchased amounted to £160,000 and £75,000 respectively.

In the course of the war, 3,298 male and female members of the Railways staff were released for service with the Defence forces ; 190 lost their lives during, or as a result of, the campaign. An additional 468 employees were loaned to various Government and defence organizations in connexion with the general war effort ; many of these worked on the railways in north Australia and Queensland.

Several privileges and concessions were granted by the Railway Department to the staff while in the defence forces. Among these were : the payment of superannuation contributions ; accumulation of sick leave credits ; and conservation of seniority rights.

When the staff began to return to the Department after the cessation of hostilities, the Commissioners established the Railways Rehabilitation Section to assist ex-service personnel to settle down again in civilian occupations. A gratifying aspect of the section's work was the co-operation of employees' industrial and social organizations. Many a returned man, older mentally as well as physically, and weary after years of war service, thankfully accepted the helpful understanding of his problems.

STATE COAL MINES, WONTHAGGI

Stoppages of N.S.W. supplies ; No. 1 Shaft re-opened ; Production figures ; Control vested in Commissioners ; Capital expenditure

Existence of large coal-bearing areas in southern Gippsland was known in the early 1840's, but the fields were not exploited. During the 'fifties, Government and private enterprise conducted surveys, borings and other investigations on these fields. Small quantities of black coal were mined, but lack of adequate transport prevented any successful extension of production. In a desultory manner, the pioneering of Victoria's coal-mining industry proceeded slowly and laboriously towards organized establishment in the late 1880's.

Coke was used for raising steam in locomotives during the first years of railway operations in Victoria. About 1860, the Railway Department commenced using New South Wales coal for engine fuel. To assist the local coal industry, lessen the Colony's dependence on imported fuel, and reduce operating costs, the Department, by direction of the Government, commenced using fairly considerable quantities of Gippsland coal in 1892.

Urged by recurring stoppages of supplies from New South Wales, the Victorian Government, in the first years of the present century, sought to reduce still further the local community's dependence on imported coal. In addition to encouraging private enterprise, the establishment of a state coal industry was considered.

During the early investigations for coal, Government bores had been sunk about the Powlett River region in 1858, near the site of the present State Coal Mine. Boring was resumed in 1908, and some large coal seams were located. A shaft (No. 1) was sunk, from which a small quantity of coal was mined for test purposes.

When a strike of New South Wales coal miners completely stopped supplies late in 1909, Victorian industries were so seriously affected that the Government found it imperative to obtain as much local coal as possible for the Railways and other essential services. Under conditions bordering on a state of emergency, the Wonthaggi mine came into being. The No. 1 shaft, idle since the test samples were taken, was re-opened on November 22, 1909. Coal winning operations were so expeditious that the first consignment for Melbourne was dispatched three days later. There being no railway, the coal was hauled 10 miles by bullock wagons to Inverloch for transport by sea.

Three additional shafts were sunk adjacent to No. 1. The increased output being greater than the primitive transport methods could handle, coal began to accumulate in large quantities. In December, 1909, Parliament authorized the extension of the Nyora-Woolamai railway to Powlett Coal Field (State Coal Mine)—a distance of $13\frac{3}{4}$ miles. Construction was so rapid that the railway reached the mine on February 22, 1910, and the first coal was sent to Melbourne by direct rail the next day.

By this time, 2,500 persons were living at a Government "canvas town" near the mine. The town of Wonthaggi (aboriginal for "to carry" or "to procure") was laid out in March, 1910.

When the mine commenced working, the field was estimated to contain 20,000,000 tons. Additional areas later opened increased the estimate to 28,000,000 tons; but this figure proved over-optimistic. Today, the workable seams are nearing exhaustion after yielding about 16½ million tons.

In the first year of production, 41,000 tons of coal were extracted. The highest yearly output amounted to 662,000 tons, in 1930. A progressive decline followed, and over the last few years about 105,000 tons have been mined annually. Thermal efficiency of the coal was substantially below that of high grade New South Wales locomotive coal.

Control of the State Coal Mine was vested in the Railways Commissioners on July 1, 1911. Local working is directed by a General Manager. The staff, numbering 319 at June 30, 1962, comprising all the grades associated with coal-mining operations, reached a peak of 1,821 in 1926.

A major disaster occurred at the mine early in 1937. Operations had ceased owing to an extended industrial dispute, and only maintenance staff were at work. On the morning of February 15, 1937, an inspection party was underground in No. 20 shaft when an explosion occurred, causing the deaths of 13 men.

Capital expenditure at the mine to June 30, 1962 amounted to £1,638,441. Though the mine incurred heavy financial losses, its true value to the State was in providing a substantial coal supply independent of interstate fields and shipping. This has been appreciated by every Government since the State Coal Mine was authorized, but this aspect has had diminishing importance as oil and brown coal development reduced the State's dependence on imported black coal.



Operating power borers, State Coal Mine



Haulage from No. 20 shaft to Dudley Brace

RAILWAYS AND TOURISM

Tourist Bureau ; Publications ; Early offices ; Expanding business ; Mt. Buffalo National Park ; First buildings ; Mts. Feathertop and Hotham

It was no paradox that the Victorian Railways should have sold—until early 1959—competitive forms of travel quite impartially through the Victorian Government Tourist Bureau. Rather, it was another instance of how the Department served the people of its State, as well as the State itself.

Tourism is big business in many countries. Tourists need shelter, food, transport, entertainment, and many other goods and services. Their money circulates through a wide section of the community, and the economy prospers.

The Victorian Government Tourist Bureau was built by the Department into Australia's biggest travel agency, its efficiency and activities highly commended by travel managers and other experienced persons, both here and overseas. A veritable department store of travel, it made bookings to any part of the world, but its main concern was the promotion of travel within the State. To this end, the Victorian Railways Public Relations and Betterment Board produced a continuous flow of literature, widely distributed interstate and overseas, as well as through the Bureau and its branches. The publicity ranged from small pamphlets to elaborate four colour booklets, such useful and novel publications as "Where to Go in Victoria", "Interesting Facts about Victoria", "Melbourne Map", "Diners' Guide", and "See Victoria", to posters that won local and overseas recognition. Besides personal inquiries, queries and requests by letter rose to over 250,000 annually, while the telephone service, manned seven days a week until 10 p.m., answered up to 7,000 inquiries on a single busy day.

The Bureau's commodious and tastefully decorated headquarters in the heart of Melbourne at 272 Collins Street are in remarkable contrast to the humble room where, 74 years ago, organized tourism had its origin in Victoria.

The great Centennial Exhibition of 1888, held in the present Exhibition Building, Carlton, attracted very large crowds, including numerous interstate and overseas visitors. Anticipating that many of these would wish to see more of Victoria, the Railway Department opened an "Inquiry Office" at Spencer Street station, with Booking Clerk John Clarkson Boyce in charge. The innovation was so successful that it was retained.

To make the service more convenient to the public, it was transferred in 1895 to Flinders Street station, opposite Elizabeth Street. Known as the Central Booking Office and Railway Inquiry Office, tickets for Victorian and interstate lines were issued, and information on holiday resorts was supplied to inquirers. It was supervised by J. C. Boyce as Officer-in-Charge, with H. E. Coffey and R. T. Wotherspoon as assistants.

About 1905, because of the rebuilding of Flinders Street station, the office was moved to Princes Bridge station at the corner of Flinders and Swanston



above and below : 272 Collins Street



left: Corner of Swanston and Collins Streets

Streets. Boyce became Tourist Agent, with Coffey as Officer-in-Charge.

Because of the need for additional space, the establishment was moved on December 3, 1908, to Victoria Buildings, on the corner of Collins and Swanston Streets, opposite the Melbourne Town Hall. It was to be called the Tourist Bureau and Lands Inquiry Office, with separate staffs for each division. As the Lands Department did not take occupancy, the Victorian Government Tourist Bureau and Central Railway Booking and Inquiry Office came into being with Boyce as Manager and Coffey, Wotherspoon, a booking clerk and a typist as his staff.

Expanding business again required larger premises. In 1923, the Bureau changed to offices in Queen's Walk, immediately at the rear of Victoria Buildings. Here it remained for 16 years, when further increases of services and business necessitated the move to the present Collins Street premises in 1939.

Over the years, branches of the Victorian Government Tourist Bureau were established at all capital cities and several Victorian provincial cities. During World War II the branches at Brisbane, Sydney, Adelaide, Hobart, Perth (as

a combined Eastern States Bureau), Mildura, Bendigo, Ballarat and Geelong, and the metropolitan offices at Spencer Street and Flinders Street stations were closed. Owing to high post-war operating costs, branches were reopened only in Adelaide, Sydney and the pre-war provincial centres. However, in 1957, the Railways combined with other Australian Government Tourist Bureaux to finance an Australian tourist representative in New Zealand ; this representation was taken over early in 1959 by the Australian National Travel Association, to the funds of which the Railways also contributed.

Towards the end of 1958, the Victorian Government, having established a Tourist Development Authority, decided to vest control of the bureau in the new body, but with the Railways paying two-thirds of the cost, to a ceiling of £95,000. Control passed to the Authority on April 5, 1959.

The Chalet, Mt. Buffalo National Park

With such a progressive outlook towards tourism, and its associated rail travel—particularly in those early days before the widespread ownership of private motor cars—it was not surprising to find the Railways, shortly after their Tourist Bureau moved to enlarged premises in Queen's Walk, purchasing The Chalet guest house on the plateau of Mt. Buffalo National Park, 210 miles from Melbourne.

The scenic grandeur and altitude of 4,560 feet, combined with the comfort and service of The Chalet, have made Mt. Buffalo one of Australia's finest health resorts and playgrounds. During the winter season, skiing, snow sports, and the possibility of ice skating on Lake Catani, attract visitors to the full capacity of The Chalet. The gentle slope and ski tow at Dingo Dell are ideal for beginners, while more distant steeper runs provide greater excitement for skiers of experience.

Summer months are equally popular with tourists who can indulge in outdoor recreations of an extensive variety, augmented in recent years by a swimming pool, and croquet and putting lawns.

In the first years of the 20th century only a small two-room shack on the Plateau existed for the convenience of tourists, and this primitive accommodation attracted but a few adventurous visitors. Then, in 1909, the Victorian Government Public Works Department constructed a chalet which was leased to private enterprise as a guest house. When the lease expired, The Chalet was purchased by the Railway Department on October 1, 1924.

Originally designed and erected as a temporary structure, The Chalet was modernized by the Commissioners. Extensive additions were made to the building, and many improvements incorporated in the general amenities. Efficient fire-fighting equipment, providing protection to all parts of the building, was installed ; and the entire staff is given regular instructions in fire fighting. Further extensions to the property were made in 1937, increasing the capacity to 182 guests ; later internal alterations brought the total to 187.

A Departmental road motor coach conveyed guests between Porepunkah railway station and The Chalet. This service, which commenced on June 1,

1925, was instituted by arrangement with the Mt. Buffalo National Park Committee, to provide more convenient transport for Chalet guests. Since 1952, following the discontinuance of passenger train service on the Bright line, the road motor coach has operated between Wangaratta and The Chalet. A tractor-driven snow plow maintains a clear path on the road to The Chalet throughout the year.

In 1928, the Department purchased a small tourist house (The Bungalow, 5,600 feet above sea) on Mt. Feathertop, 44 miles from Mt. Buffalo. Providing accommodation for 24 guests, The Bungalow served as an adjunct to The Chalet for snow sports.

The Department assumed the tenancy, in 1932, of the Victorian Country Roads Board hostel, Hotham Heights on Mt. Hotham, as an extra adjunct to The Chalet. The building, on the main road over the Australian Alps, at an altitude of over 6,000 feet, is the highest regularly occupied residence in Australia. The hostel was renovated and re-furnished, and provided splendid accommodation for snow-sports enthusiasts. The excellent ski runs in the vicinity are very popular with skiers.

Both the Mt. Feathertop and Mt. Hotham buildings were destroyed by bush fires in January, 1939. The Hotham hostel was partially rebuilt in the same year and sold in April, 1952, to the Ski Club of Victoria.



The Chalet, Mt. Buffalo National Park

THE WAY AND THE WORKS

Rails and sleepers ; Welded lengths ; Mechanized track maintenance ; Station buildings ; Bridges ; Signalling ; Centralized traffic control ; Interesting facts

With the advantage of over 30 years British railway experience to draw on, the Victorian Railways Department had reasonably up-to-date equipment and operating practices when its trains commenced running.

Double-headed iron rails, seated in cast iron chairs fastened to transverse wooden sleepers by wooden tree nails (also spelt trenails) were used until systematic replacement with flat-bottomed steel rails commenced in 1871. Secured in the chairs with wooden keys or wedges, the double-headed rails were 12 and 15 feet long, weighing 80 lb. to the yard. Two types of chairs, for rail joints and intermediate support, were each 14 inches long and weighed 43 and 34 lb. respectively. The fish (or fishing) plates for rail joints were secured with four bolts. The original sleepers, of gum, ironbark or box timber, were mostly of half-round section, flat side in the ballast, and strengthened against splitting by bolts through the ends. Extensive renewals were soon necessary, and, in 1867, sawn squared sleepers of red or blue gum timber, were introduced ; also iron pins, or dogspikes, were used instead of tree nails. Ballast was of bluestone or other metal of a suitable nature, usually quarried and broken to size at convenient places along the routes during construction of the lines.

*pp. 86, 87

During the era of "cheap railways"** in the 1870's, new lines were laid with 60 lb. rails. As the years advanced, heavier loads, higher speeds, and greater traffic necessitated increased size of rails on main lines, and the minimum for new rails nowadays is 94 lb. to the yard.

In 1931-32, the welding of rail joints was first applied in Victoria in the suburban area. The resultant benefits of the process were economy of permanent way maintenance, and more comfortable travel for passengers by increased smoothness of train running and reduction of noise. Welding was done on site by the Thermit system, and rails of 110, 100 and 90 lb. were joined into 225 feet lengths. In following years, rails on some country branch lines were welded into 103 feet lengths as the standard for light rails. Experiments had also been made by the electric arc and the Linde acetylene processes.

With experience, greatly extended welded lengths were installed. The double tracks through the Elphinstone tunnel, on the Bendigo line near Castlemaine, were in 1935 relaid with 110 lb. rails welded into 1,710 feet lengths. Similarly, in 1936, Geelong tunnel rails were replaced with 1,530 feet lengths. Early in 1937, an automatic electric flash butt welding machine was installed at Spotswood*. This welded rails at a much lower cost than the on-site system, which was gradually superseded.

The longest sections of welded rails on the Victorian Railways were laid on the Newport-Geelong line in 1938. Previously joined into 225 feet lengths by the butt welder the rails were welded on site into continuous sections of 4,748

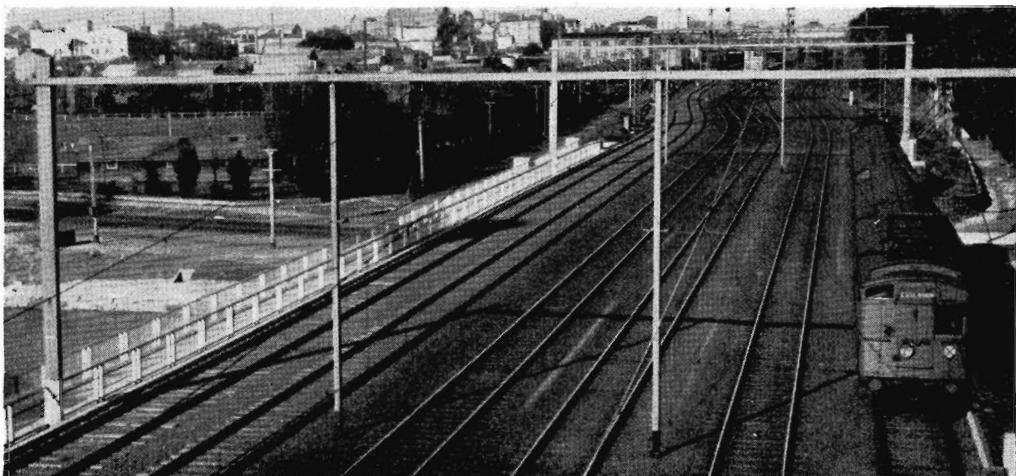
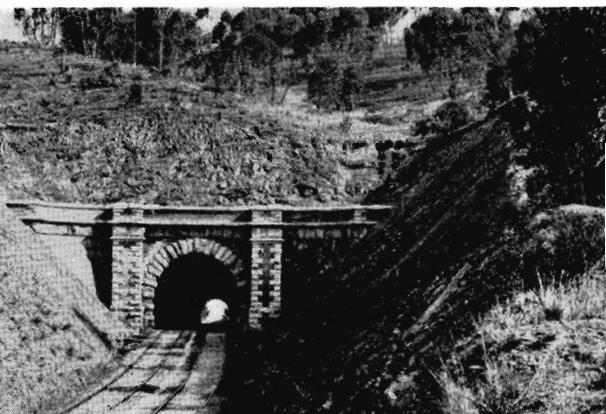
*p. 208



above: Werribee Viaduct opening, 1885

left: Elphinstone tunnel

below: Cremorne Bridge, over River Yarra



feet and 4,321 feet. Maintenance replacements have since resulted in these lengths being reduced to 2,723 and 2,500 feet respectively.

Since 1950, much up-to-date mechanical equipment for track and bridge maintenance has been secured. It includes ballast-tamping machines, tractors, bulldozers, rail-laying cranes, spike pullers and drivers, concrete mixers, pneumatic tools and air compressors. A weed-poisoning train was placed in service in 1955.

Intermediate station buildings on the first trunk railways were of bluestone, and most of them still exist in this form. Terminal and main stations were principally brick formation. The cheap structures of later years were followed by more substantial types, which have now been superseded by modern constructions combining harmony of appearance with utility.

Original iron bridgeworks, notably the big viaducts at Moorabool River and Taradale, have been strengthened to take the heavier loads. The Maribyrnong River bridge near Footscray was renewed in steel. Timber bridges are progressively being replaced with steel and concrete.

Safe-working has improved to almost absolute reliability compared with the relatively primitive methods of 70 and more years ago. The first signals, tall semaphores, were hand operated on site. The semaphore arm worked through the lower left hand quadrant, daylight indications being "Stop" at 90 degrees, "Caution" at 45, and for "Proceed" the arm disappeared into a slot in the mast. Night signals were shown by a rotating lamp — Red, "Stop"; Green, "Caution"; White, "Proceed".

Following the initial installation of interlocking gear in 1876, a new type of semaphore signal came into use. This was operated by a hand-levered wire connexion from the signal box. The arm worked on the lower left quadrant in two positions: 90 degrees for "Stop"; 45 degrees, "Proceed". A "spectacle frame" fitted at the mast end of the arm, displayed a red or a green light for night signals. Improved versions of this lower quadrant semaphore were evolved in subsequent years, and were usually known as the "tumble arm". The arm is painted red with a white vertical stripe.

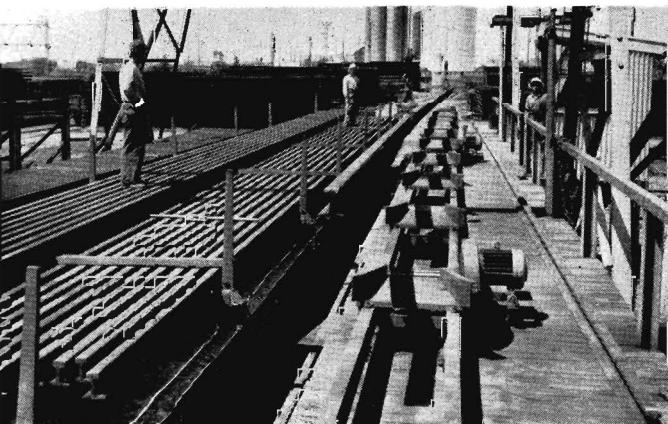
*Ch. 17, p. 109

The decision to electrify the Melbourne suburban railways* caused an important change in signalling in the metropolitan area. Problems that had to be overcome included restricted visibility of signals because of the structures carrying the overhead electrical equipment, the introduction of two-man train crews on electric trains as against three on steam services, and the necessity for providing a signalling system capable of controlling rapid and dense traffic with a reduced number of signalmen.

About 1915, automatic (or electric power-operated) 3-position upper left quadrant semaphore signalling was introduced between Richmond and Hawksburn. Daylight indications were "Stop", with the arm at 90 degrees; "Caution", 135 degrees; "Proceed", 180 degrees. Night indications were Red, Yellow, and Green, respectively. Subsequent extensions of power signalling



above : Burnley Flyover



left : Welding rails, Spotswood

below : Maryborough station, described by Mark Twain as "a station with a town attached".



into a control panel, shows the track occupation throughout the section. All safety aspects are applied as in any relay interlocking.

Control is effected by a time code transmission of a determined series of long and short electrical impulses, as in Morse telegraphy. These impulses set the points and signals for the required traffic movements. An indication code is transmitted from the field position to the control panel to show the state of points, signals, and track sections. Track occupancy is indicated by a red light. Audible warning by a gong is given when a train occupies the track circuits over points or at selected stations, and also when a train leaves these stations. The warning continues until the signalman switches off the gong.

Large scale installation of centralized traffic control for the new standard gauge line from Melbourne to Albury has commenced.

SOME INTERESTING FACTS

Highest point on Victorian Railways : 2,583 feet at 236 miles from Melbourne, near Shelley.

Highest rail level on the Dividing Range : 2,452 feet at 64½ miles, near Bullarto.

Deepest cutting : 65 feet, near Elphinstone.

Longest distance between stations : 15½ miles from Hamilton to Branxholme.

Longest tunnel : South Geelong, 1,386 feet. There are nine tunnels on the Victorian Railways.

Longest bridge : 2,524 feet across the Snowy River flats at Orbost. Until the 1958 deviation at Tallangatta for the expansion of the Hume Dam, the longest bridge was 2,880 feet over the Mitta Mitta River.

Highest bridge : 179 feet from the bed of the Maribyrnong River, between Albion and Broadmeadows, to rail level : 1,261 feet long.

Longest station platform : Flinders Street No. 1, 2,206 feet.

Longest single passenger journey : 377½ miles, Melbourne to Pinnaroo, 3½ miles beyond the South Australian border.

Longest distances between terminals (via Melbourne): north-west to south-east : 634 miles, Morkalla to Orbost. South-west to north-east : 548 miles, Mt. Gambier (11½ miles beyond the South Australian border) to Cudgewa.



Dogspike driving machine

SAFETY RECORDS

Improved signalling ; Werribee incident ; Windsor and Sunshine ; Last major calamity, 1910

Installation of automatic signalling in the congested suburban area and on other busy lines, together with the application of other modern methods of traffic control, have brought a very high standard of safety to the Railways.

During the last quarter of a century, only two passenger fatalities occurred as the result of train accidents. In that period, more than 40,000,000,000 persons were carried.

The Victorian Railways are justly proud of this record, which is probably one of the best in the world.

The first accident of any magnitude on the Victorian Railways occurred on November 26, 1862, at North Melbourne. A passenger train from Spencer Street to Bendigo overtook and collided with a train proceeding to Williams-town. This was due to negligence of the signalmen. Eighteen passengers were injured, resulting in the Department paying out £5,330.18.5d. compensation.

Nearly 10 years elapsed before the next serious mishap occurred. Then, two excursion trains collided at Sunbury on February 28, 1872, causing injuries to 26 passengers.

At the western end of the Spencer Street yards, where all the tracks converged into North Melbourne station, a great deal of congestion of traffic occurred. Signalling protection was of a primitive type until interlocking apparatus was installed, about 1880. On three occasions during 1877-78, passenger trains collided through the negligence of signalmen. In one instance, 35 persons were injured.

On August 30, 1881, the first accident involving passenger fatalities occurred. A broken wheel tyre caused one of the carriages of a train from Brighton to overturn near Jolimont, resulting in the deaths of four passengers ; 39 were injured.

The Hawthorn accident on December 2, 1882, caused the death of one passenger and injured 175 others. A special train, returning from a Box Hill land sale crashed into an ordinary train.

Probably the most extraordinary incident directly responsible for a railway accident was enacted on the night of Wednesday, April 2, 1884, at Werribee. The 8.20 p.m. "down" special goods train from Melbourne to Geelong (a single track line) was cleared through Werribee station at 9.23 p.m., without stopping. The driver—Thomas Coe Kitchen—received the staff from the porter on duty, and the train proceeded towards Little River, the next station, 10 miles away. There, a crossing would be made with the 7.10 p.m. "up" passenger from Geelong. In the unauthorized absence—at choir practice—of the Werribee stationmaster, his 17-year-old daughter (a capable telegraph operator, but not a railway employee) telegraphed "line clear" to Little River after the "down" goods left Werribee. The girl could not explain what prompt-

ted her to send the message. Little River released the "up" passenger and the two trains raced towards each other. On this lonely section of railway, in the darkness and heavy rain, they crashed head-on. The two drivers—Kitchen and James Craik—and a woman passenger were killed. The injured numbered 47. Kitchen was the driver of the train in the Hawthorn accident 16 months earlier.

Six persons were killed and 250 injured at Windsor on May 11, 1887. The 5.40 p.m. "down" Brighton express crashed into the rear of the 5.30 p.m. "down" Elsternwick, which was halted at the signal near Windsor station. Driver Frederick William Maskell and Fireman James Houston McNab, of the express train crew, were killed. Public tribute was paid to their devotion to duty in "remaining at the throttle" instead of leaping from their engine before the crash. A memorial to the two men stands at Graham station near the site of the dismantled Port Melbourne engine sheds, their "home" depot.

Other than for a comparatively few minor incidents, the Victorian Railways remained free of accidents for over 20 years. Then, on Easter Monday, April 20, 1908, one of the most deplorable catastrophes in Australian railway history occurred at Sunshine, $7\frac{1}{2}$ miles from Melbourne. The 6.50 p.m. "up" Bendigo crashed into the rear of the 7.15 p.m. "up" Ballarat, which was standing at Sunshine station platform. Both trains, crowded with holiday-makers returning to Melbourne, were running late. Forty-four passengers in the Ballarat train were killed and over 400 on both trains were injured.

The last major calamity happened at Richmond station on July, 18, 1910. In thick fog, the 8.37 a.m. "up" Elsternwick train ran into the 8.20 a.m. "up" Brighton, standing in Richmond station. Nine passengers were killed and 500 injured.

Since the Richmond collision, a number of train accidents have occurred, but, happily, they were not accompanied by the serious results experienced in earlier years.

METROPOLITAN TERMINAL STATIONS

Early moves for Central terminal ; City links ; Spencer Street ; Committee recommendations ; Viaduct ; Children's Nursery ; City underground

Public opinion and official reports, during 100 years, have condemned Spencer Street station as a general metropolitan terminus.

The need for a central passenger terminal station in Melbourne, and its most suitable location, have been subjects of recurring investigations and planning since 1853. In early days, a site in Elizabeth Street, between Queensberry and Victoria Streets, was the most favoured position for the proposed terminal. Flinders Street, between Swanston and Queen Streets, was also considered as a convenient place ; over 50 years ago, an area near the Exhibition Building, Carlton, was suggested as suitable for either a central terminal or an additional metropolitan station to relieve congestion.

Thomas Oldham, a Melbourne engineer, advised Lieutenant-Governor La Trobe in September, 1853, that the Batman's Hill site was unsuitable for a general terminus. In 1862, a Parliamentary Select Committee recommended that a central passenger station be provided at Elizabeth Street. Today's three city stations were then operating at :

Flinders Street (opened September, 1854) by the Hobson's Bay Co.

Princes Bridge (opened February, 1859) by the Melbourne and Suburban Co., and

Spencer Street (opened January, 1859) by the Victorian Railways, but they were not connected.

The gap between Flinders Street and Princes Bridge stations was less than 10 chains ; Spencer Street and Flinders Street stations were three-quarters of a mile apart. Lines then working were:

from Flinders Street : to Port Melbourne and to St. Kilda.

from Princes Bridge : to Windsor and Brighton, and to Hawthorn.

from Spencer Street : to Williamstown, to Geelong, Ballarat, and to Woodend and Kyneton.

On three occasions, the Hobson's Bay Co. brought out plans to connect the systems. In October, 1858, the company prepared a scheme to link with the Government railways by means of a horse tramway along Flinders Street. In June, 1860, junction with the Suburban Railway through a tunnel under Swanston Street was discussed. In September, 1862, the company proposed to build a central general terminus, adjoining, and as an extension of, its own station in Flinders Street. The proposal included the joining of the Hobson's Bay and the Suburban Cos.' lines, and connecting with the Victorian Railways by a line carried on a viaduct along Flinders Street to Spencer Street. None of these plans was adopted at the time.

In 1853, Lieutenant-Governor La Trobe granted 50 acres of land near Batman's Hill* at Spencer Street to form the metropolitan terminus of the Mount Alexander Railway Co.'s lines ; the area was to be made available for the Hobson's Bay Co., should the latter extend its line from Flinders Street. When the Government purchased the Mount Alexander Co.'s uncompleted undertaking in 1856, the area thus became the terminal of the State railway system.

Spencer Street station was opened for service on January 17, 1859. With increased traffic on the lines to Williamstown and Sunbury, and the acquisition of the Geelong to Melbourne Railway, the Railway management realized that the station conveniences were inadequate and that the location was unsuitable as a passenger terminal. Plans for alterations and improvements were prepared in November, 1860, but the cost, estimated at £250,000, apparently alarmed the Ministry. A few makeshift additions were made to the station, and the general alterations were deferred.

In 1859, the Essendon Railway Co., which had just been authorized, announced a plan to form a central terminal station at the north end of Elizabeth Street, Melbourne. This was to be connected with the State system by a line passing through Hotham (North Melbourne) to give direct access to the city. The company's finances, however, did not permit of the proposal being carried out.

Residents of Carlton, concerned with their own convenience, petitioned the Government on August 15, 1859, to reserve the Old Cattle Yards area as a site for a central railway station. It is understood the petition was successful, temporarily.

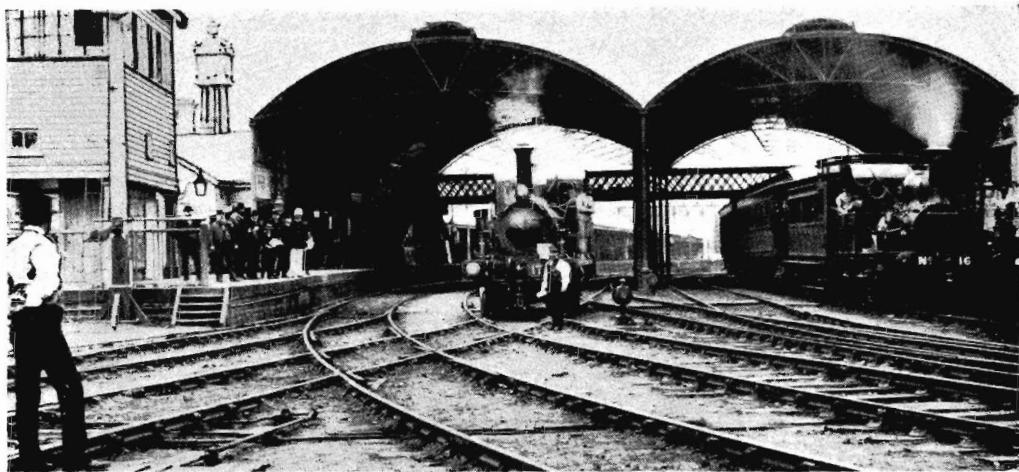
The Old Cattle Yards comprised 10 acres 34 perches, contained in the triangular block bounded by Elizabeth, Victoria and Peel Streets. The yards had been in existence from the early years of Melbourne, but became vacant when larger areas for the horse, pig, cattle, and hay markets were made available in 1856 at the Sydney Road—Flemington Road intersection.

Melbourne citizens and the Essendon Railway Co. joined in a deputation to the Commissioner of Railways (John Houston) on October 22, 1861, to solicit a central station at Elizabeth Street. Public criticism against the inconveniences of Spencer Street was one of the factors that prompted the deputation.

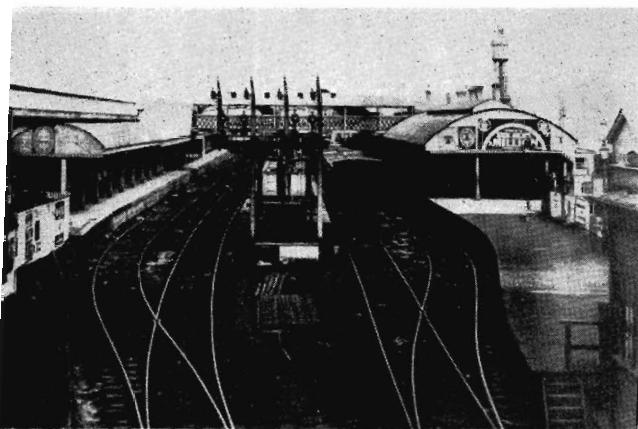
As a result, a Parliamentary Select Committee was appointed on February 20, 1862, to inquire into and report on the necessity for a central passenger terminus for the Government Railways at the Old Cattle Yards site, facing Elizabeth Street, and the formation of a branch line to connect such terminus with the main line north of North Melbourne station.

Giving evidence before the committee on March 14, 1862, Thomas Higinbotham submitted plans for a double track line $1\frac{3}{4}$ miles long, commencing at 1 mile 74 chains on the main line near Essendon junction and proceeding between O'Shanassy and Arden Streets to Elizabeth Street near Victoria Street. The works included a level crossing at Dryburgh Street, bridges over Abbotsford and Errol Streets, and another over Queensberry Street leading into the station. A tunnel, 627 yards long from Leveson Street to Peel Street, was to be cut under Wreckyn, Blackwood and Bedford Streets. Estimated costs were :

<i>Earthworks and permanent way</i>	£56,000
<i>Tunnel</i>	81,000
<i>Station</i>	77,000
<i>Total :</i>	<i>£214,000</i>

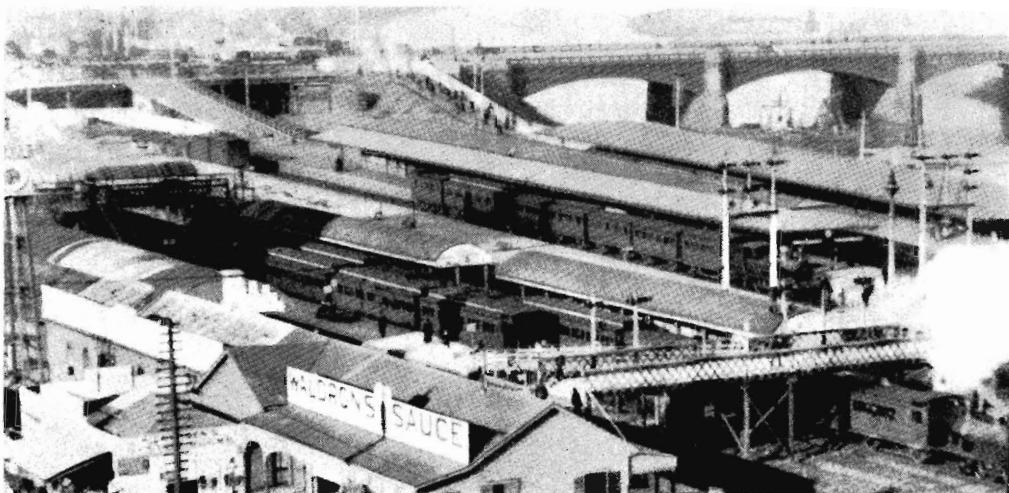


above: Flinders Street station, west end, about 1885



centre: Flinders Street station, east end, 1884

below: Flinders Street station, about 1892



The committee, in a report dated June 4, 1862, recommended that the Government approve the construction of the branch line and station. The Elizabeth Street site was considered to be the most convenient available for present and future requirements as a passenger station. Certain amendments to Higinbotham's plan reduced the estimated cost to about £150,000. The committee did not approve of the proposals to alter Spencer Street station for passenger and goods traffic. It was considered that the area was too small for such purpose, and a more economical proposition would be to remove the existing buildings, on which £100,000 had been expended, and rebuild the station as a goods terminal at a cost of £62,000.

All professional evidence taken by the committee opposed the Hobson's Bay station, Flinders Street, or a site on the south side of the River Yarra opposite Elizabeth Street, being used for a central terminal. During the inquiry, a brief examination ensued as to the advantages, for both general and railway purposes, that might be gained by building a bridge over the Yarra at Spencer Street. Sixty-five years elapsed before this bridge, first mooted in 1857, was built by the Railway Construction Branch in 1927.

Despite the recommendation, a central station was not built. Higinbotham had maintained a passive resistance to the scheme, railway funds were being curtailed, and the Colony's politics were in turmoil. The Old Cattle Yards site became lost as an available location for a station; in 1864, portion was alienated as a public reserve, the remainder sub-divided into building allotments and sold.

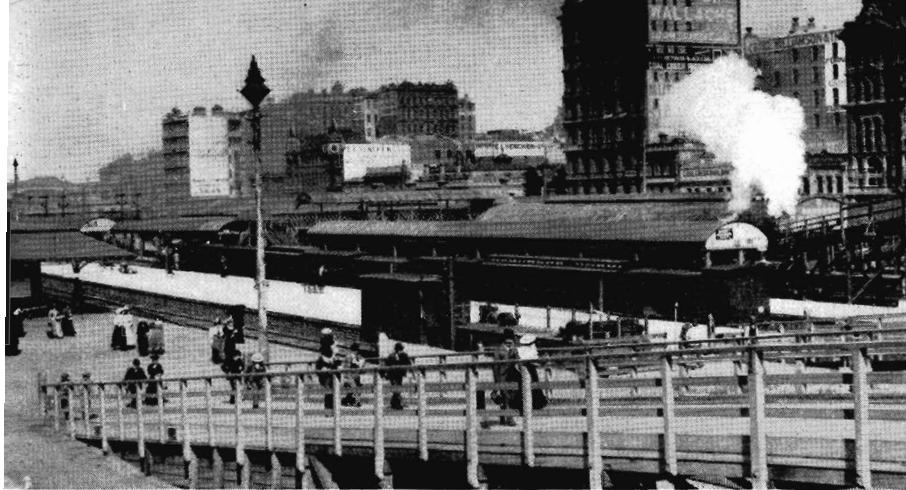
When the Government decided to build the Gippsland railway, controversy again arose as to the necessity for a central terminal. Government recommendations favoured purchasing the Hobson's Bay United Railway, and rebuilding the company's Flinders Street station for a metropolitan general terminus. The proposal to make a passenger station at the north end of Elizabeth Street was also revived.

Higinbotham strongly opposed the plans, and urged his Outer Circle Railway* as a more practicable alternative. In 1874, plans were prepared by the Railway Department for the entire re-building of Spencer Street—the Government terminal.

This still had only the one original platform for passenger departures and arrivals. The staffs of the Engineer in Chief, Accountant, and Traffic Manager were housed in offices placed in various parts of the station premises. Engine sheds, carriage sheds, and other small buildings were scattered haphazardly about the confusion of tracks in the yard. A goods shed, 1,100 feet long, covered portion of the Batman's Hill location, and a low-level siding extended towards the river wharves.

By the proposed re-building, the passenger station was to be converted to a wool and grain store, 1,020 feet long by 150 feet wide, fronting on to Spencer Street roadway. Opposite to and some distance from Lonsdale Street, new pre-

*Ch. 16, p. 101



Flinders Street station, east end, 1890



left: "Under the clocks", Flinders Street station, about 1904

below: Princes Bridge station



mises for passenger traffic would be erected, comprising three double-faced platforms for :

Essendon and Race-course

North-eastern

Bendigo and Echuca

Geelong and Ballarat

Williamstown

Gippsland

Beyond the original station, large goods sheds to handle the business of the entire Government railways, would replace the old buildings. Three engine sheds, of the "round-house" style, were to be placed near North Melbourne. A partial diversion of Spencer Street, near Lonsdale Street, would be made into a street plantation, while hotel accommodation, cab ranks, and other conveniences were to be provided on the railway land at the station entrance. The Gippsland line would come along Flinders Street and lead into the Spencer Street yard and station.

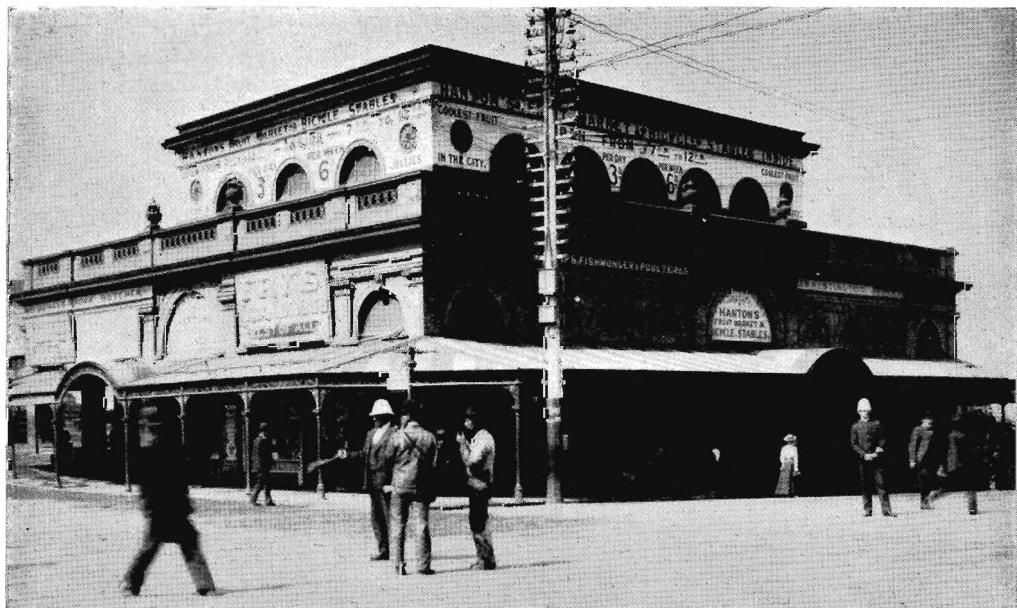
This plan for re-building was not adopted. Additions were made, however, during 1875 to 1880, by the erection of new goods sheds, engine sheds, and a passenger platform. From 1869 to 1875, more than £200,000 was spent on alterations and additions to Spencer Street. By 1880, the total money expended on the terminal since its erection in 1858 as a temporary station was probably £500,000, and it still consisted of a heterogeneous collection of platforms, offices, sheds, tracks and curves. Traffic congestion had not been eased.

Reclamation of the swamp area between the Yarra, Dudley Street, and North Melbourne commenced in 1877 by depositing earth from excavations at the bank at the north of Spencer Street station towards Dudley Street (where the new engine sheds were built) and with silt supplied by the newly-formed Melbourne Harbour Trust from its dredging operations in the Yarra.

After amalgamation of the Hobson's Bay, the Melbourne, and the St. Kilda and Brighton Railway Co's. in 1865, the three systems were connected at Flinders Street station in October, 1866. Princes Bridge station was closed, and remained out of use until April 2, 1879, when it was re-opened by the Railway Department as the metropolitan terminal of the Gippsland line. (The purchase of the Hobson's Bay United Railway Co. by the Government had been ratified a few months earlier.)



Elizabeth Street entrance to old Flinders Street station



Old Fish Market, on site of present Swanston Street entrance to Flinders Street station. Old station at rear



Building Queen's Bridge. Railway along road to Spencer Street left Flinders Street railway yard by gate at mid-left of picture

In December, 1879, Spencer Street station was connected to Flinders Street station (and Princes Bridge yard) by a line—or “tramway”—along the south side of Flinders Street, for goods traffic only. This tramway worked only at night, to avoid interference with road transport.

Safe working practices on the tramway are interesting. Engine No. 34 (formerly the Geelong Co.’s “Titania”) was selected to haul the goods trains, because of its light weight. A bell fitted to the engine was continually tolled by the driver as the train advanced along the line. Speed was restricted to not more than four miles an hour and a shunter, displaying a red light, preceded the train. Use of the engine whistle was forbidden, so that the sleep of the residents adjacent to the track would not be disturbed. Despite these precautions, several persons were killed on the line. In fairness to the railwaymen, it must be mentioned that the track was often used at night as a couch by drunken revellers.

In 1882, a Government board of inquiry, dealing with improvements to the River Yarra, including the building of Queen’s Bridge and a new Princes Bridge (the third) recommended that Flinders Street station be made a central passenger terminal. Arising from this, a competition for designing new stations at Flinders Street and Spencer Street was won by William Salway, a Melbourne architect, who received £400 for his plans. No action resulted.

Later, the Railway Department planned a new Flinders Street station, extending from Russell to Queen Streets, with connexion to Spencer Street over a viaduct and platforms at the former to serve Williamstown, Essendon and Coburg. At last, some progress resulted.

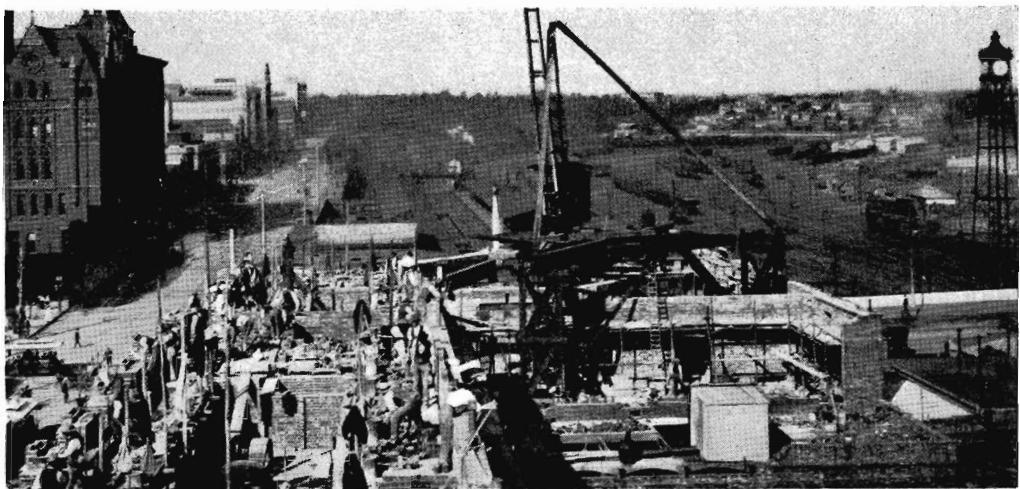
Construction of the viaduct, for two tracks, commenced about December, 1888. Messrs. Mixner, Shaw and Dunlop built the foundations and piers; Robison Bros., Campbell and Sloss supplied and erected the steelwork; and the Department laid the permanent way.

Single line working over the viaduct started on November 23 and double line operation began on December 20, 1891, with speed restricted to 15 miles an hour. Traffic was confined to goods trains until December 17, 1894. On that date, suburban passenger trains from Williamstown and Essendon ran to and from Flinders Street, instead of Spencer Street, where island platforms had been built to allow these trains to be worked on to the viaduct.

(The viaduct was duplicated in 1915, providing four tracks between Spencer Street and Flinders Street, while the Spencer Street island platforms were demolished when the existing suburban platforms—Nos. 11, 12, 13, and 14—were erected in 1924; plans for an underground* envisage two additional tracks over the viaduct.)

On several occasions in these earlier years, land adjacent to Flinders Street was acquired for railway purposes. The City Morgue, located for 35 years in Swanston Street, close to Princes Bridge station entrance, was demolished in 1890 and the site taken over by the railways.

Built in the 1860’s by the Melbourne City Council, the Municipal Fish Market stood on the south-west corner of Flinders and Swanston Streets—the area later to become the famed meeting place “Under the Clocks”. It was closed



above : Building new Flinders Street station



left : Spencer Street station about 1863

below : Constructing Flinders Street Viaduct



as a fish market in 1891 when the City Council opened new quarters at Flinders Street West. The old building was leased for general business until demolished about 1902 to make space for the new station.

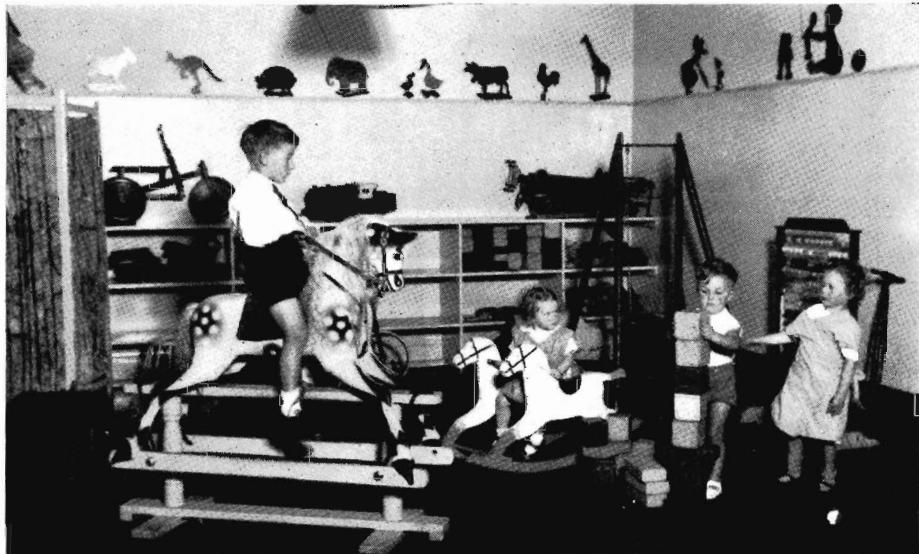
At the same time, the Railway Department resumed the Military Engineers Corps' Depot and the Education Department's National Gymnasium on $3\frac{1}{2}$ acres of land, adjoining the East Melbourne Cricket Ground which was located at the corner of Wellington Parade and Jolimont Parade. Then, in 1921, the cricket ground ($6\frac{1}{2}$ acres) was taken over to provide additional sidings for carriages. The club amalgamated with Hawthorn, both continuing as the Hawthorn-East Melbourne Cricket Club.

A few years after the viaduct opened, enlargement or rebuilding of Flinders Street station became an ultimate necessity, because of the increasing traffic handled there. In 1899, the Department arranged a competition for designing a new station; 17 entries were received. First prize, worth £500, was awarded to J. W. Fawcett and H. P. C. Ashworth, both of the Railways Existing Lines Branch. Their plan portrayed the building as it stands today.

Preliminary work began in 1901, and on September 23, 1905, a contract was let for constructing the station building. After a couple of years, difficulties arose with the contractor, and the Department took over the work, which was completed in 1910.

Construction of the standard gauge track from Albury made it necessary to re-arrange platform facilities at Spencer Street, and it was decided that, in conjunction with these changes, a new station building be erected.

Accordingly, a contract for construction of a three-storey rail terminal was let in September, 1961.



Children's Nursery, Flinders Street, station, 1935

Children's Nursery

A Children's Nursery was established by the Department at Flinders Street station in June, 1933, for the convenience of mothers visiting the city.

It comprised three cot-rooms, two play-rooms—all well lit and attractively decorated—and a kitchen in which infant food could be hygienically prepared. The floor space occupied by these rooms totalled 2,100 square feet. In addition there was an open air playground on an adjoining roof.

The staff of five mothercraft nurses and an infant welfare sister had cared for over 50,000 children when the Nursery was closed in January, 1942, owing to war precautions and restrictions. Lack of space and other disabilities prevented its re-opening.

City Underground

Though, for a long time, it has been a source of local pride that Flinders Street station is one of the busiest in the world, street traffic experts have deplored the conditions of congestion that have existed for so many years.

As far back as 1929, the Metropolitan Town Planning Commission recommended the construction of an underground city railway "as the most suitable way of overcoming the present congestion in the vicinity of Flinders Street station and as a means of avoiding much more acute conditions of congestion in this area".

Prepared by the Railways Department in 1946, a plan for an underground railway from Richmond to North Melbourne, with a branch at Flagstaff Gardens, was not proceeded with because of the recurring lack of finance and man power shortage.

In March, 1956, the Parliamentary Public Works Committee, after taking evidence on the subject, recommended that an underground railway be constructed on a route from near the west end of Richmond station to the east end of Lonsdale Street, down Lonsdale Street, finally connecting with the surface railway in the vicinity of North Melbourne station. Three stations would be provided : at Lonsdale-Exhibition Streets, Lonsdale-Elizabeth Streets, and Lonsdale-King Streets. Cost was estimated at not less than £15,000,000.

A completely new layout was recommended in 1958 by the City Underground Railway Committee, comprising the Minister of Transport as chairman with the Co-ordinator of Transport and representatives from the Traffic Commission, Railways, Tramways, Melbourne and Metropolitan Board of Works, Town and Country Planning Board and City Council.

It provided for a three line loop, two lines running approximately from Richmond station to Spencer Street station *via* a loop behind Parliament House and along Latrobe Street, with a third line starting from North Melbourne station, following the same route in a reverse direction, and swinging in from the Treasury Gardens to Flinders Street station. Three stations would be in Latrobe Street at the corners of Exhibition, Elizabeth, and King Streets, and another in Treasury Gardens.

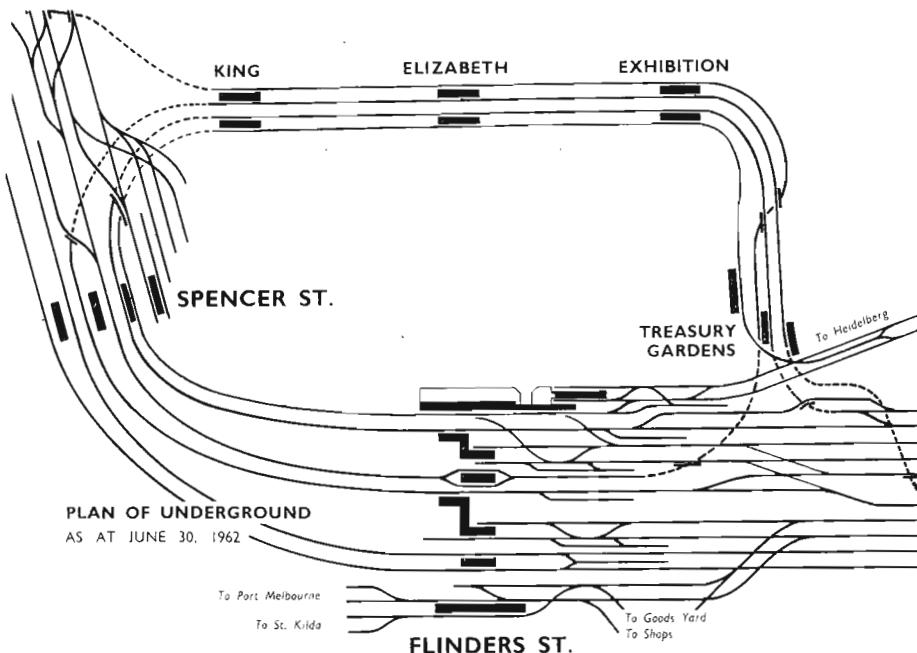
This proposal was later amended to include a fourth track connecting with the Clifton Hill line near Jolimont station and following the same route as the two lines running from approximately Richmond station to Spencer Street station.

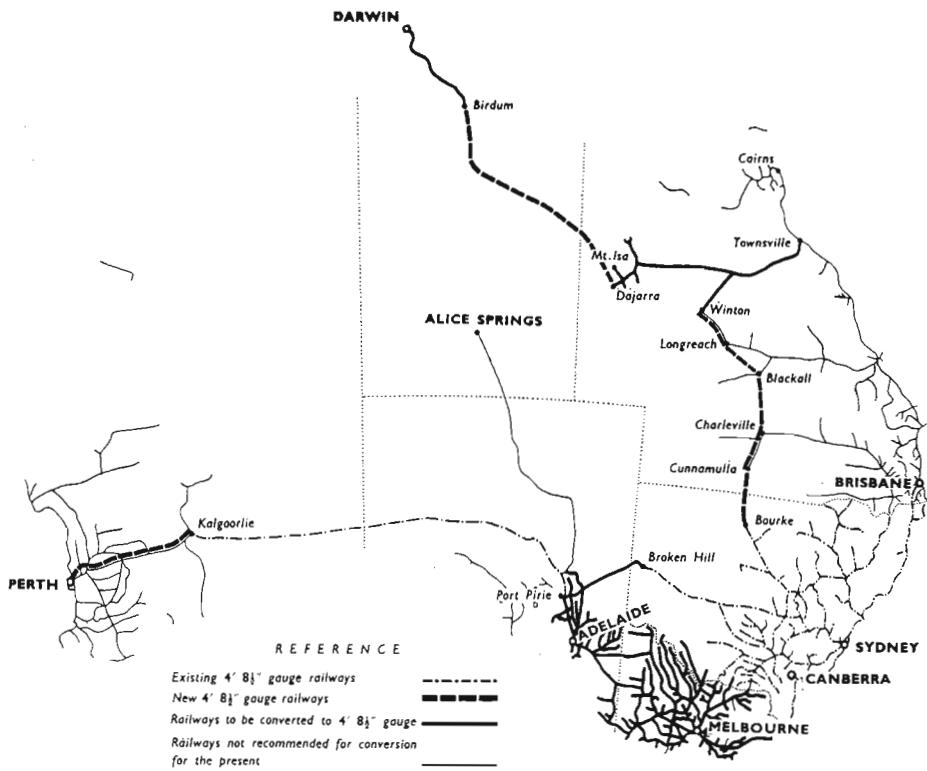
The City of Melbourne Underground Railway Construction Act, 1960, No. 6652, provides for a system of four parallel but independently operated loop lines that will connect with all suburban lines with the exception of the Port Melbourne and St. Kilda tracks. This will enable passengers to travel directly between their suburban stations and any one of the four stations conveniently located around the city on the new loop lines, as well as Flinders Street or Spencer Street stations.

Each track will be signalled for an effective capacity of 24 trains per hour. The signalling will be reversible so that, in the morning and evening peak periods, trains can operate in the direction of maximum movement.

The time schedule for constructing the underground and its connexions is subject to a number of influences : the connecting tracks and flyovers on existing lines must be constructed in stages so as not to interrupt the flow of traffic ; works in hand to increase the capacity of the busiest suburban lines must be completed before the underground comes into operation, otherwise the system would be unable to handle the extra traffic which it will generate ; to handle the extra traffic it is anticipated the fleet of electric trains will also have to be increased.

The Government evolved a scheme whereby, through a special tax, benefiting property owners will contribute two-fifths of the cost of the underground spread over a period of 53 years. The remaining three-fifths of the cost will be borne by the State.





Map from Sir Harold Clapp's 1945 Report

CHAPTER TWENTY-NINE

AUSTRALIAN RAILWAY GAUGES

History of the gauge muddle ; Proposed schemes ; Final approval ; Break of gauge devices ; Chronological summary

The break of gauge was such a major impediment to railway operations during World War II, that the Japanese taunted Australians with : " You are not a country, but only five separate islands ".

This military handicap was noted by Lord Kitchener, reporting in 1910 to the Commonwealth Government on military defence : " railway communication has, while developing the country, resulted in lines which appear to be more favourable to an enemy invading Australia than to the defence of the country. Different gauges in most of the states isolate each system ".

When unification of American railroads was achieved in 1886, an expert authority commented : " This uniformity of railway gauge has been a most important factor in making the United States still more united. It joined the west, north and south still more closely to the east. It made the different states feel that they really constituted part and parcel of one and the same nation ".

Even in 1845, a British Royal Commission regarded break of gauge as " an evil which alone would neutralize half the benefits of the railway system ".

The vexatious muddle of Australia's varying rail gauges developed into a national economic disability in 1883, when the first junction of interstate lines was effected. This hindrance to the free movement of continental traffic was brought about, at the very beginning of railway construction in Australia, by changes of opinion among individuals and obstinacy of the respective Governments in reaching a decision on whether to use 4' 8½" or 5' 3" gauge, in so far as New South Wales and Victoria were concerned. Queensland and Western Australia, in order to provide the greatest mileage at the cheapest cost to serve sparsely populated and scattered areas, adopted 3' 6" gauge when planning their first railways in 1863 and 1873, respectively. This decision was ruled by available visible financial resources of these—the largest and least settled colonies. South Australia, after building 250 miles of 5' 3" track, decided on 3' 6" railways for certain areas, for the same reasons. Victoria built four lines of 2' 6" gauge railway.*

*p. 95

To provide a perspective of the period when railways were first planned and built in this country it is necessary to look briefly at the political evolution of the colonies.

The first settlement in Australia was established at Sydney on January 26, 1788, by Captain Arthur Phillip, R.N. His territory of "New South Wales" comprised half the continent, as well as Tasmania, New Zealand and several Pacific islands. Because of recurring fears, during the earlier years of the 19th century, that the French might occupy different portions of Australia, and also to provide additional accommodation for the ever-increasing numbers of transportees from Britain, new official settlements were established.

Van Diemen's Land (renamed Tasmania in 1853) separated from New South Wales in 1825. Western Australia was annexed to Britain in 1829 and constituted a colony; this western half of the continent was not under the jurisdiction of New South Wales. Until annexation, the area—nearly 1,000,000 square miles, was really a "no man's land". South Australia was created a province in 1834, and official settlement began in 1836. Northern Australia, though first established in 1847, had no form of self-governing status till 1947. The "Port Phillip District of New South Wales" was constituted as "the colony of Victoria" in 1851. Queensland separated from New South Wales in 1859.

Thus, the continent was divided into six colonies, each with its own Government and political economy. Between the mainland's capital cities, separated by hundreds of miles, there was no means of fast overland communication. While each colony had its own peculiar problems, all had a similarity in having to cater for relatively small communities, widely scattered over vast areas of territory.

These disabilities, allied with inter-colonial political antagonisms, tended to transform the established territorial boundaries (really lines on a map) into frontiers. The only natural barriers—the River Murray and the Australian Alps—lay between New South Wales and Victoria. The impact of the "frontier" aspect was first felt when the New South Wales and Victorian railway systems

met at Albury in 1883. Its effect was intensified when the Queensland and New South Wales lines linked at Wallan-garra in 1889. Since those years, the consequences of the breaks of gauge have retarded Australian commercial inter-communication. The set-back caused by this inconvenience could not now be assessed in terms of economic value.

More than 116 years ago, when the prospect of building railways in Australia was but a nebulous hope, the British Government recommended to the Governor of New South Wales the adoption of a uniform gauge, in the event of railways being constructed in the colony.

By 1845, English railways comprised about 1,900 miles of 4' 8½" and 270 miles of 7' gauge. In that year, a Gauge Commission, appointed by the British Government, decided that 4' 8½" be the uniform gauge for English railways.*

As part of the British Government's general policy for the regulation of railways, the then Secretary for State for the Colonies (William Ewart Gladstone) in a dispatch dated January 15, 1846, to the Governor of New South Wales, Sir George Gipps, recommended that in the event of railways being constructed in the Australian colonies, a uniform gauge of 4' 8½" should be adopted.

At this time, The Sydney Railroad and Tramway Co. was being formed. Following a preliminary survey of a projected route from Sydney to Goulburn, the company's proposal was submitted to the British Parliamentary Commissioners of Railways, who recommended that the gauge be 4' 8½". Lord Grey, successor to Gladstone, by dispatch of June 30, 1848, to Governor Gipps, intimated that a uniform gauge was desirable, in view of the future railways of the various Australian colonies eventually making junction, and he recommended that 4' 8½" be adopted as the standard when construction of the lines commenced. The South Australian Government, in its regulations for proposed railways in that colony, had already accepted this gauge as standard.

During 1850, the Sydney Railway Co. commenced building a line from Sydney to Parramatta. The company's engineer, Francis H. Shields, favoured the 5' 3" gauge, and he converted the directors to his view. The company requested Sir Charles Fitzroy, the Governor-General, to approve of the change, and claimed that as this was the first railway in Australia there was ample time to notify the neighbour colonies of the alteration before any plans were commenced. Fitzroy submitted the request to Lord Grey, who eventually notified, in his dispatch of February 14, 1851, that approval to change the gauge to 5' 3" was granted. By Act of the New South Wales Legislative Council on July 7, 1852, the standard gauge of 5' 3" was adopted for the colony, and the Governments of Victoria and South Australia were informed accordingly. The Act decreed that severe penalties would be imposed should this standard be departed from.

* It is believed by some authorities that the 4' 8½" gauge can be traced back to the width between the wheels of the Roman chariots—equivalent to *passus* or double marching pace of the Roman legions. The Roman invasion of Britain established this width by ruts in the road which were followed by later highway vehicles.

Mine tramways adopted the same width as the road carriages.—Ed.

Consequently, when three railway companies formed in Victoria, their Acts of Incorporation specified 5' 3" gauge, and orders for rolling stock were prepared to this dimension. In the meantime, however, James Wallace had superseded Shields as engineer for the Sydney Railway Co. An ardent supporter of the 4' 8½" gauge, he convinced his company to revert to this standard ; and the Governor-General was petitioned to authorize the change. Fitzroy, by letter of February 2, 1853, informed the Lieutenant-Governor of Victoria (Charles Joseph La Trobe) that he approved the change of gauge and would initiate amending legislation to this effect.

La Trobe protested, claiming that the reasons given by Fitzroy were not sufficiently conclusive to justify the alteration, which necessitated the cancellation of all previous instructions ; but Fitzroy merely replied that it would be his duty, as Governor-General, to bring the matter to the notice of the British Government.

Consequent upon these extraordinary proceedings, the Victorian Legislative Council on September 29, 1853, appointed a Select Committee to inquire into and report upon the best gauge to be adopted for railways in Victoria. In a report dated October 20, 1853, the committee recommended without reservation 5' 3" as the most suitable gauge for Victoria. The report deprecated the building of railways to various gauges : the Governments of the colonies could, by unanimity of action, establish and perpetuate an Australian standard gauge and thus prevent the numerous evils which a lack of uniformity in railway communication would cause.

La Trobe, on November 19, 1853, wrote to the British Government requesting that the Queen's assent to the New South Wales Amending Act be withheld until the subject had been fully and fairly reviewed. Evidence indicates that the Colonial Office did recommend postponement of the Queen's signature and also instructed Fitzroy to have the New South Wales Legislature reconsider the question ; but it would appear that this course was not taken or was unsuccessful, for in 1854 Royal assent was given to the Act which decreed 4' 8½" as the standard gauge for New South Wales.

Both New South Wales and Victoria continued planning to their respective gauges. Thus, an insignificant difference of opinion contributed largely to the great national economic disaster of Australia's different railway gauges.

Since 1857, numerous reports have been made and conferences convened to bring about unification of gauge. Scores of inventions and suggestions have been submitted to overcome the break of gauge, but all have been considered to be merely expediencies that would not settle the problem.

During 1866-69, a world-wide financial depression restricted capital investments ; Victoria's own resources could not respond to the supply of money required for about 500 miles of new railways, costing anything up to £30,000 a mile. As the new lines were considered to be essential, economy in construction was imperative. With Queensland's first line, constructed to 3' 6" gauge, opened in 1865 and working satisfactorily and South Australian extensions being made

to 3' 6" gauge, the Victorian Government conducted an extensive investigation into the costs of new railways, together with the question of gauge.

Among the many schemes for cheap railways considered by the Victorian Parliamentary Committees, extensive evidence was obtained on the Fairlie* and "other alleged systems of economical railways". During the inquiry, Thomas Higinbotham, Railways Engineer-in-Chief, reported on the possibility of installing a third rail on the Victorian and New South Wales lines to permit unbroken through travel between Melbourne and Sydney.

At the same time, the New South Wales authorities were examining prospects for the adoption of 3' 6" gauge for all future railway construction, but no alteration resulted.

Early in 1872, the Victorian Railways invited tenders for the construction of a group of lines, with alternative quotes for 5' 3" and 3' 6" gauge. The prices submitted disclosed margins of about £150 a mile in favour of 3' 6". In view of this small saving the Government approved of the broad gauge.

Interesting speculation on the matter of a uniform gauge could be indulged in had the two Governments decided in favour of the narrow gauge. No doubt, as mileages increased with the passing years, the inconveniences of two gauges in each of three states (New South Wales and Victoria, together with South Australia, which, by 1870, had 5' 3" and 3' 6") would long ago have forced a definite decision on unification. Perhaps 3' 6" might have been selected as the Australian standard, and all lines converted to that gauge.

Though the break of gauge presented itself as a major problem when the Victorian and New South Wales lines met at Albury in June 1883, official action for overcoming the difficulty was then confined to a few spasmodic discussions. Certain inventions and expedients for working over the differing gauges were tested and examined, but were found to be impracticable.

While Victoria apparently remained indifferent to the problem, E. M. G. Eddy, Chief Commissioner of the New South Wales Railways, called the attention of his Government in 1889 to the need for unification, to either 4' 8½" or 5' 3" standard. His warning passed unheeded. Eight years later, the Australian colonies were earnestly discussing federation. At the National Australian Convention on Federation, held at Adelaide in 1897, the matter of a uniform gauge was revived. From this eventuated, during the next 30 years, a series of conferences, investigations, reports, and decisions on the need for unification.

In July, 1920, a conference of Commonwealth and State Government Ministers arranged a Royal Commission to report on a uniform gauge for Australia. The commission in 1921 recommended 4' 8½" as standard, at an estimated cost of

**Robert F. Fairlie, an Englishman, strove during the 1860's and 1870's for the construction of new lines in all countries to be narrow gauge (3' 6" and under). He used a slogan—"Narrow gauge, economy with efficiency, versus broad gauge, costliness with extravagance". Fairlie was responsible for the construction of the Fairlie locomotive, which was an engine mounted on two steam bogies. It could be regarded as the ancestor of the Garratt type. Two or three Fairlie engines worked on the Queensland and Western Australian railways in the early years of these systems.*

£57,000,000 for entire conversion. The matter had virtually been determined years earlier by the adoption of 4' 8½" for the Trans-Australian Railway. Choice of 5' 3" gauge as standard would have necessitated new sleepers throughout on the other lines, whereas the 4' 8½" saved replacing 90 per cent of sleepers on the broad gauge tracks. Also, the structure gauge of 5' 3" systems is no bigger than that for 4' 8½" lines. By agreement between the Commonwealth, New South Wales and Queensland in 1924, a 4' 8½" link from Kyogle to South Brisbane was approved. This line, completed in 1930, permits through travel from the entire New South Wales system to Brisbane.

As a result of the difficulties which the mixed gauges created during World War II, especially in 1942-43, the Commonwealth Government early in 1944 appointed Sir Harold Clapp (Chairman of Commissioners, Victorian Railways, from 1920 to 1939) to report on the standardization of gauges. His report, presented in March, 1945, provided for an almost entire conversion of existing broad and narrow gauge railways, and the construction of certain new lines, to 4' 8½" gauge. The economic and strategic advantages of the scheme were endorsed by all competent authorities. Conferences ensued between the Governments of all the mainland states. It soon became clear that Queensland and Western Australia were not then prepared to participate in the scheme.

In 1946, the Commonwealth Government and the Premiers of the State Governments of New South Wales, Victoria and South Australia entered into a gauge standardization agreement. Legislation known as the Railways Standardization Agreement Act, 1946 (assented to on August 15, 1946) was passed by the Commonwealth Parliament. Under this agreement, the worthwhile lines in South Australia, and practically all the lines in Victoria would be converted to standard gauge. The estimated expenditure for the works incorporated in the agreement was £70,434,000 as at 1945 ; but, with the increases in labour and material costs since then, this figure could now be nearly doubled.

However, before these works could be commenced, it was necessary that the agreement be ratified by each of the state parliaments concerned. South Australia and Victoria passed this ratifying legislation ; New South Wales allowed the matter to lapse. Subsequently, in 1949, a separate agreement was made by the Commonwealth and South Australia to adopt the South Australian portion ; the work to be done over an extended period of years and financed by joint contributions.

Further action towards a partial standardization of gauges was taken in March, 1956, when the Commonwealth Government formed a committee consisting of members of the Senate and the House of Representatives, under the chairmanship of W. C. Wentworth, M.P., to consider the possibility of unifying the Australian trunk railways.

Reporting to Parliament in October, 1956, the committee recommended that 4' 8½" gauge lines be provided between :

*Wodonga and Melbourne
Broken Hill to Adelaide, via Port Pirie
Kalgoorlie to Perth and Fremantle*

Legislation authorizing the Victorian portion of the plan was passed by the Commonwealth, New South Wales and Victorian Parliaments in 1957. Under the agreement 70 per cent of the cost was borne by the Commonwealth and 15 per cent each by Victoria and New South Wales.

So far as Victoria is concerned, a new 4' 8½" line was built in the main alongside the 5' 3" tracks between Wodonga and Broadmeadows.

The new track crosses the main north-eastern line by means of a flyover at Jacana and joins the Broadmeadows-Albion goods line, where one of the two existing tracks was converted to 4' 8½" gauge. A new line was built from Albion to West Footscray from where a third rail was added to the two broad gauge goods lines that pass under the Williamstown lines at Footscray station. After crossing the bridge over the Maribyrnong River, the dual gauge lines finish. A new standard gauge goods line immediately enters the Dynon area, while, for passenger trains, a new track continues across the Moonee Ponds Creek, crossing the northern suburban lines by a flyover near North Melbourne station, to enter Spencer Street terminal.

To allow trains to pass or overtake each other, 15 crossing loops, 2,900 ft. long, are located at strategic points along the single line. Automatic block signalling will be installed and all points and signals controlled by a centralized traffic control system, with the control point in Melbourne.

Preliminary work on the standard gauge railway began on November 4, 1957, and major construction in December, 1958. The first section of track was laid between Wangaratta and Bowser in November, 1959.

On January 3, 1962, the first through goods train from Sydney arrived at and the first through goods train to Sydney departed from Dynon Freight Terminal.

At a colourful ceremony in a new Forwarding Agents Depot at Dynon, the first through train from Sydney to Melbourne was welcomed by Mr. E. H. Brownbill, Chairman of Commissioners, and an imposing array of Cabinet Ministers, members of parliament, heads of Government departments, businessmen, manufacturers, representatives of transport organizations, and railway officials.

As the train arrived, the Victorian Railways Military Band broke into the strains of "Waltzing Matilda" followed by "Advance Australia Fair".

After breaking through a banner "It's Thru'!" held by three attractive railway girls, the train (hauled by two S class diesel-electric locomotives) moved slowly up to a dais on which was the official party.

There were appropriate speeches of welcome, including one by Mr. H. Opperman, the Federal Minister of Transport, who brought a message from the Prime Minister (Mr. R. G. Menzies). Then Sir Arthur Warner, Minister of Transport, officially opened the new Dynon Freight Terminal of 124 acres; subsequently, Mr. Brownbill, with a blast on a golden whistle, started the first Sydney-bound train of 1,742 tons. The 600 guests then partook of a buffet lunch served on one of the six new platforms specially built for the Forwarding Agents traffic.

Climax of the standard gauge opening was the inauguration of the through passenger service.

On Thursday, April 12, 1962, at 10.45 p.m., "Southern Aurora"—the new sleeping train built for the service—left Sydney on its inaugural trip to Melbourne with the Governor-General (Viscount De L'Isle), political leaders and other prominent citizens on board. It was followed, 10 minutes after, by the Press train on which were representatives of the dailies, periodicals, television, radio and news reels, and special writers.

At Wodonga, at 8.27 a.m. on Friday, April 13, "Southern Aurora", driven by Mr. E. H. Brownbill, Chairman of Commissioners, broke through a garland, symbolic of waratahs and pink heath—the floral emblems of N.S.W. and Victoria, respectively—stretched across the point where the new standard gauge track to Melbourne began.

At 12.30 p.m. the train reached Spencer Street, where the Governor-General was welcomed by the Governor of Victoria (Sir Dallas Brooks). After a short ceremony at the station, guests were taken to the Melbourne Town Hall for luncheon. In the afternoon they were entertained at a garden party at Parliament House. The train crews were also guests at the party. Those returning to Sydney left by train at 5.30 p.m.

That evening, 100 representative railwaymen who were associated with the standard gauge work were tendered a dinner by the Commissioners.

On Saturday and Sunday, April 14 and 15, the new standard gauge rolling stock was displayed at Spencer Street; 50,000 inspected the new carriages.

At 6.45 p.m. on Monday, April 16, the through passenger service began as "Spirit of Progress" left Spencer Street on its first regular trip on standard gauge. At 8 p.m. "Southern Aurora" also left Spencer Street to begin regular running.

And so a dream came true, and a new era of rail transport began in Victoria.

Break of Gauge Devices

From the earliest years of railways, inventors and others have attempted to solve the break of gauge disability. Devices included the installation of a third rail (usually to make a narrower gauge); sliding wheels, whereby the wheels moved on the axles to increase or decrease gauge; and means for lifting wagons from their wheels on one set of rails to wheels on an adjacent track. There were, also, double flanged wheels and wheels with wide tyres, telescopic axles, adjustable tracks, and twin rails.

In 1845, the British Gauges Commission rejected the third rail proposal as impracticable for unrestricted traffic. Some American systems worked jointly by transferring vehicles from one to another set of wheels at the line junctions.

Expedients were on offer in Australia as early as 1883, at least. One of these—D. F. Anderson's "patent railway axle"—was tested on the South Australian Railways 5'3" and 3'6" lines in that year. Though the appliance was hailed by prominent engineers as having practical value, it was not adopted.

About 1905, W. F. Brennan, of Sydney, devised his patent compound switches,

to be worked in conjunction with a third rail. After much experimenting with models, and years of delay, a full-scale test of the device was made on the 4' 8½" New South Wales and 5' 3" Victorian gauges at Tocumwal.* It, too, failed to meet with the approval of the Board of Experts.

At the request of the Commonwealth Government, senior engineers from all the railway systems were appointed as a Board of Experts to investigate the various inventions, devices, appliances, and suggestions submitted for solving the break of gauge. The board assembled at Melbourne on August 6, 1918.

A set of 16 conditions, on which suitability of a device would be assessed, was drawn up. One hundred and twenty-six exhibits were examined, consisting of :

- 23 *sliding wheels* patents,
- 40 *double or multiple wheels*,
- 9 *telescopic and divided axles*,
- 3 *adjustable bogie frames*,
- 7 *changing of vehicle bogies*,
- 13 *transference of vehicle bodies*,
- 6 *treble or multiple rails*, and
- 25 *unclassified*.

The entire collection was rejected, as the devices did not comply with the first condition : The "appliance" should be applicable to all classes of rolling stock, and interchangeable with all states. All the inventions failed in at least three other points of the conditions.

In 1955, the Commonwealth Railways experimented with the "pick-a-back" method with 3' 6" and 4' 8½" gauge wagons. Three train sets, each of sixteen 4' 8½" gauge bogie flat wagons 800 feet long, were fitted with a 3' 6" track. Propelled up a railed ramp, the narrow gauge wagons went straight on to the 4' 8½" train, and were secured by a locking device and brakes. They were then conveyed to their destination on the 4' 8½" line.

The pick-a-backs worked on the new 4' 8½" line under construction from Stirling North to Maree, operating on the completed 90-mile section to Brachina. Coal from the Leigh Creek mines for the Port Augusta state power station was the principal commodity carried, with a limited volume of live-stock and other traffic.

Adopted only as a temporary measure to relieve congestion on the adjacent 3' 6" line, pick-a-back was not practicable elsewhere. It was discontinued in 1956.

Following the introduction of the standard gauge service between Melbourne and Sydney, in 1962, a bogie exchange system was introduced in Melbourne to extend the standard gauge freight service to cover all broad gauge lines in Victoria and as far as Port Pirie in South Australia.

Under this system, fully loaded wagons are transferred from standard gauge bogies to broad gauge bogies, and vice versa.

Initially the bogie exchange was carried out by an overhead electric crane at the new diesel locomotive depot at Dynon, pending construction of a permanent centre with specialized equipment.

Chronological Summary

Recommendations, Conferences, and Investigations for Unification of Australian Rail Gauges

1857 : John Whitton, Engineer-in-Chief, New South Wales Railways, recommended to a Parliamentary Committee on February 27, 1857, the necessity for a uniform gauge (5' 3") in the event of intercommunication being established with the neighboring colonies of Victoria and South Australia. The New South Wales Railways Commissioners referred the matter to the Government as deserving of special attention. No action was taken.

1889 : E. M. G. Eddy, Chief Commissioner, New South Wales Railways, reported to the Premier (Sir Henry Parkes) on May 18, 1889, the urgent need for gauge unification. He suggested the matter was of national importance, and either 4' 8½" or 5' 3"—whichever could be effected at the least cost and inconvenience—must be adopted as an Australian standard. He also recommended that a Commission of Railways Commissioners of all the colonies investigate and decide on a standard gauge and prepare estimates of costs of conversions. The suggestion was not acted upon.

1897 : The National Australian Convention on Federation, at Adelaide in March, 1897, called for information on the subject of a uniform gauge. Convention ruled the matter as being outside the scope of the Assembly.

In April, 1897, the Premiers of New South Wales, Victoria and South Australia met to consider unification. Agreeing on the desirability of a standard gauge, the Premiers arranged for a conference of the Railways Commissioners of the three colonies to report on the matter.

Meeting at Melbourne in August, 1897, the Commissioners estimated conversion of the railways in the three colonies to a uniform gauge would cost :

From 4' 8½" to 5' 3" 3,340 miles (N.S.W.) £4,260,000

From 5' 3" to 4' 8½" 4,509 miles (V. & S.A.) £2,360,000

In view of the greatly reduced cost, the Commissioners recommended that 4' 8½" be adopted as the standard gauge. Conversion work could be carried out in five years.

1898 : The New South Wales Railways Commissioners agreed with the adoption of 4' 8½" as the standard gauge, and recommended an early settlement of the matter.

1899 : At a conference in Brisbane of the Railways Commissioners from all the Australian colonies in May, 1899, it was decided that in future any new work for the 5' 3" gauge should be so designed to allow of easy adaption to 4' 8½". The Victorian representative stated that carriage and wagon axles on order for Victorian Railways were of such dimensions that they could be converted to 4' 8½" gauge.

1901 : The newly constituted Government of the Commonwealth of Australia proposed to build a transcontinental railway to connect Western Australia with the eastern states. It was generally assumed that the railway, and connecting lines in South Australia, would be 4' 8½" gauge.

1903 : A conference of Railways Chief Engineers of all the states, appointed to report on the proposed transcontinental railway, agreed that the gauge be 4' 8½".

1908 : The matter of 4' 8½" gauge as the Australian standard was apparently settled. Another conference of railway engineers on the proposed transcontinental railway, in February, 1908, did not discuss gauge.

1909 : Reporting on October 11, 1909, after completing the surveys for the transcontinental line, the Chief Engineers for the Commonwealth and the South and Western Australian Railways assumed the gauge would be 4' 8½" ; but the South Australian Government objected to 4' 8½", as it would involve three breaks of gauge between Adelaide and Perth.

1911 : The War Railway Council, meeting at Melbourne in February, 1911, recommended: That the capital cities of Australia be linked by a uniform 4' 8½" gauge railway between Fremantle and Brisbane ;

That the transcontinental railway from Kalgoorlie to Port Augusta be 4' 8½" gauge.

(The War Railway Council, formed in 1911, comprised the Chief Railways Commissioners of each state, and representatives of the Defence Forces.)

The council's recommendations were approved by all states except Victoria, which Government desired that unification should be dealt with by a conference of state Ministers.

1912 : Uniform gauge was discussed at a Premier's Conference at Melbourne in January, 1912. All the evidence in favour of 4' 8½" since 1899 was reviewed. A majority decision accepted this dimension as the standard.

Arising from the Premier's Conference, a committee of railway engineers from all states and the Commonwealth Government assembled at Melbourne on December 3, 1912, to decide on a uniform gauge. By report dated April 11, 1913, the committee recommended 4' 8½". The Victorian representative dissented. Estimated costs for conversion of all Australian railways to a uniform gauge were :

to 5' 3"	£51,659,000
to 4' 8½"	£37,164,000

1914 : A Premier's Conference at Melbourne in March, 1914, decided that the interstate committee should report as to whether it was desirable to adopt a uniform gauge, and, if so, what gauge should be selected.

The interstate committee advised that it could deal with the matter only by the Parliaments specially directing the committee to act.

In November, 1914, at Melbourne, the Prime Minister informed a Premiers' Conference that the Commonwealth Government strongly favoured a uniform gauge throughout Australia. He asked for power for the Commonwealth to construct a strategic railway from Adelaide to Brisbane by a direct inland route, if the states failed to agree on unification. The Conference referred the matter to the War Railway Council.

This council merely submitted a number of suggestions relating to strategic railways.

1915 : The Premiers' Conference at Sydney in May, 1915, decided that two leading railway experts from overseas be appointed, by agreement of the Commonwealth and all states, to report and advise on the question of gauge unification.

In October, 1915, the War Railway Council, at Sydney, announced that the "most important railway improvement, from a military standpoint, would be unification".

1920 : In May, 1920, at Sydney, the Premiers in conference agreed on the necessity and urgency for a uniform gauge to connect the state capitals. This would require conversion of the Victorian system. Conference recommended the appointment of a commission of railway engineers to work in co-operation with the state Railways Commissioners.

This commission met at Sydney. Reporting on June 15, 1920, it rejected the suggestion to convert the lines to capital cities to uniform gauge as unwarranted and unworkable. Construction of new and separate 4' 8½" lines was unnecessary. The commission recommended a 4' 8½" line from Brisbane to connect with the New South Wales system. Conversion of the entire Victorian Railways to 4' 8½" was considered essential, together with most of the South Australian 5' 3" lines. A direct line to connect with the transcontinental railway was required in the latter state. From Kalgoorlie to Fremantle a new line of 4' 8½" gauge was recommended. The cost of the work was estimated at £26,581,000. Conversion of the whole of the Australian railways would need an outlay of £93,629,000.

Victoria, South Australia and Queensland dissented from the proposal to adopt 4' 8½" gauge as the standard gauge for Australia.

At a further Premiers' Conference at Melbourne in July, 1920, it was decided that a Royal Commission be appointed to report on unification, selection of gauge and cost of conversion. The commission would consist of one local and two overseas experts. All states agreed to abide by the decision of this tribunal.

1921 : Appointed on February 8, 1921, the Royal Commission on Gauge Unification presented its report on September 22, 1921. The commission, which consisted of Messrs. J. J. Garvin (Sydney ; Chairman), R. Blake (England) and F. M. Whyte (U.S.A.) recommended 4' 8½" as the standard for Australia. Estimated cost of converting all lines to this standard was £57,200,000 ; partial conversion was assessed at £21,600,000.

The report was reviewed at a Premiers' Conference at Melbourne in November, 1921. It was agreed that a uniform gauge was essential for the development and safety of Australia. The recommendation that 4' 8½" be the standard gauge was accepted. The Commonwealth Government arranged to prepare an agreement with the states to give effect to the Royal Commission's proposals. The Premiers were to consult their Governments immediately on this agreement, and the decisions reached were to be considered at a further conference in January, 1922.

1922 : No decision came from this conference, held at Melbourne. The Commonwealth, New South Wales, Queensland, and Western Australian Governments were desirous of proceeding with the work of unification, but, on account of the attitude of the Victorian and South Australian Governments, the project could not be put in hand.

1923 : Further Ministerial Conferences took place at Melbourne in May and June, 1923. No agreement was reached, owing to Victorian and South Australian opposition to proceeding with the work for the present.

1924 : On September 16, 1924, the Commonwealth, New South Wales and Queensland entered into agreement to build a 4' 8½" gauge line from Grafton to South Brisbane. This was part of the Royal Commission's plan, and eliminated the break of gauge at Wallan-garra.

1925 : The Commonwealth and South Australian Governments agreed on the installation of a 4' 8½" gauge connexion from Adelaide to Port Augusta, via Red Hill. A third rail to 4' 8½" would be laid on the existing 5' 3" line from Adelaide to Red Hill (107 miles) and a standard gauge railway constructed from Red Hill to Port Augusta. The distance from Adelaide to Port Augusta would be reduced by 70 miles and one break of gauge eliminated. The proposal formed another part of the 1921 Royal Commission's scheme.

1927 : The Western Australian Parliament declared that the time had arrived when the Federal policy of extending the standard gauge railways should be consummated in this state.

1930 : The new 4' 8½" line from Grafton, New South Wales, to South Brisbane, via Kyogle, opened.

1937 : The new, and shorter, route from Adelaide to Port Augusta was opened for traffic on July 23, 1937. This consisted of an extension of the South Australian 5' 3" line from Red Hill to Port Pirie, and a new 4' 8½" connexion, built by the Commonwealth Government, from Port Pirie to Port Augusta. The 1925 proposal to install a third rail from Adelaide to Red Hill had been abandoned as unsuitable.

1945 : Sir Harold W. Clapp's report on the unification of gauges was presented in March, 1945.

1946 : Agreement between the Commonwealth Government and the states of New South Wales, Victoria and South Australia towards standardization.

1949 : Agreement between Commonwealth and South Australia towards standardization.

1956 : Commonwealth Parliamentary Report on unification of Australian trunk railways.

1957 : Construction of a new 4' 8½" line between Albury and Melbourne commenced.

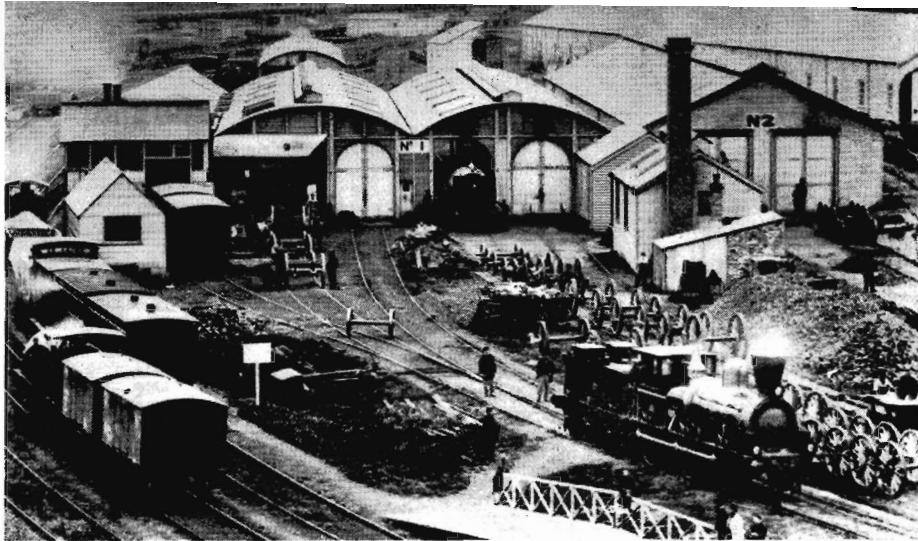
1962 : On January 3, 1962, the first through goods train from Sydney arrived at North Dynon. On April 16, 1962, the through passenger service, Melbourne-Sydney, began.



Third rail tests at Tocumwal, 1915



Third rail tests, Tocumwal. N.S.W. locomotive on left. V.R. locomotive on right.



Williamstown Workshops, 1870

CHAPTER THIRTY

RAILWAY WORKSHOPS AND DEPOTS

Williamstown ; Newport ; Jolimont ; Ballarat North and Bendigo North ; Spotswood ; Other workshops ; Locomotive depots

To maintain the high standards of mechanical operating efficiency set by the Victorian Railways for the servicing of locomotives, rolling stock, tracks and safe-working appliances, several large departmental workshops are situated in the metropolitan area, and two at country centres. In addition, many subsidiary establishments, called locomotive depots, are located at convenient places on the system. Besides the maintenance, repair and overhaul of the stock, the principal workshops undertake the construction of engines, carriages and wagons, and the manufacture of thousands of articles, large and small, needed for a big railway organization.

Compared with the first Victorian Railways workshops (actually small sheds) erected at Williamstown and Batman's Hill in 1858, the present establishments at Newport and other places show the tremendous increases in area, productive capacity and output since that pioneering year.

Williamstown Workshops

Four or five corrugated iron sheds of various sizes were erected at Williamstown in 1858. Planned as temporary structures for assembling engines, carriages and wagons delivered from England, they developed into the first permanent departmental workshops.

Uncertainty existed as to the location for any proposed permanent workshops at that time. Possibly, the intention had been to place them at Batman's Hill, Spencer Street—the metropolitan terminal of the Victorian Railways. A workshop and an engine shed were built there in 1858. However, about 1860, a site at Geelong Junction (Newport) was chosen for a general workshops, near the present oil store just south of Newport station. Foundations for a large establishment were prepared, but a change of Government policy resulted in it being abandoned.

Additional sheds were built at Williamstown to cope with extra work as the rolling stock increased and the traffic working expanded. In 1864, the Woodend goods shed was dismantled and re-erected at Williamstown as an engine shed. By 1875, the workshops were a miscellany of nine or ten buildings, the limited capacity of which greatly retarded efficiency.

Complaints over many years of the unsuitability of the shops eventually resulted in the move to a new site at Newport in 1889, and the old shops were then closed. At maximum capacity, the Williamstown works employed about 500 men.

Seven locomotives were built at Williamstown Workshops. The first—No. 100—went into service on January 24, 1872, followed in later years by Nos. 103, 105, 38, 44, 127 and 129. This last, completed in 1879, was displayed at the Melbourne Exhibition in 1880, together with two new "State" carriages (also built at the shops). A number of carriages and many wagons of various types were also manufactured at Williamstown. Portions of the tower clock at the then General Post Office, Elizabeth Street, Melbourne, also were made at the workshops in 1869.

Newport Workshops

When the 1880 Melbourne Exhibition closed, the Department purchased three annexes of the buildings, and re-erected them at Newport and Port Melbourne for workshops, and at Spencer Street, as a goods shed; the latter shed still exists. The Newport annex, placed almost on the site of the proposed 1860 shops, was known as the Newport Carriage Workshops, and opened in 1882 for the construction and repair of railway carriages.

The present immense workshops establishment at Newport was authorized by Act No. 821 in 1884. Construction began that year, and the buildings were completed by 1888. Contracts for erection, totalling more than £130,000, were undertaken by :

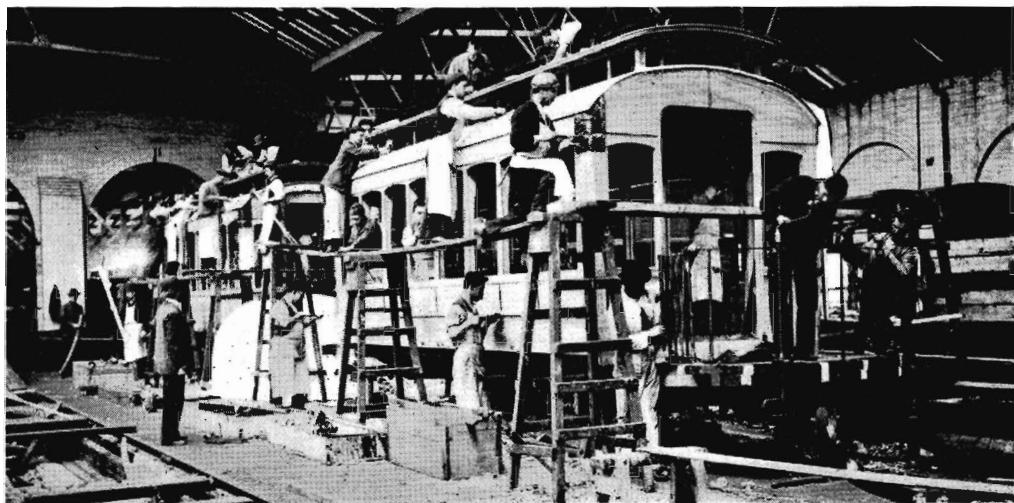
<i>Shaw and Monie</i>	<i>Earthworks and drainage</i>
<i>R. Bodkin</i>	<i>East block (or woodworking section) and general offices</i>
<i>W. Swanson</i>	<i>West block (or iron work section)</i>

New machinery was supplied by Melbourne firms and augmented with equipment from the Williamstown and Newport carriage shops.

The combined staffs of the old workshops were transferred to the new establishment in 1889. The numbers were increased by large batches of new appointees. In 1895, the old carriage shops were re-opened as the Signal Shops, for the manufacture and maintenance of Departmental signal apparatus.

The manufacture of carriages and wagons commenced in the new main workshops at once, and the volume of repair work expanded as the facilities were utilized to cope with the servicing of the large proportion of aged rolling stock.

Newport's pioneer effort, in 1893, at locomotive construction was a very modest production, compared with the latter day steam giants. The machine in its original form was an 0-6-0 tank type engine, 22 feet 6 inches overall length, with 3' 6" driving wheels, and weighed 25 tons roadworthy. It went into service on June 30, 1893, as No. 526, Z class. Ten years later, the engine was



Carriage building, Williamstown Workshops, 1883

converted to No. 3 locomotive steam crane, and as such is still working. For many years the crane was known as Polly, and with polished trimmings always sparkling, the machine made a pleasing sight. Advancing years have considerably tarnished the lustre of youth.*

* Pic. p. 217

Between 1899 and 1901, the Department obtained approval to order 75 engines of new design to replace old stock that was rapidly becoming unserviceable. The Phoenix Foundry Co., Ballarat, delivered 35 units of A^A and V classes by 1903. In the meantime, Engine No. 560, pattern for the D^D class, had been built at Newport. A quotation from the Phoenix Foundry for 39 engines of this class was considered by Departmental officers to be excessive, based on the cost of the prototype engine. Permission was obtained from the Minister of Railways for the Chief Mechanical Engineer to quote for constructing the engines. Bids were received from the Phoenix and another firm, but they were more than £42,000 in excess of the railway figure.

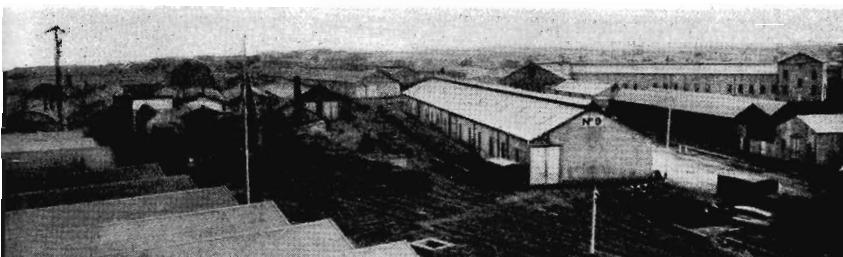
Arising from this, a form of "competition" between the Phoenix foundry and the Department was arranged to determine reasonable costs. Several D^D's were manufactured at Newport at a price considerably cheaper than that of the Phoenix. The firm challenged the accuracy of the railways accounting, and the matter subsequently was referred to a Parliamentary Royal Commission for investigation. After examining the methods of working and accounting systems of both the Phoenix Foundry and the Department, the commission, by their report dated August 19, 1905, gave judgement in favour of the Railways, whose costs were £477 cheaper per engine than the contractor.

Thus vindicated, the Department proceeded with the manufacture of engines for its own use; the Phoenix Foundry closed down about 1905. Between 1873 and 1904, the firm supplied 352 locomotives to the Victorian Railways, plus another nine manufactured for private organizations: a total production of 361.

At Newport Workshops, manufacture of locomotives, carriages and wagons was stepped up, but the need for extensive replacements of worn out old stock could not be met by domestic production. From 1911 to 1913, sixty engines were imported. However, the shops turned out 38 new engines in 1912, and 100 were constructed in 1913-14—an engine a week. Large extensions and modernization of equipment were made at the works in 1927 and 1930, when a new boiler shop and an erecting shop were built.

The workshops are contained on an area of more than 130 acres. Buildings occupy 22 acres, and a network of rail tracks, totalling 33 miles, spreads over the site. Up-to-date machinery, mostly with individual electric drive, is installed, together with the numerous facilities essential at a large modern railway workshops.

Approximately 3,000 men are employed in the various shops, where all manner of trades and occupations are engaged. Painters, fitters, sailmakers, carpenters, moulders, turners, boilermakers, patternmakers, blacksmiths, copper-smiths, welders, upholsterers : all these and many others are found.



Williamstown
Workshops,
1883

*p. 260

At Newport, the luxury train "Spirit of Progress"** was manufactured, adding further tribute to the workmanship of the staff.

Up to 1962, the Newport Workshops produced 536 steam locomotives, 9 locomotive steam cranes, 12 electric locomotives, 3 diesel-hydraulic shunting locomotives and 32 petrol driven rail tractors: a total of 592 units. In addition, twelve Australian standard Garratt-type narrow gauge locomotives were partially constructed and entirely assembled at the shops during 1943-45 for emergency war service in other states.

The large and varied volume of war work undertaken at the shops, together with the record of achievement for railway activities, substantiate the claim that Newport Workshops, given the opportunity, can manufacture or repair anything from a tiny screw to a 260-ton locomotive.

Also at Newport Workshops is the railway testing laboratory under the control of the Engineer of Tests. Fully equipped with modern testing apparatus for chemical, metallurgical, and physical examination, this division keeps a close check on materials used in the Victorian Railways both before supply and during service.

The first Engineer of Tests was Mr. R. Boan who was responsible for the establishment of the laboratory about 1905. While working as assistant to the Engineer of Existing Lines, his duties entailed control of effluent waters discharged from railway premises. To establish scientific control over this matter he was granted permission to equip a small laboratory.

When the Flinders Street station buildings were under construction, Mr. Boan was responsible for testing the cement used. A dispute arose when he rejected a quantity as unsuitable, but independent advisers upheld his judgement.

From 1917 the scope of the laboratory was gradually extended until in 1928 it was transferred from Head Office, Spencer Street, to its present location. The latest acquisition to the facilities at the laboratory include a cobalt 60 radioactive isotope for industrial radiography.

Jolimont Workshops

As part of the suburban railways electrification scheme, workshops were erected at Jolimont, in the Flinders Street yard. Opened in 1917, they occupy the site of the Princes Bridge locomotive depot which was demolished to make space for them.

The original locomotive depot was built in 1888 to replace a small engine shed constructed in 1859 by the Melbourne and Suburban Railway Co., which was located beyond the east end of Princes Bridge station.

Comprising machine, general repairs, coach repairs, painting, and inspection divisions, the workshops cater for the routine examination, maintenance and overhaul of electrified rolling stock.

All electric trains come into the shops for inspection every three to six weeks, and for overhaul every two years after running approximately 100,000 miles.

Electric locomotives, also, are inspected and serviced at Jolimont.

Ballarat North and Bendigo North Workshops

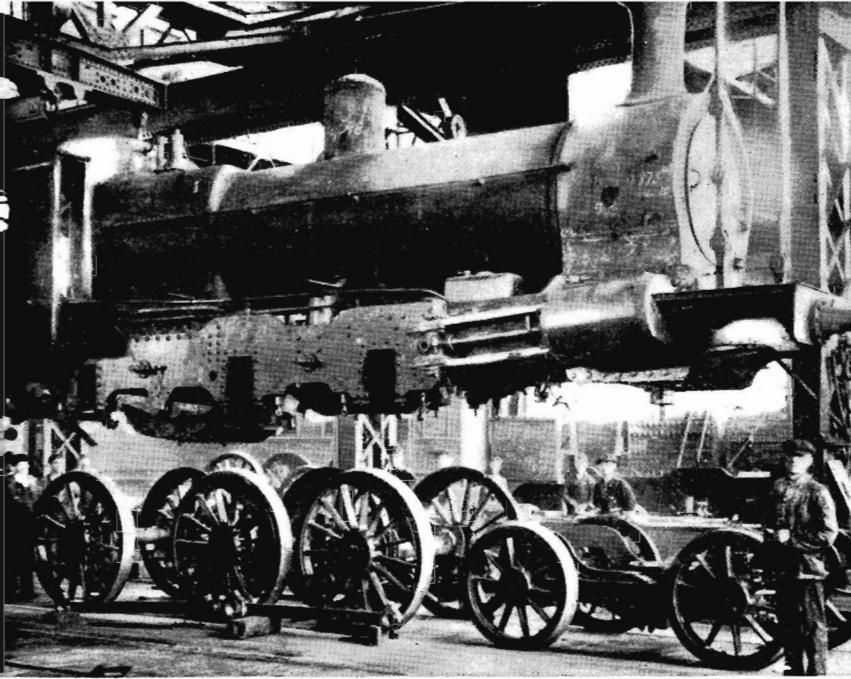
In extension of its decentralization policy, the Department decided in 1913 to establish workshops at Ballarat and Bendigo for the manufacture and repair of locomotives and other rolling stock. Ballarat North was opened in April, 1917, and Bendigo North about November, 1917.

Locomotive construction commenced during 1919 and, by 1922, thirteen locomotives were manufactured at each workshop : eight D^D's and five A2's.

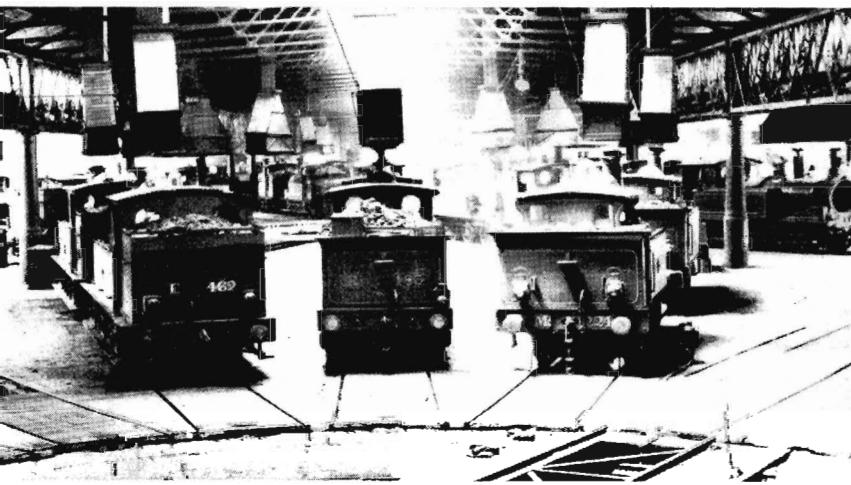
Rapid growth of both workshops occurred during 1953-58, as they were called upon to play a major part in the Department's rehabilitation program, manufacturing and re-building wagons, overhauling cars, and making spare parts.

Spotswood Amalgamated Workshops

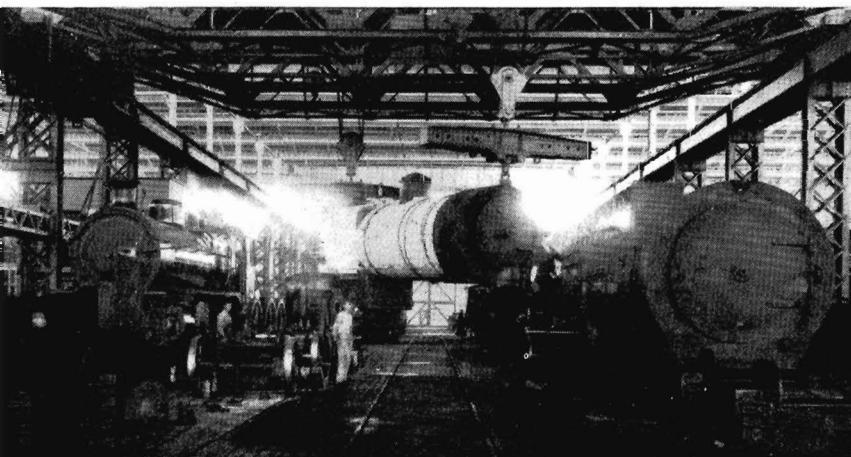
These workshops were erected progressively between 1926 and 1929 and combine the general activities connected with the requirements of the Way and Works Branch of the railways. In addition, the Signal and Telegraph section is housed there for the manufacture and repair of all signalling apparatus required for and in use on the tracks.



Bendigo North Workshops, 1920



North Melbourne Locomotive Depot, 1905



Ballarat North Workshops, 1922



Newport Workshops, about 1929

Prior to establishing the amalgamated depot, the Way and Works Branch workshops were at Spencer Street, being housed in an old building originally provided as a Customs Shed. About 1912, sections of the workshops were transferred to the works depot at Arden Street.

Following the combining of the Signal and Telegraph Branch with the Way and Works Branch, the Signal Shops at Newport were closed and the plant and staff transferred to Spotswood in 1933. Hence the name Amalgamated Workshops.

Other workshops

Other smaller but important workshops are the Electrical Workshops and the Electrical Testing Depot and Laboratory, both in Spencer Street, Melbourne. At the former, general repairs are made to all types of electrical equipment, ranging from massive transformers to fractional horse-power motors. The testing depot services the thousands of meters and special instruments in the electrical sub-stations, tie stations and other places throughout the electrified system.

Routine inspections and maintenance of carriages and wagons are carried out at the North Melbourne Workshops. A portion of these shops was made up from buildings formerly comprising the Wright and Edwards carriage building works at Braybrook, near Sunshine, sometime after 1890.

At Laurens Street, North Melbourne, the Ironworks Division shops fabricate bridge members, structural and other general items, as well as maintaining plant of the Way and Works Branch.



Jolimont Workshops, 1918

Demolished workshops

Workshops, long since demolished, were at Port Melbourne and Spencer Street. The Port Melbourne establishment, erected in 1882 from portions of the 1880 Melbourne Exhibition Building, replaced the original shops of the Hobson's Bay Railway Co. The workshops were closed about 1917, and dismantled soon after.

In 1862, William Williams built the Victoria Works next to the Melbourne Gas Co.'s installation alongside Batman's Hill. Here, Williams constructed large numbers of carriages and wagons for the Victorian Railways. In 1882, the Department took over the factory which then became known as the Yarra Bank Works. Here, for two or three years, operations covered mainly carriage repair work, but a few new vehicles were also built. The shop was closed about 1885 and demolished.

At the Newport Signal Shops, established in the disused Newport Carriage Workshops in 1895, the manufacture of signal apparatus for departmental use was undertaken. Gradually, over the years, production was improved until the entire requirements of the Department were supplied from the shops. In 1933, the organization was transferred to the Amalgamated Workshops at Spotswood, and the old buildings were then used to store oil and other materials.

Locomotive depots

Depots to service and repair engines are located at strategic points on the railway system. From the repairs aspect, major works and general overhauls are carried out at workshops. The local depots mainly attend to routine inspections and running repairs. Servicing includes washing out boilers, oiling and cleaning, supplying fuel and water, and lighting-up for steam raising. Additions have been made for the maintenance and servicing of diesel-electric locomotives.

Largest and most important locomotive depot on the Victorian system is the new locomotive depot built at Dynon to accommodate broad gauge and standard gauge diesel-electric locomotives, diesel-hydraulic shunting locomotives and broad gauge electric locomotives.

The locomotive depot at North Melbourne is still retained for the servicing of steam power.

There are 891 men (including 265 drivers) employed at Dynon and North Melbourne locomotive depots. Based at these locations are 170 engines: 38 steam, 91 diesel-electric and 41 diesel shunters.

Other important depots are at Geelong, Ballarat, Bendigo, Maryborough, Seymour, Benalla, Ararat and Traralgon.

Maker's plate



CHAPTER THIRTY-ONE

LOCOMOTIVES

Numbers and classes ; Names ; Alphabetical system ; New types ; Reclassification ; Builders ; Speed recorders

Engine numbers and classes

As has been the case on most other large railway systems, the road numbers of Departmental engines have undergone several changes since the first No. 1 commenced running. Unlike most of the railways during the early years, however, the Department did not name its locomotives. In 1937, the four Pacific type S class steam engines used for hauling "Spirit of Progress" were named after four pioneers of Victoria. After the Pacifics were withdrawn from service these names were adopted, in 1957, for the first four S class diesel-electric locomotives, with all of this type being subsequently named. In 1952, the first B class diesel-electric was named Harold W. Clapp and, in 1956, the first main-line L class electric locomotive was named Robert G. Wishart. Both of these men were former Chairmen of Commissioners.

The five railway companies operating in Victoria between 1854 and 1865 gave names, but not numbers, to most of their engines. The Hobson's Bay, Melbourne, St. Kilda and Essendon Cos.' engines carried local place names, such as "Melbourne", "Sandridge", "Hawthorn", "St. Kilda", and "Essendon". The Geelong Co. favoured mythological and biblical nomenclature for its locomotives—two small passenger engines were named "Titania" and "Oberon"; four of heavier construction, "Typhoon", "Sirocco", "Hurricane" and "Cyclone", suggested speed; and the four goods engines indicated their power in imitation of "Goliath", "Hercules", "Samson", and "Tubal-Cain".

When the Government railways opened in 1859, the Department's original five engines were : No. 1 (passenger) and Nos. 2, 3, 4 and 5 (goods) for working the Williamstown line. In 1860, an additional ten engines (five passenger and five goods) went into service for main-line traffic. From this year, the Department adopted the "odds and evens" classification—that is : odd numbers denoted goods engines; even numbers, passenger engines. The system existed for more than 50 years, and it was probably unique in railway practice. Though a letter classification scheme was introduced in 1886, the odd and even notation continued until 1911.

Road numbers were allotted to the above-mentioned ten engines, as follows :

Goods class : Nos. 1, 3, 5, 7, 9

Passenger class : Nos. 2, 4, 6, 8, 10

The original five were re-numbered at the same time, changing to

Passenger class : No. 12 (formerly No. 1)

Goods class : Nos. 11, 13, 15, 17 (formerly Nos. 2, 3, 4, 5)

The Geelong Co.'s engines, taken over in 1860, were given road numbers only by the Department.

After the Government purchased the Hobson's Bay United Railway in 1878 these lines were operated independently as the South Suburban System. The locomotive stock retained a separate group of numbers, ranging from 1 to 38.

Commencing on January 1, 1886, the Locomotive Superintendent (Solomon Mirls) introduced an alphabetical classification system. Class groups were allotted letters, but odd and even numbers for goods and passenger engines remained in use.

Classifications were :

Passenger engines : A to N (except I which has never been used by the Victorian Railways).

Goods engines : O to W.

The two types comprising the 38 locomotives in the south suburban group were renumbered into the main list, and classed C and N. Twenty-two different types were then in service, plus seven engines of non descript design which remained unclassed. This indicates the variety of locomotive stock then working on the Victorian Railways.

The following list sets out the system at its inauguration :

Class letter	Type	No. in class	Road numbers
Passenger engines (even numbers)			
A	4 - 4 - 0	10	190 - 208
B	2 - 4 - 0	32	46-80, 84-90, 94, 96, 102-112, 186, 188
C	4 - 4 - 0WT	26	262-310, 42
D	4 - 4 - 0	2	162, 164
E	2 - 4 - 0	1	100
F	2 - 4 - 0	21	98, 126-144, 166-184
G	4 - 4 - 0	2	38, 44
H	4 - 4 - 0	8	146-160
J	2 - 4 - 0	5	2 - 10
K	2 - 4 - 0	6	114-124
L	2 - 4 - 0ST	10	14-32
M	4 - 4 - 0T	22	40, 210-240, 312-320
N	2 - 4 - 0WT	10	242-260

Goods engines (odd numbers)

O	0 - 6 - 0	44	19-81, 127-149
P	0 - 6 - 0	5	1-9
Q	0 - 6 - 0	10	83-101
R	0 - 6 - 0	61	151, 157-195, 237-247, 285-351
S	4 - 6 - 0	10	197-215
T	0 - 6 - 0	19	125, 249-283
U	0 - 6 - 0	9	107-123
V	0 - 6 - 0	4	11-17
W	4 - 6 - 0	12	153, 155, 217-235

Unclassed

—	2 - 4 - 0	1	12 (passenger)
—	0 - 6 - 0WT	1	34 "
—	2 - 4 - 0WT	1	36 "
—	0 - 6 - 0	2	103, 105 (goods)
—	0 - 4 - 0WT	2	Pier shunters (duplicate Nos. 5 & 24)

T—*Tank engine*

ST—*Saddle tank engine*

WT—*Well tank engine*

TOTALS : 155 passenger ; 174 goods ; 7 unclassed
TOTAL : 336 Engines

*p. 233

During 1886, the X class 0-6-0 goods engines commenced running, numbered 353 to 381, odds. A new batch of twenty 4-4-0 passenger locomotives in 1887 was allotted to D class. Nos. 162 and 164—the original D class—were then placed in the unclassed group. Pattern engines, purchased from Kitson's* in 1889, went into service as Y (0-6-0 goods) and E (2-4-2T suburban passenger) classes. No. 100 original E went to the unclassed division.

Between 1889 and 1891, two new types, known as the New A and New R classes, were built. They were of similar appearance to the earlier models, which then became the Old A's and the Old R's.

By 1893, the classification system covered all the letters of the alphabet (except I). In that year, five 0-6-2T goods engines commenced running. Approximately similar in dimensions to the 2-4-2T E's, they were designated E^E to distinguish them.

In 1898, the first of the 2-6-2T 2' 6" gauge engines arrived. This design was listed as NA class, signifying narrow gauge dimensions. The seventeen engines of this class were numbered as a duplicate group, from 1A to 17A.

The advent of the Consolidation 2-8-0 type of heavy goods engines in 1900 caused another class transfer. They were designated V class. The three remaining original V's, at the time engaged as yard shunters, went to the unclassed list.

Double letter classification was adopted for new designs which appeared from 1900, as under :

Class	Type	Period
AA	4-4-0	1900-03
DD	4-6-0	1902-20
A2	4-6-0	1907-22
D ^E	4-6-2T	1908-13

Commencing in 1905, the New R engines were reboilered, and reclassed as RY.

By 1911, the excess numbers of passenger engines over goods engines (with odd numbers) had left more than 80 blanks in the list. From this year, the old established odds and evens numbering classification was abandoned, as the D^D and A2 engines were being used for both goods and passenger work. Each batch of new engines was allotted consecutive numbers, after most of the blanks had been filled. However, 29 odd numbers remained unallotted : 691 to 699, and 751 to 797.

About 1916, renumbering of the locomotive stock was proposed. A Departmentally designed Consolidation type, then under construction at Newport Workshops, carried the preliminary classification and number : H1. Nevertheless, the engine went into service in 1918 as C1.

This commenced a new, or second, series of classes and numbering, as itemized below :

Class	Type	Numbers
C	2-8-0	1 to 26
K	2-8-0	100 to 109 (renumbered 140 to 149) 150 to 192
N	2-8-2	110 to 139 (renumbered 400 to 429)
S	4-6-2	300 to 303
X	2-8-2	27 to 55
H	4-8-4	220
G (Garratt)	2-6-0 + 0-6-2	41, 42 (2' 6" gauge)

Construction of the DD and A2 types ceased by 1922 ; No. 1082 A2 being the last to go into service.

In 1923, renumbering of the existing first series classes was arranged, to form compact numerical groups for each type. This resulted in about half the locomotive stock being allotted new numbers, in accordance with the following schedule :

Class	Numbers	Class	Numbers	Class	Numbers
C	1- 49	F	170-175	Old R	300-346
New A	50- 64	D	185-199	EE	350-379
AA	70- 86	V	200-215	RY & Y	400-455
T	90- 95	W	217-229	DD	490-799
K	100-168	E	236-245	A2	800-999
		D _E	250-269		

Many of the old classes were scrapped within three or four years of the renumbering plan. New types were allotted numbers in the empty class groups.

Classifications were divided in 1929 to indicate saturated steam and superheated steam engines. A further renumbering and regrouping followed this action, which brought about a complicated process of changing numbers and classes, not completed for over 20 years.

Existing classes of the older engines comprised :

A2	<i>Superheated</i>
A1	<i>Formerly A2 saturated steam</i>
D1	<i>Formerly DD saturated steam</i>
D2	<i>Formerly DD superheated steam</i>
D3	<i>New class : formerly DD rebuilt with K class boiler and 19" cylinders; superheated</i>
D4	<i>Formerly D_E^D</i>
E	<i>Formerly EE</i>
T	
Y	<i>Formerly RY, rebuilt from New R, and Y.</i>

On finality of conversion of A1 to A2, the whole of the original A2 stock then comprised the number group : 815 to 999. D1 class was in the 500 series ; D2 the 700 group ; D3's were numbered from 699 backward as conversions from D1 and D2 classes were made.

The 2-6-2T type narrow gauge engines retained their original identities. A batch of 12 electric locomotives, built between 1922 and 1929, carry numbers from 1100 to 1111 without change, but are now designated E class.

Locomotives placed in service under the "Operation Phoenix" rehabilitation scheme comprised :

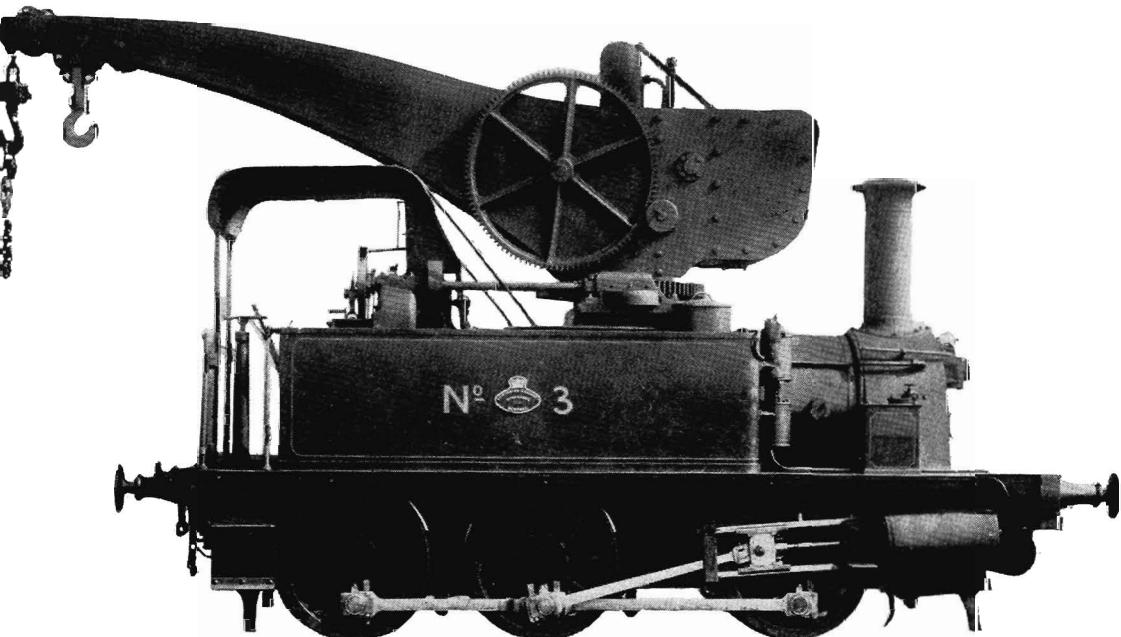
Steam N450 to 499
R700 to 769
J500 to 569

Diesel B60 to 85
F310 to 319 (renumbered 200 to 209)
S300 to 309
T320 to 346

Electric L1150 to 1174

Later acquisitions to the end of 1962 were

Diesel	5'3" gauge	4'8½" gauge
	T347 to 357, 360 to 366	S310 to 317
	F210 to 214	T358 to 359
	W241 to 265	W266 to 267
	M231 to 232	
	V56	



First locomotive built at Newport Workshops, in 1883, was converted to No. 3 steam crane in 1904. It is still in service.

Speed recorders

Before the installation of speed and mileage recording instruments on Victorian Railways locomotives, the rate of speed was assessed by timing between mile posts, or from station to station. Engine mileage was calculated on the known distances for the journey, and by an allowance of a specified number of miles for each hour an engine was on shunting work or under steam available for work.

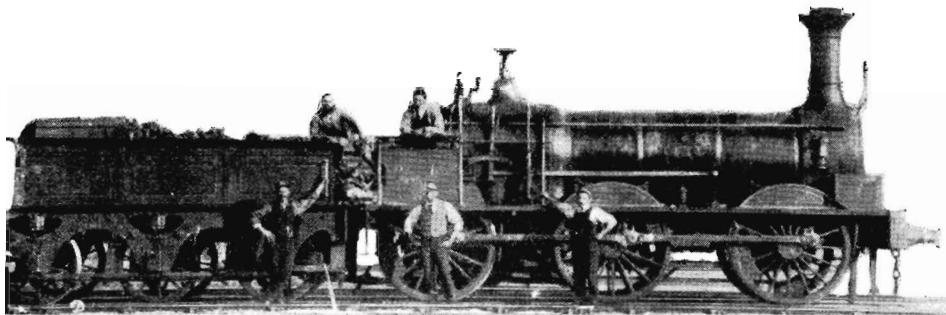
Main-line passenger trains were scheduled to run at an average speed of 25 miles an hour from 1862 to 1882. Trains usually consisted of from four to six carriages and a luggage brake van, each vehicle weighing about eight tons. Most of the country stations were more than five miles apart ; thus, the infrequent stops permitted the average speed being maintained. The engines were capable of high speed, and several instances are known of trains travelling at 60 miles an hour. An unofficial record of the time stated that Engine No. 12 (originally No. 1, the first Victorian Railways passenger engine) travelled the 56 miles from Echuca to Bendigo in 50 minutes with a train carrying workmen who were injured in an accident at the River Murray bridge.

The first Departmental experiments with speed-indicating instruments were made in 1897, when a series of tests was carried out between Castlemaine, Bendigo and Goornong with a Boyer machine, fitted to Engine No. 128 F class. This type of instrument was operated by a belt driven from the front axle of the engine, and the rate of speed was "indicated" on a dial in the engine cab.

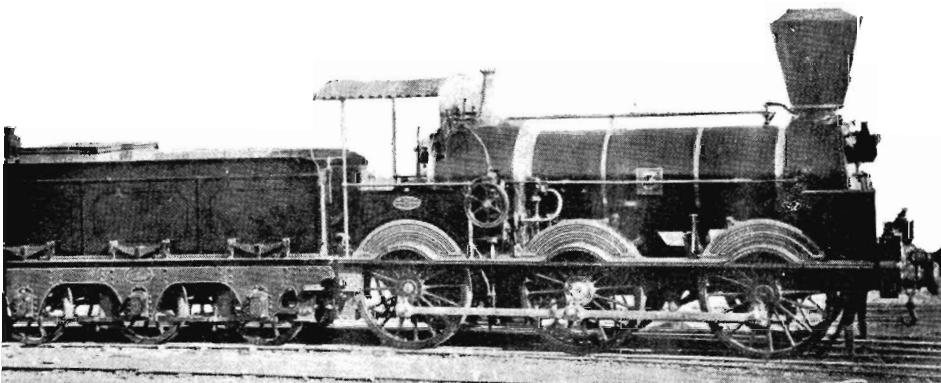
During the following year, a few of the Old A and New A engines were equipped with Boyer instruments, and extensive tests were made on the Sydney and Adelaide expresses. On one occasion, Engine No. 208 Old A class attained a speed of 62 miles an hour between Albury and Benalla, with an average rate of 44 miles an hour for the 69 miles run.

No further organized experiments were made ; but as a result of an accident at Belgrave, on the 2' 6" gauge line to Gembrook, on January 28, 1906, the installation of speed indicators was recommended. Evidence submitted at an inquiry into the accident suggested that excessive speed was a contributory cause.

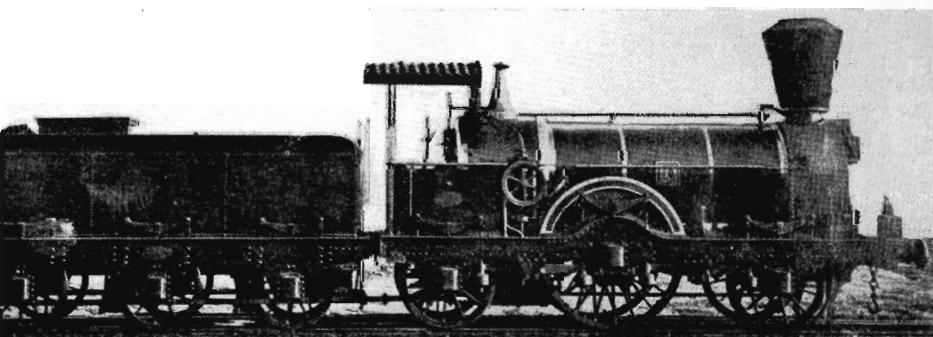
Installation of speed indicators commenced in 1906 on the new classes of engines then in running : A^A and D^D. Tests were conducted for several months on the Albury line during 1906-07. Both the Hausschaetter and the Flaman types of speed recorder were tested on Engine No. 572 (pattern A2 class) in 1908, after which the Flaman instrument was adopted for the Departmental engines. The machine is directly geared to the engine driving wheel, and provides a permanent record on a chart of the rate of speed throughout whatever journeys it undertakes.



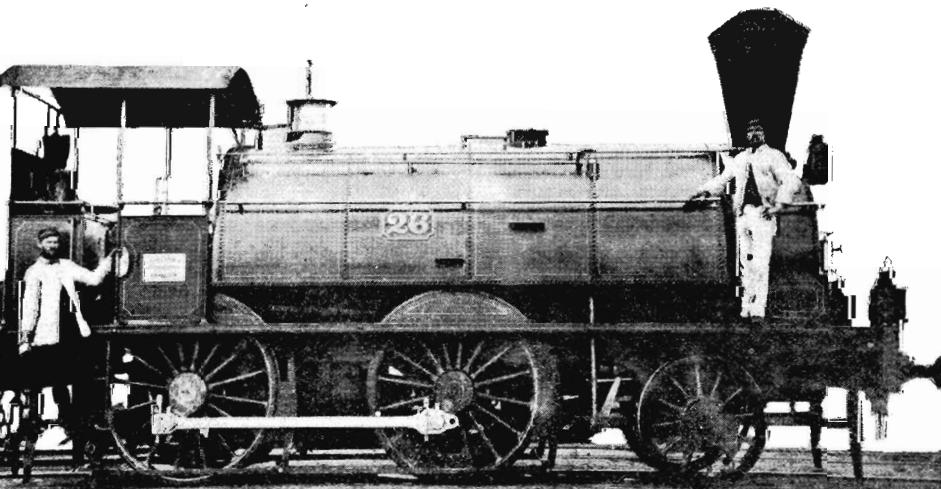
*Goods locomotive, 1859
(Williamstown line)
Later known as V class*



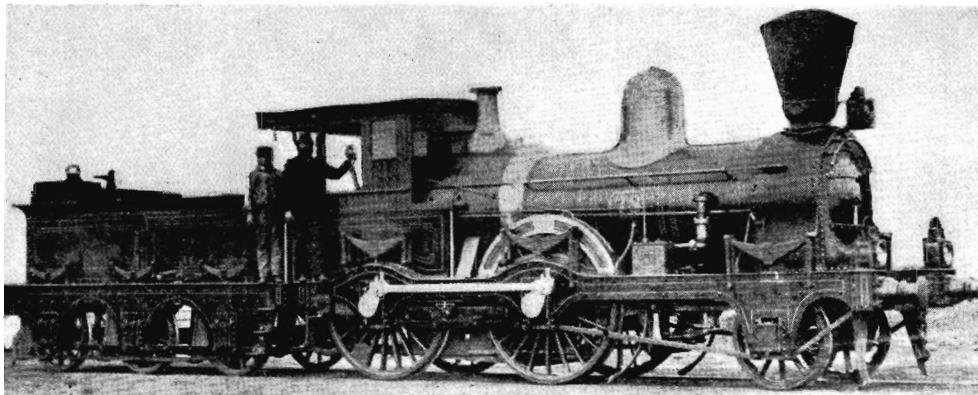
*Main-line goods
locomotive, 1860
Later known as P class*



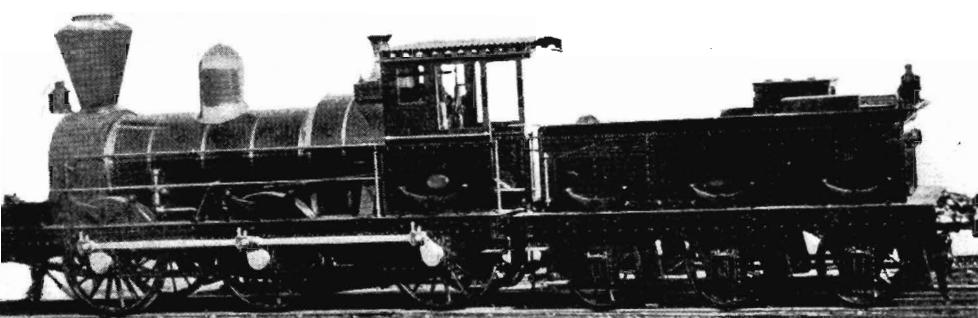
*Main-line passenger
locomotive, 1860
Later known as J class*



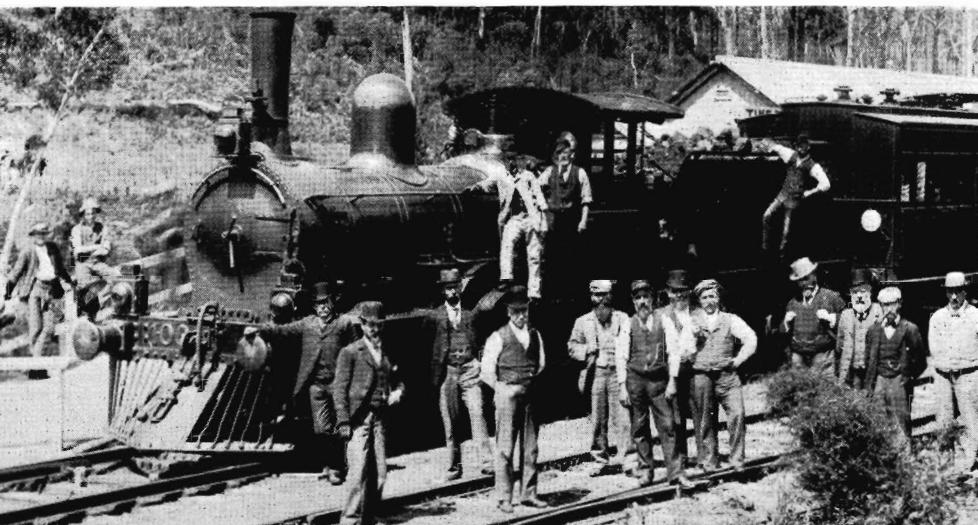
*Saddle-tank passenger
locomotive, 1861
Later known as L class*



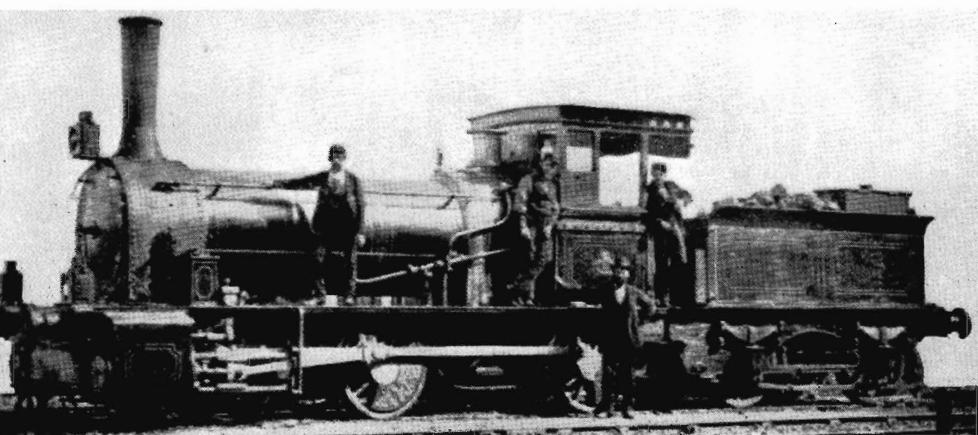
Main-line passenger
locomotive, 1862
Later known as B class



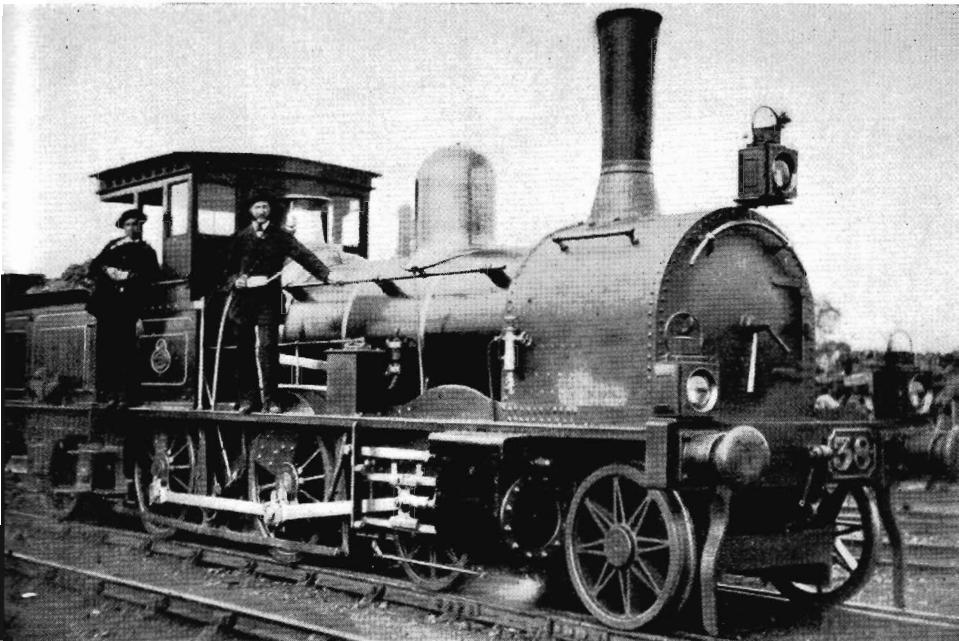
Main-line goods
locomotive, 1862
Later known as O class



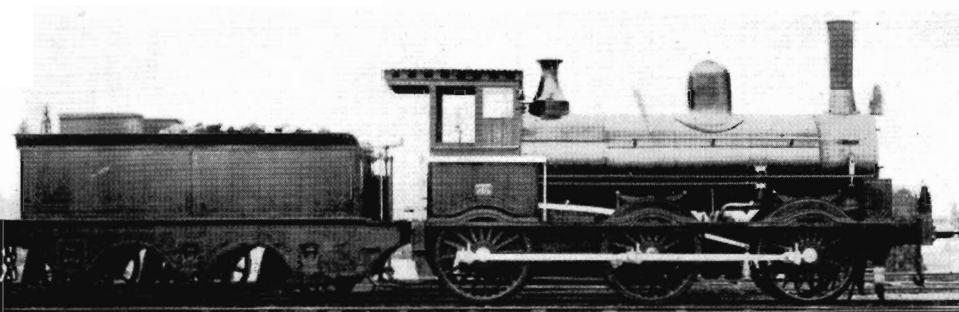
Passenger locomotive
No. 100
First engine built by
Victorian Railways
Department



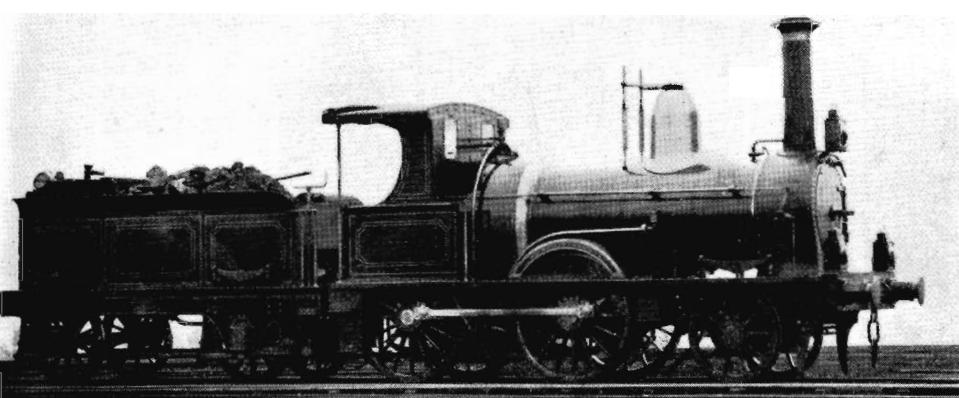
Goods locomotive, 1876



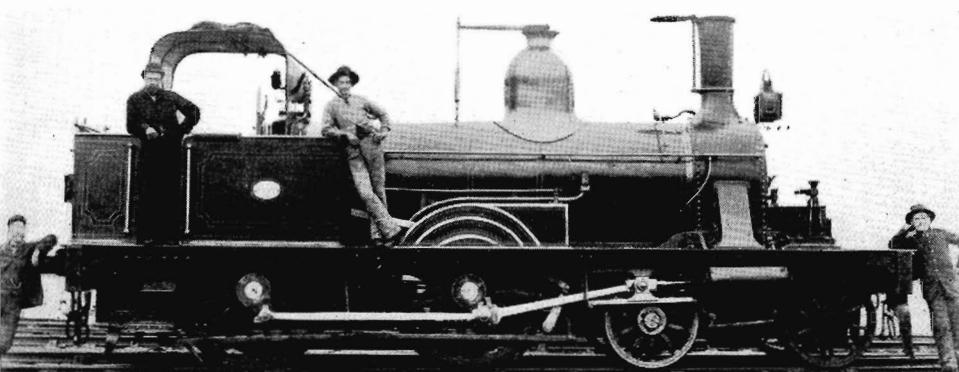
*Passenger locomotive, 1876
Later known as G class*



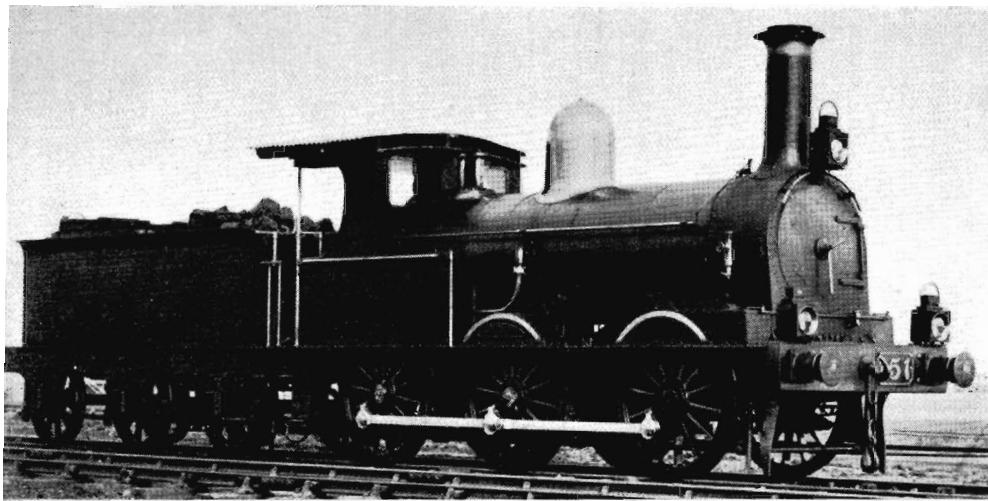
*Light lines goods locomotive,
1873. Later known as Q class
The first of more than 350
engines supplied to V.R.
by Phoenix Foundry, Ballarat*



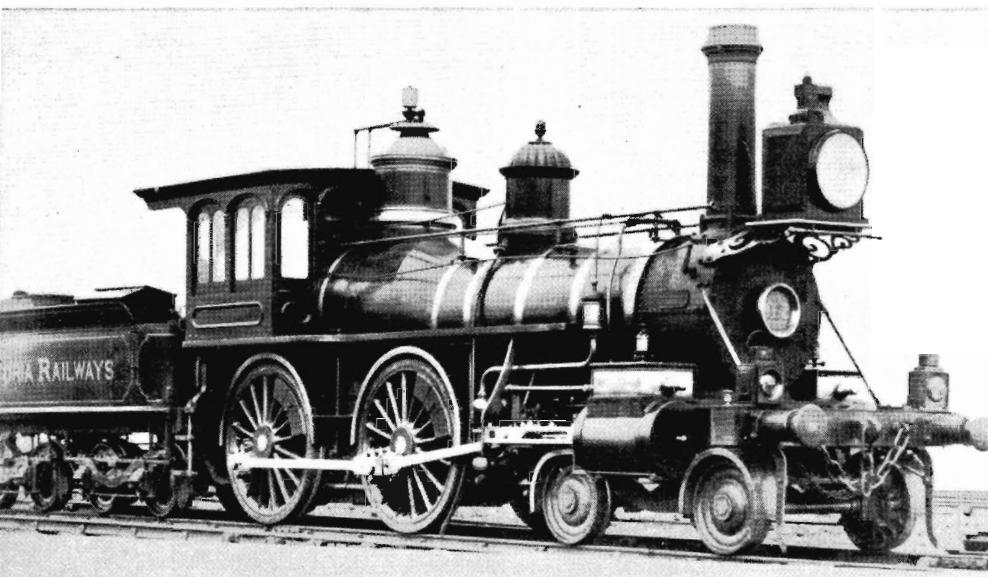
*Light lines passenger
locomotive, 1873
Later known as F class*



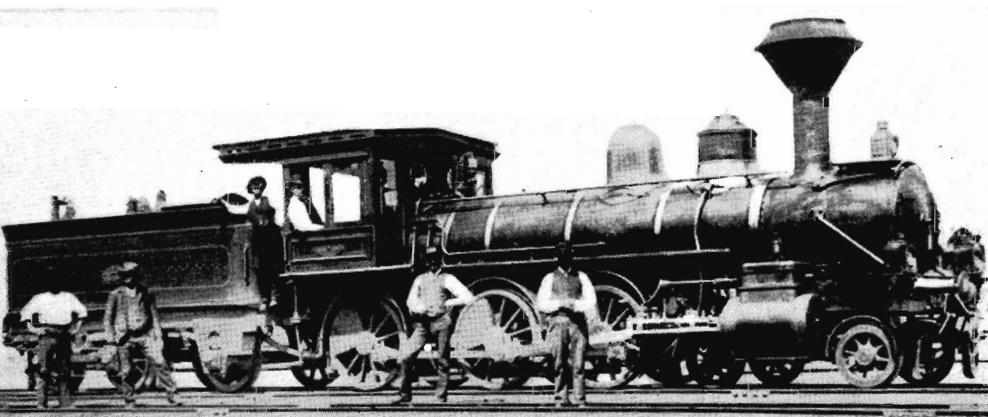
*Suburban passenger locomotive
1870 (Hobson's Bay Co.)
Later known as C class*



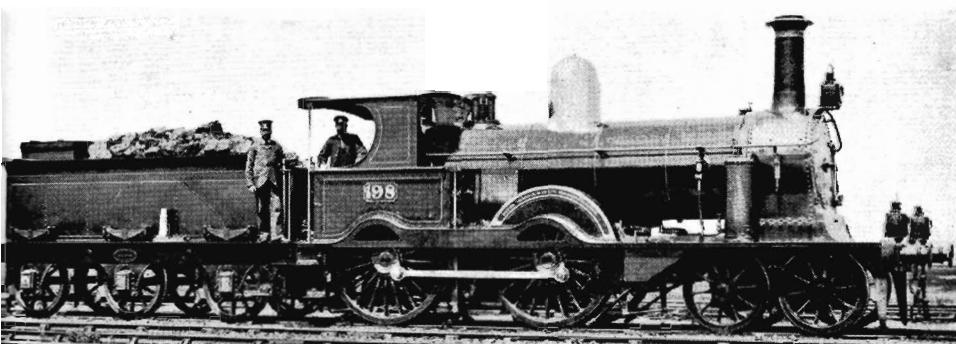
Goods locomotive, 1878
Later known as Old R Class



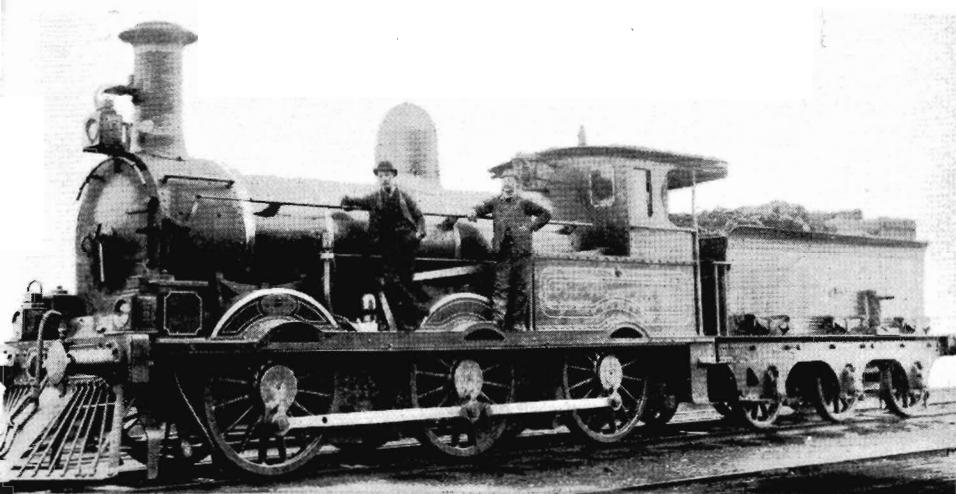
Passenger locomotive, 1878
Later known as D class



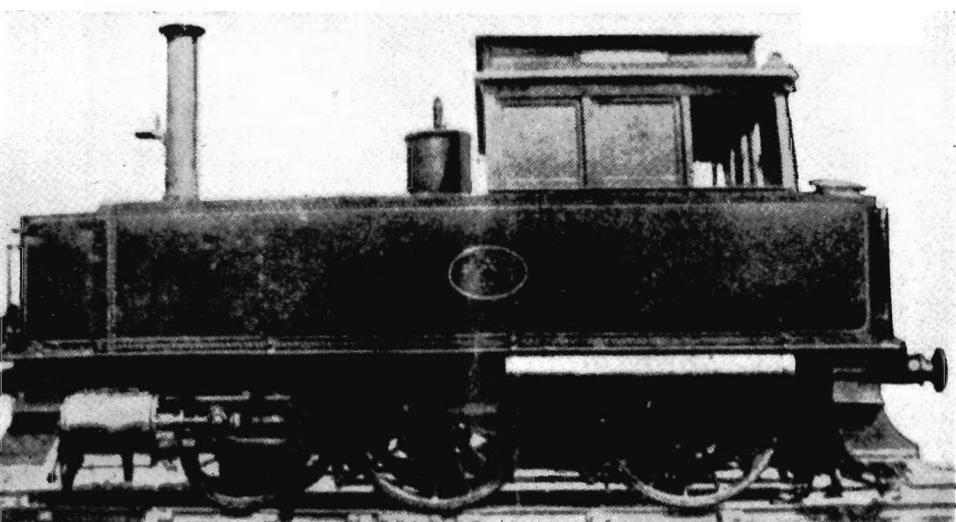
American type goods locomotive, 1883
Later known as S class



Express passenger
locomotive, 1884
Later known as
Old A class

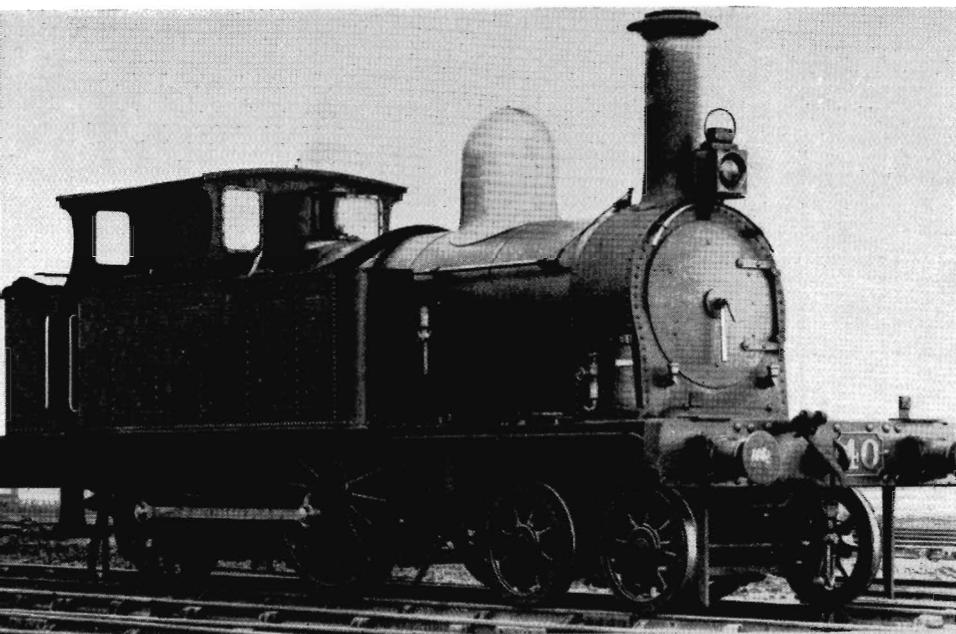


Light lines goods
locomotive, 1886,
X class

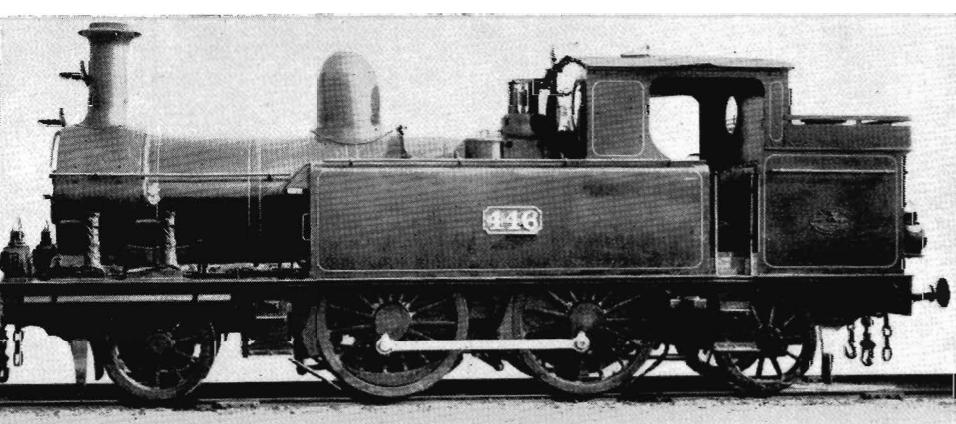


Passenger motor
engine, 1893,
Z class

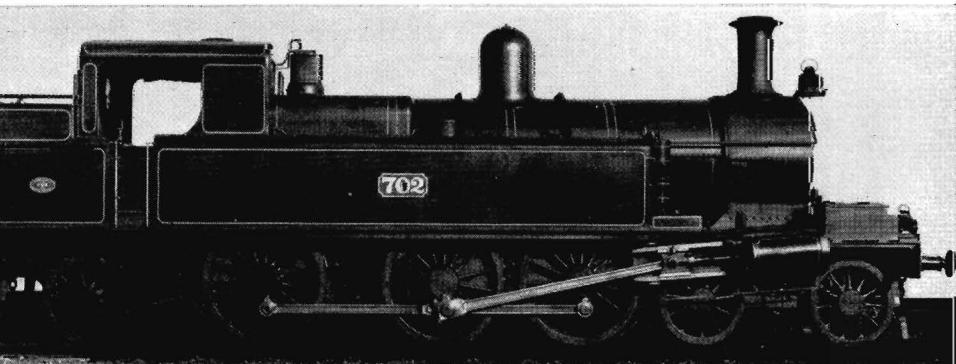
SUBURBAN
PASSENGER TANK
LOCOMOTIVES



1878, M class



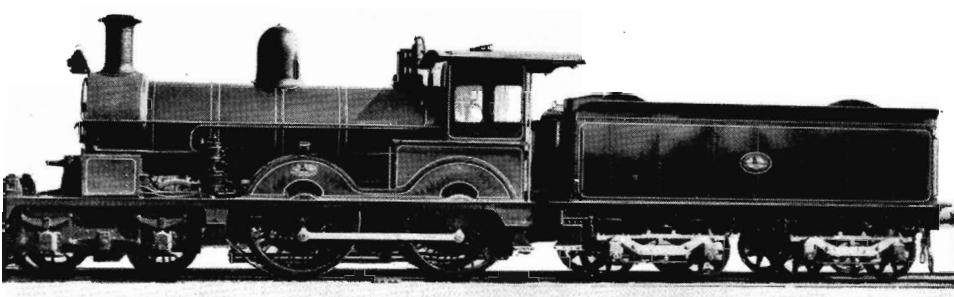
1888, E class



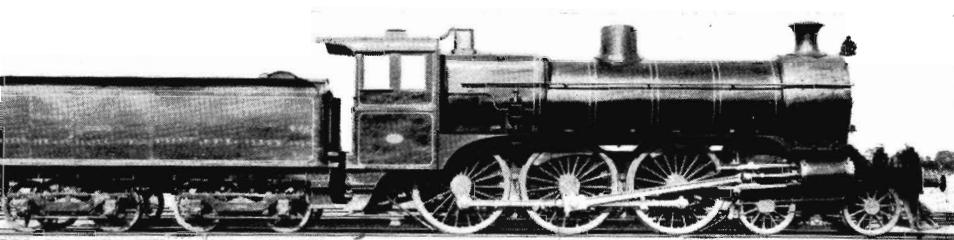
1908, D_E^D class



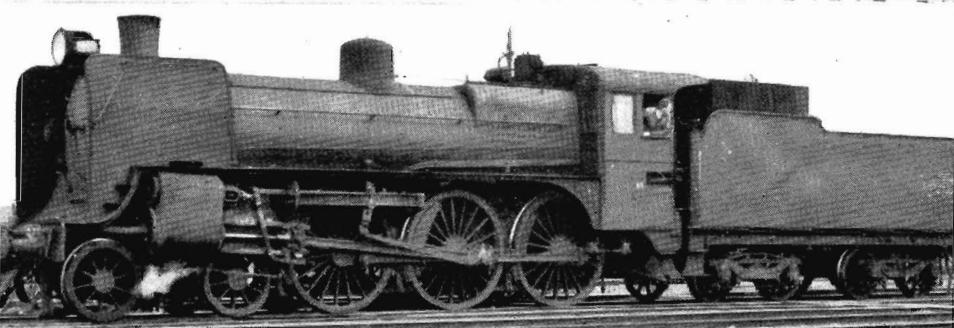
Goods locomotive,
1900, V class



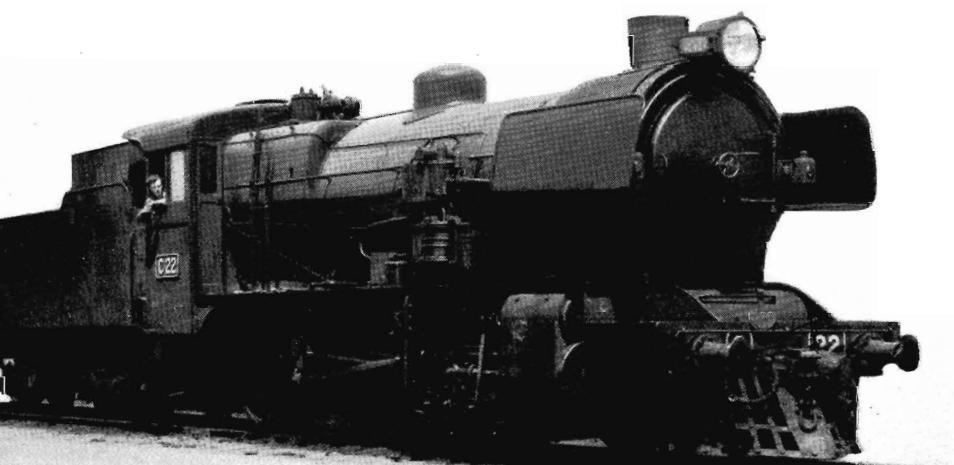
Express passenger
locomotive, 1900
AA class



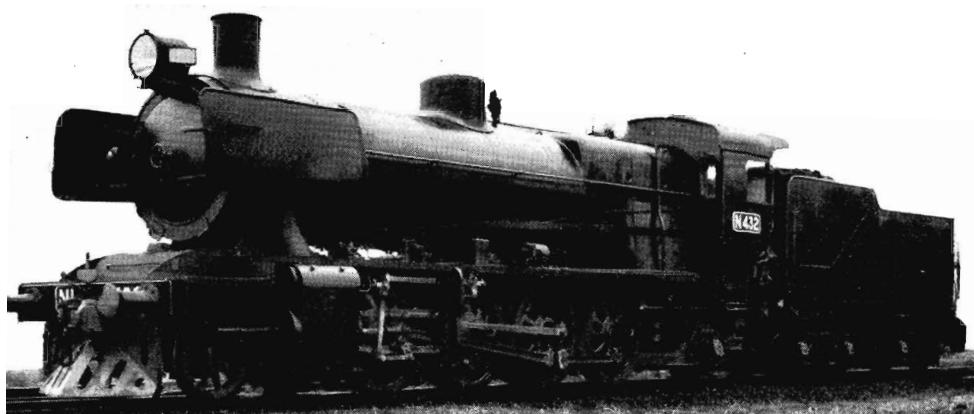
with Stephenson
valve gear



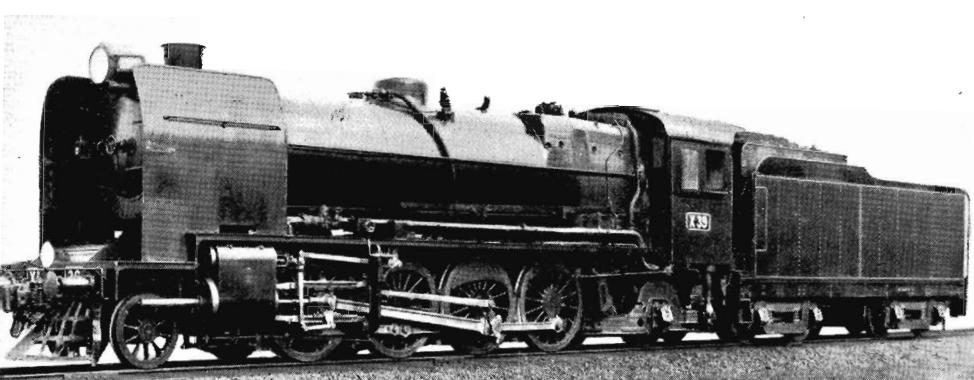
Express passenger
locomotives, 1907
A2 class



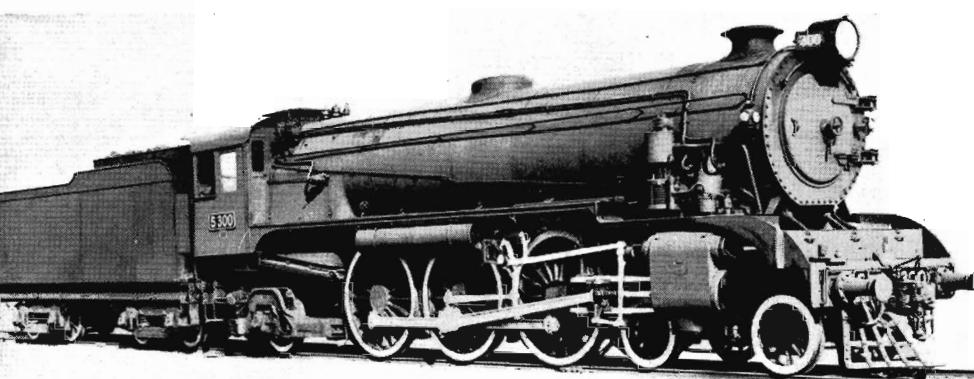
Goods locomotive,
1918, C class



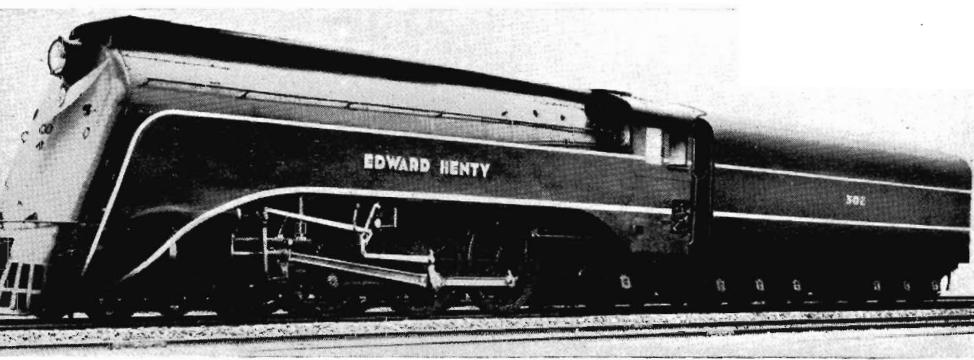
*Goods locomotive, 1925
N class*



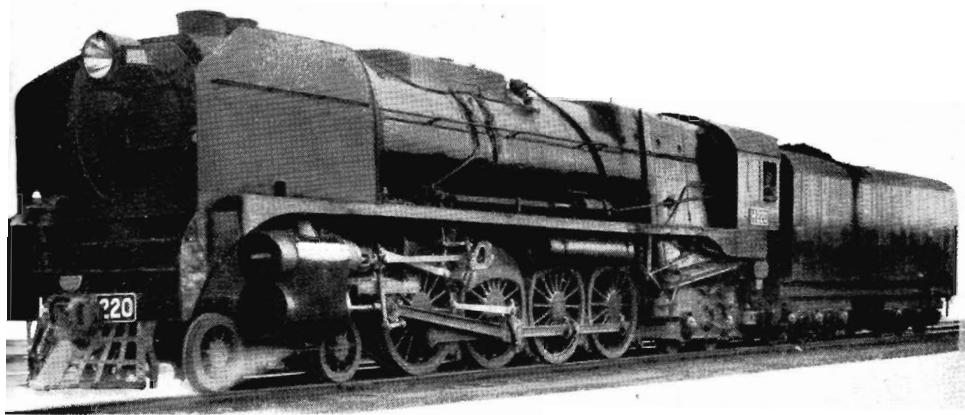
*Goods locomotive, 1925
X class*



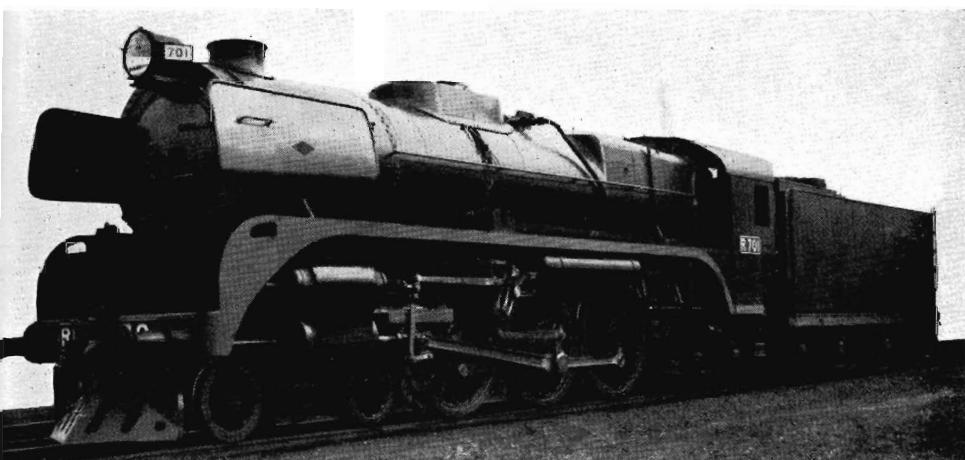
*Express Passenger
locomotive, 1928
S class*



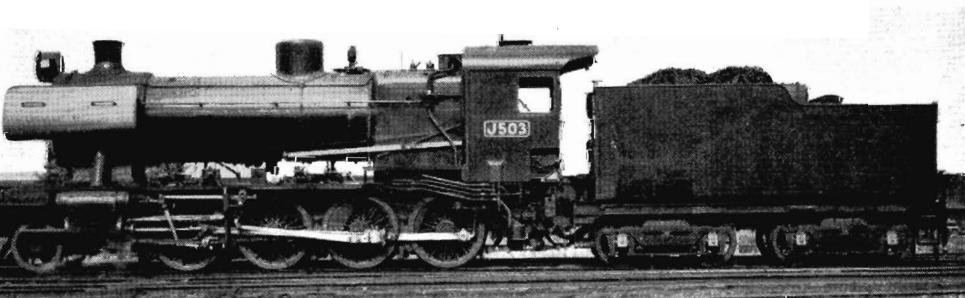
*As streamlined for
"Spirit of Progress",
1937*



Goods locomotive, 1941
H class

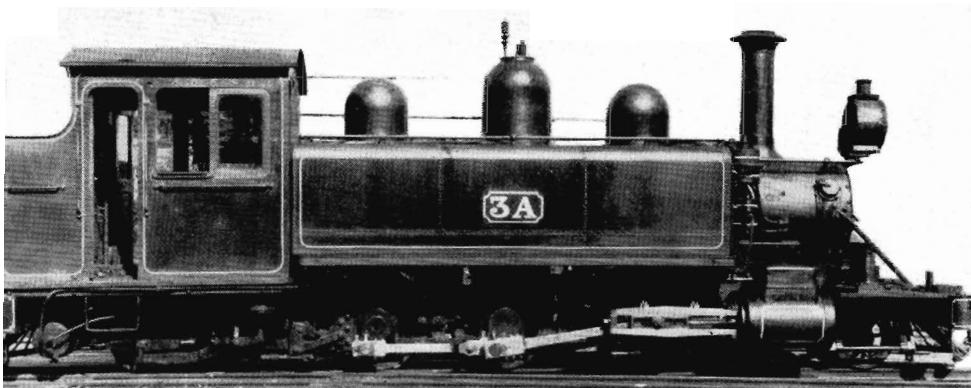


Passenger locomotive, 1949
R class

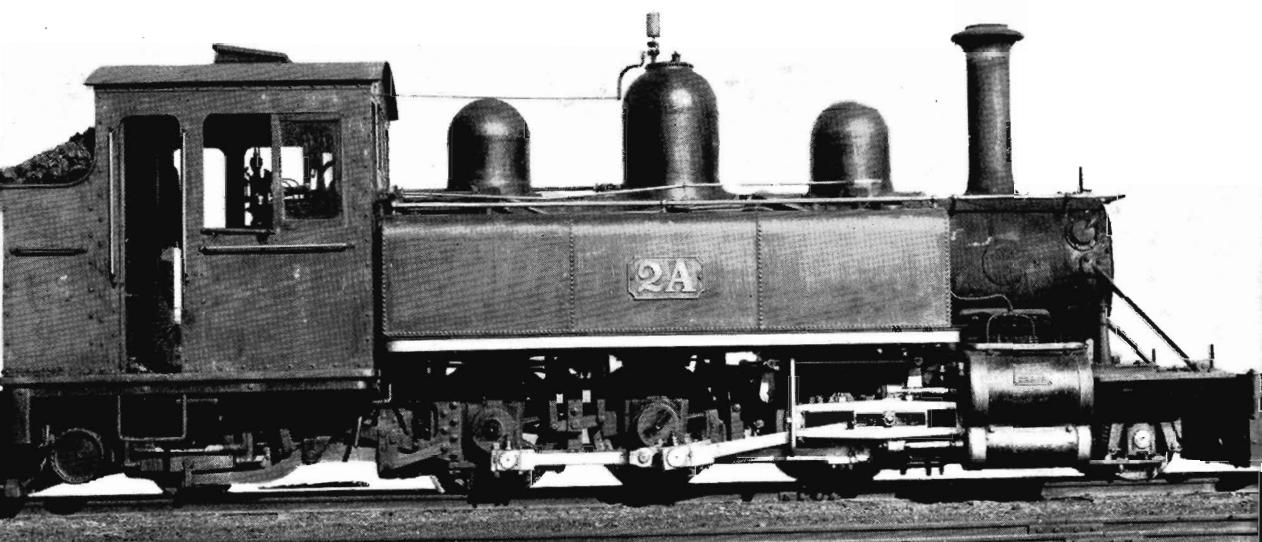


Goods locomotive, 1953
J class

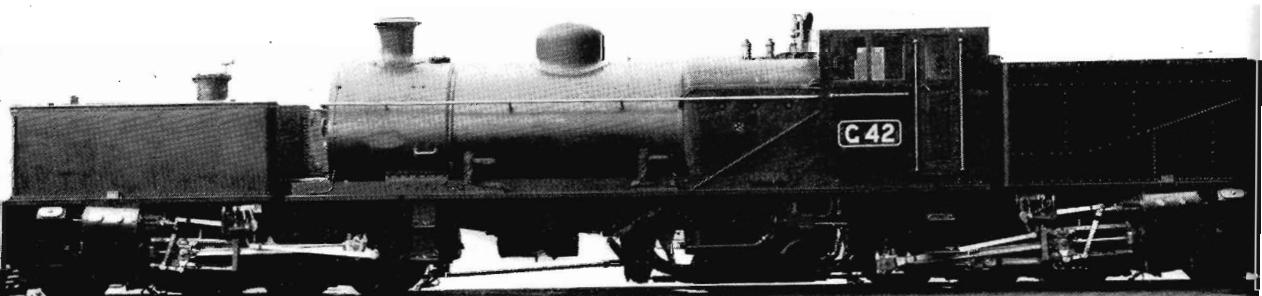
2' 6" GAUGE
LOCOMOTIVES



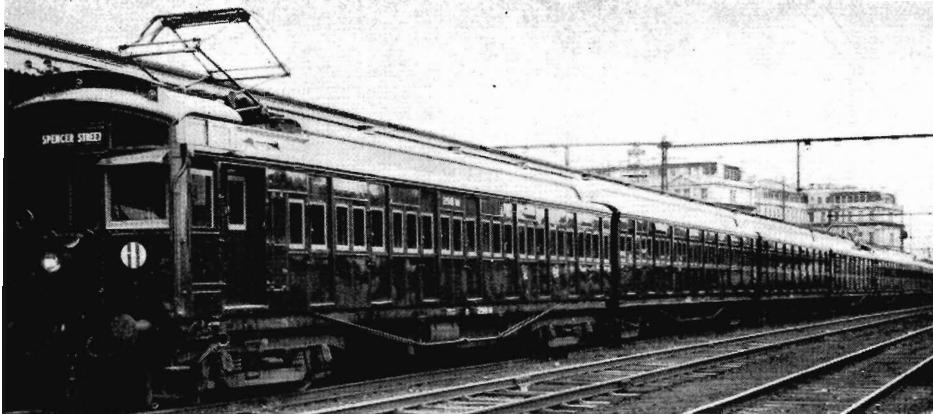
NA class, 1900



NA class, Compound locomotive, 1898



G class, Garratt type, 1926



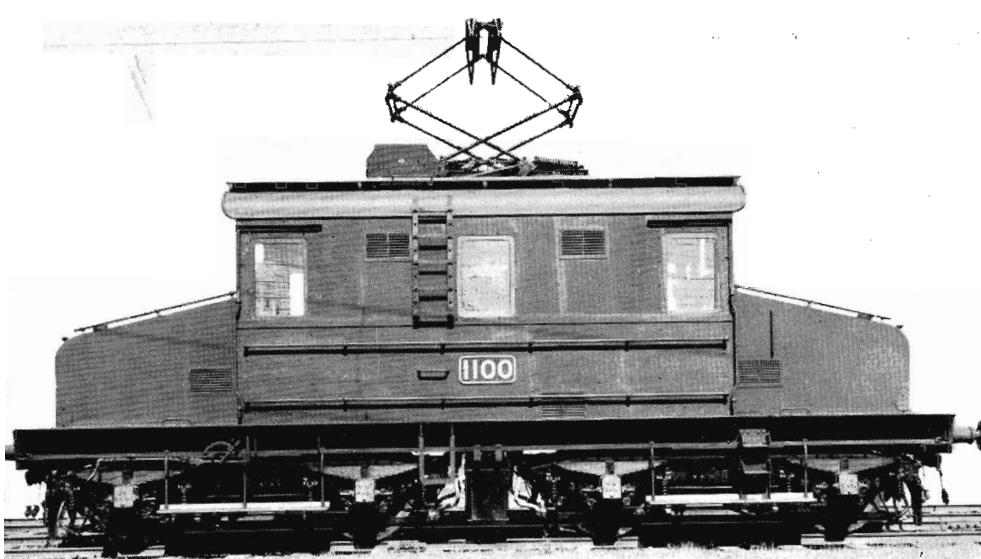
*Electric
suburban
train, 1919*



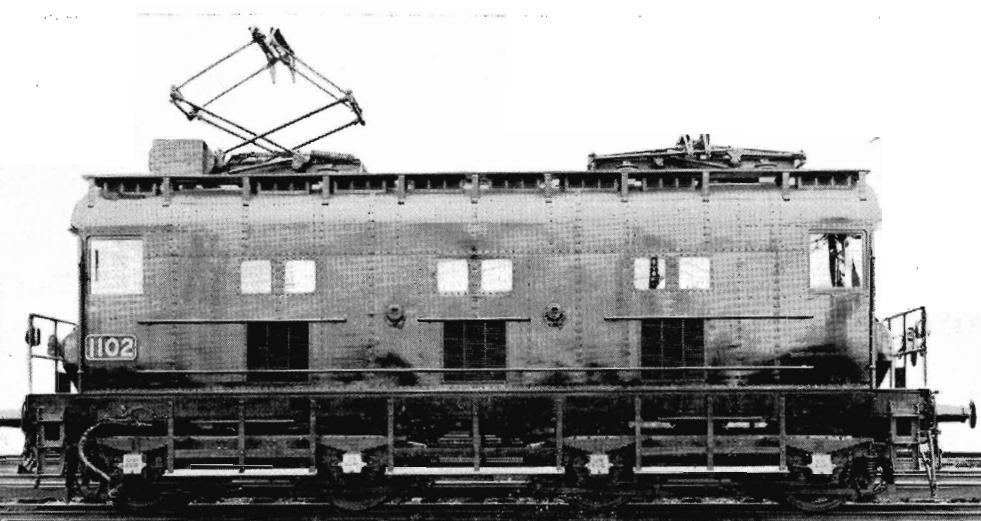
*"The Boat
Train", 1936,
ran between
Flinders Street
and Port
Melbourne Pier*



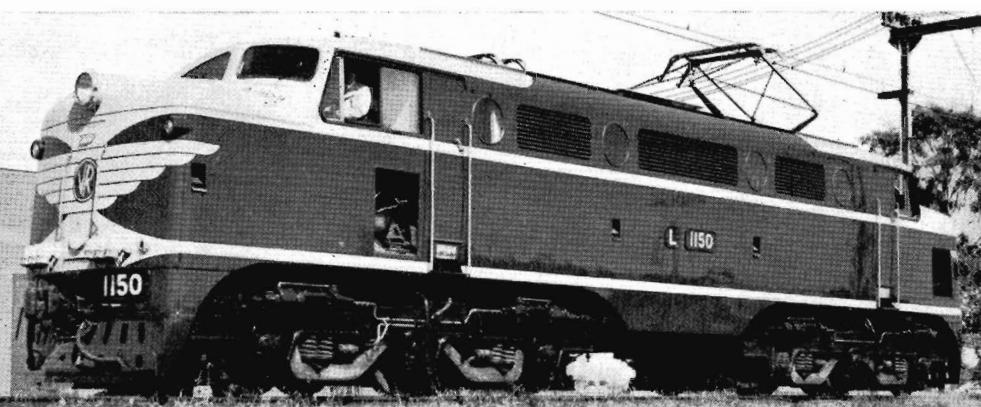
*Electric suburban
"Harris Train",
1956*



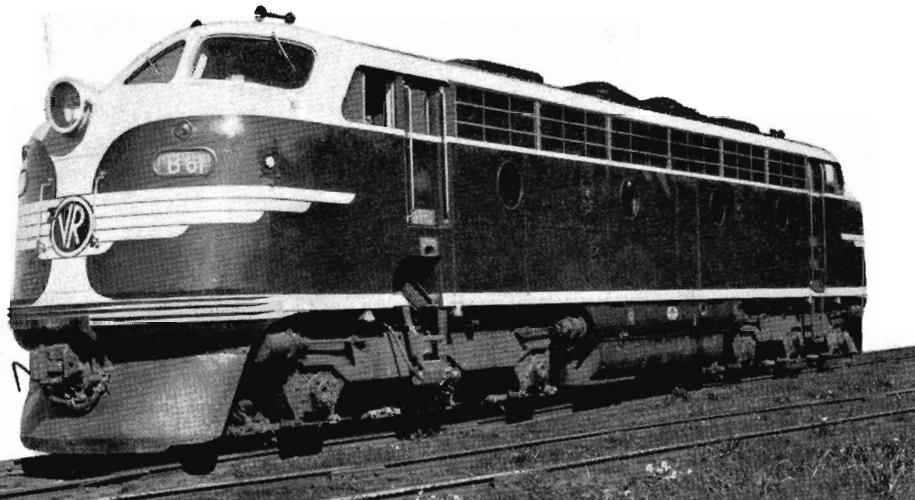
*Electric suburban
goods locomotive, 1923*



*Electric suburban
goods locomotive, 1928*



*Main-line electric
locomotive, 1952
L class*



Main-line diesel-electric
locomotive, 1952
B class



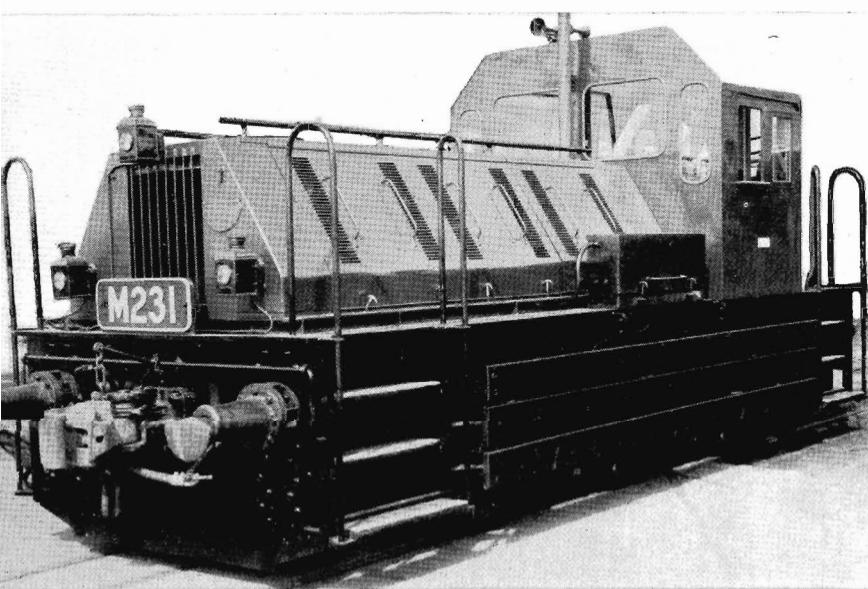
Main-line diesel-electric
locomotive, 1957
S class



Diesel-electric locomotive,
(raised cab roof) 1959
T class



*Diesel-electric shunting locomotive,
1951*
F class



*Diesel-hydraulic locomotive,
1959*
M class



*Diesel-hydraulic locomotive,
1959*
W class

**BUILDERS OF LOCOMOTIVE ENGINES FOR THE
VICTORIAN RAILWAYS DEPARTMENT
1857 to 1962**
(Including steam cranes and sundry stock)

Builder	Year built	Number supplied
<i>George England & Co., Hatcham Ironworks, London, England</i>	1857-1860	12
<i>Beyer, Peacock & Co., Gorton Foundry, Manchester, England</i>	1859-1926	79
<i>Slaughter, Gruning & Co., Bristol, England</i>	1860-1862	9
<i>Robert Stephenson & Co., Newcastle-on-Tyne, England</i>	1862-1877	12
<i>R. & W. Hawthorn, Forth Bank Works, Newcastle-on-Tyne, England</i>	1862	13
<i>Yorkshire Engine Co., Meadowhall Works, Sheffield, England</i>	1870	6
<i>Victorian Railways, Railway Workshops, Williamstown</i>	1871-1879	7
<i>Phoenix Foundry Co., Ballarat, Victoria</i>	1873-1904	352
<i>The Rogers Locomotive Works Paterson, New Jersey, U.S.A.</i>	1877	2
<i>The Baldwin Locomotive Works, (Burnham, Parry), (Burnham, Parry & Williams), Philadelphia, Pennsylvania, U.S.A.</i>	1879-1911	35
<i>Robison Bros., South Melbourne, Victoria</i>	1880-1881	8
<i>Societe St. Leonard, Liege, Belgium</i>	1883	5
<i>Kitson & Co. Ltd., Airedale Foundry, Leeds, England</i>	1883-1888	4
<i>Dubs & Co., Queen's Park Works, Glasgow, Scotland</i>	1883-1891	2

<i>Robison Bros., Campbell & Sloss, South Melbourne, Victoria</i>	1889-1890	25
<i>The Melbourne Locomotive & Engineering Works, (David Munro & Co.), South Melbourne, Victoria</i>	1892-1893	25
<i>Victorian Railways, Railway Workshops, Newport</i>	1893-1962	560
<i>Marion Steam Shovel Co., Marion, Ohio, U.S.A.</i>	1907-1914	2
<i>McKeen Co., Omaha, Nebraska, U.S.A.</i>	1911	2
<i>Kerr, Stuart & Co. Ltd., Stoke-on-Trent, England</i>	1912	1
<i>Walkers Ltd., Maryborough, Queensland</i>	1913	20
<i>Thompson & Co. (Castlemaine) Pty. Ltd., Castlemaine, Victoria</i>	1914-1916	40
<i>Thomas Smith & Sons, Rodley, Leeds, England</i>	1914-1930	2
<i>Victorian Railways, Railway Workshops, Ballarat North</i>	1919-1922	13
<i>Victorian Railways, Railway Workshops, Bendigo North</i>	1919-1922	13
<i>Hudswell, Clarke & Co. Ltd., Railway Foundry, Leeds, England</i>	1919	1
<i>Morison, Bearby Ltd., Newcastle, New South Wales</i>	1921	1
<i>A. T. Harman & Son., Port Melbourne, Victoria</i>	1922	2
<i>Henry J. Coles, Derby, England</i>	1930	1
<i>North British Locomotive Co., Glasgow, Scotland</i>	1949-1952	120
<i>Clyde Engineering Co. Pty. Ltd., Granville, New South Wales</i>	1952-1962	91
<i>English Electric Co. Ltd., Preston, Lancashire, England</i>	1951-1953	39
<i>Vulcan Foundry Ltd., Newton-le-Willows, Lancashire, England</i>	1953-1954	60
<i>Tulloch Ltd., Rhodes, New South Wales</i>	1959-1960	27

*In addition, 34 engines were taken over by the Victorian Railways from private railways :
From the Geelong and Melbourne Railway Co. in 1860*

Walker & Munro, Geelong, Victoria	1855	1
Stothert & Slaughter, Bristol, England	1855	2
Robert Stephenson & Co., Newcastle-on-Tyne, England	1855	2
R. & W. Hawthorn, Forth Bank Works, Newcastle-on-Tyne, England	1855	4
<i>From the Melbourne & Hobson's Bay United Railway Co. in 1878</i>		
Robert Stephenson & Co., Newcastle-on-Tyne, England	1857-1878	21
<i>From the Deniliquin and Moama Railway Co. in 1923</i>		
Beyer Peacock & Co., Gorton Foundry, Manchester, England	1875-1877	4
TOTAL ENGINES SUPPLIED	1857-1962	1625

SUMMARY

<i>Imported</i>			
Great Britain	399		
United States of America	41		
Belgium	5		
	<hr/>		
	<i>Total imported</i>		445
<i>Built in Australia</i>			
Victoria : Victorian Railways	588		
Private Contractors	462		
	<hr/>		
Queensland	Total Victoria	1050	
New South Wales		20	
		110	
	<hr/>		
	<i>Total Australian</i>		1180
	<hr/>		
	TOTAL ENGINES		1625

CHAPTER THIRTY-TWO

CARRIAGES AND WAGONS

Types ; American saloons ; Dining cars ; Air-conditioning ; Rail motor cars ; Train lighting ; Special goods wagons

Since railways commenced in Australia, carriages have progressed from the comparatively primitive accommodation provided in the early days to the relative luxury of modern rail travel. Practically all rolling stock for the private railways of Victoria had been manufactured in Great Britain, but that for the Government lines was constructed in both Britain and Melbourne, in almost equal quantities. These vehicles were built of ash, American oak, or teak, with mahogany panels, and had double roofs for insulation against the sun's heat. Each had four compartments, supported on six fixed wheels ; upholstered in imitation morocco leather, trimmed with gilt beading, the spring seats, backs, arm rests, and side cushions were stuffed with horse hair. A "good Brussels carpet" was laid on the floor of each compartment, and a spring roller blind was fitted to each window. Such was the comfort provided for first-class patrons—at 24 seated per carriage. Second-class accommodation (with 40 seats) did not include arm rests or carpets.

As the lines extended, new carriages were enlarged to seat more passengers. Upholstery was simplified by eliminating arm rests. Red and blue plush was substituted for portion of the leather trimmings, but it cannot be stated which colour designated first or second-class. Certainly the fabric, whatever colour, became the repository of vermin. Apparently, there was no class distinction in this regard.

Introduced in 1874, American saloon carriages with bogies, taking 60 first and 64 second-class passengers, brought a luxury to rail travel previously unknown to Victoria. Williamstown Workshops and local contractors were by then building bigger and better carriages to improved designs of the original types.

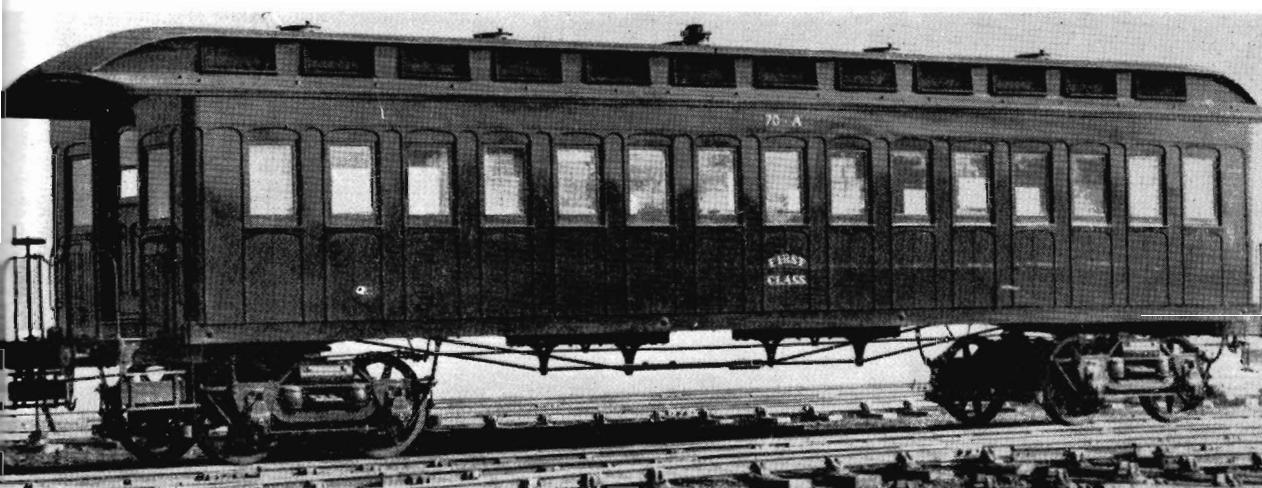
Considered to be the ultimate in comfort and elegance, the Mann boudoir carriages, imported from America for the Melbourne-Adelaide service opened on January 19, 1887, were the first sleeping cars on the Victorian system.

By the 1890's, construction of both country and suburban carriages—for extensions of services and as replacements of old stock—produced higher standards of comfort. The use of bogies allowed larger carriages, with greater seating capacity. Corridor carriages, equipped with improved toilet facilities and other amenities, gave main-line trains a degree of relaxation appreciated by travellers.

Dining cars on the Adelaide and the Sydney expresses followed, and the observation or parlor car on the latter supplied a spaciousness wanting for so long. The all-steel Parlor Car built for "Spirit of Progress" was remodelled to form the Club Car of "The Daylight".

However, other than the Pullman sleepers and diners of 1927, all carriage bodies were of timber, until the all-steel "Spirit of Progress" went into running on November 23, 1937.

Pioneer in Australia of air-conditioned trains, the Victorian Railways began experiments in December, 1935, when the main-line passenger carriage No. 36 AE was equipped with this important improvement for the comfort of rail travellers. The dining car of the "Sydney Limited" was similarly treated in February, 1936. These experiments were a prelude to the outstanding success of "Spirit of Progress". Fully air-conditioned, the train, with its other improvements, very quickly gained a reputation for unsurpassed travelling comfort. After World War II, air-conditioning on trains was considerably extended.



above : First-class sitting carriage, 1883



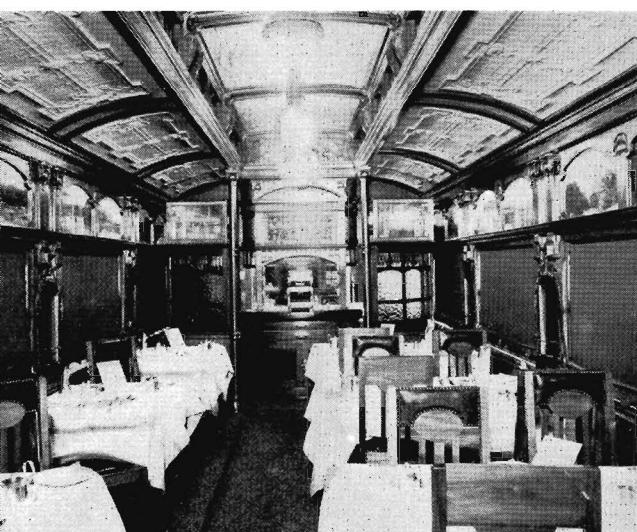
left : First-class corridor carriage, 1894



below : Mann "Boudoir Carriage", 1887



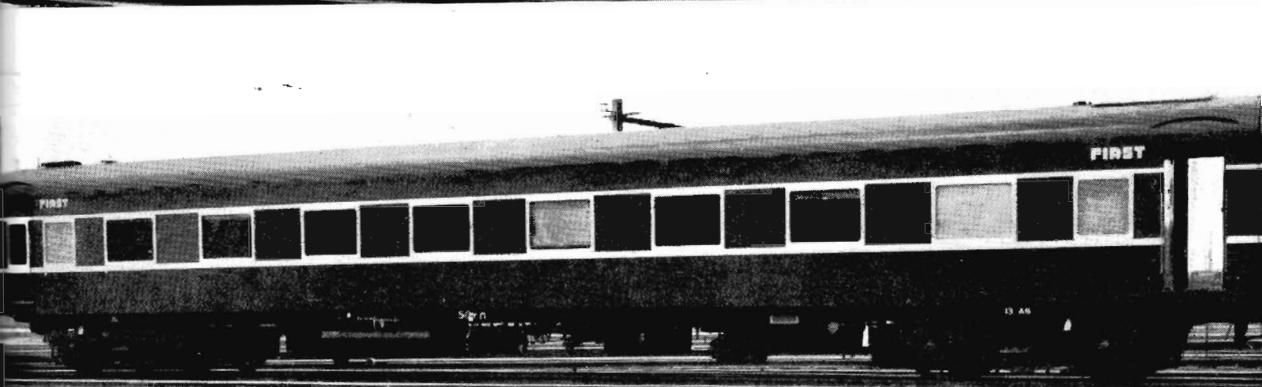
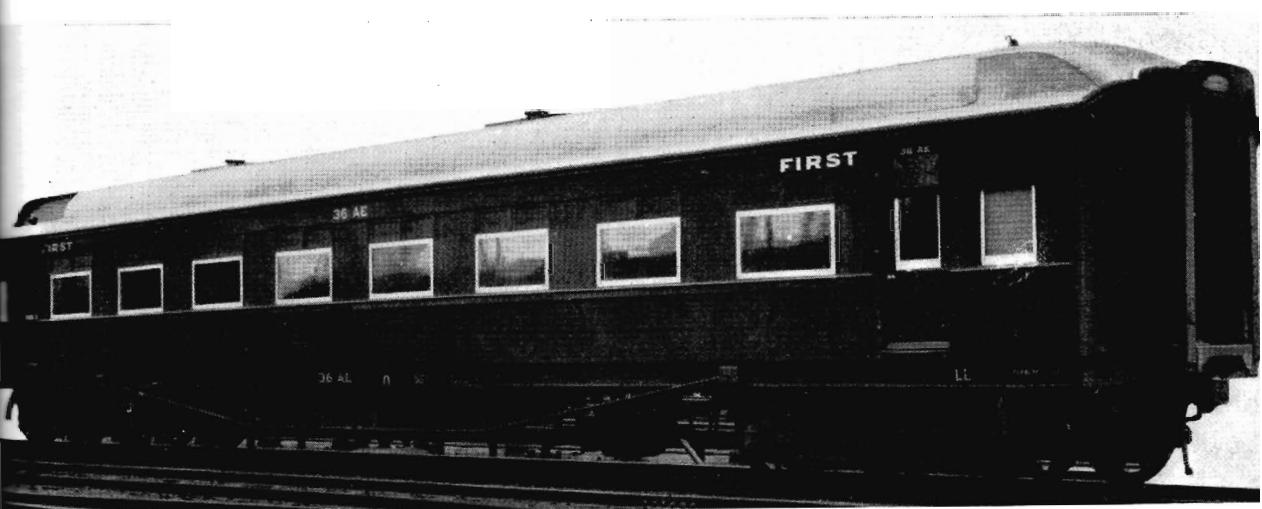
Parlor car 1906



"Campaspe" dining car, 1908



"Spirit of Progress" dining car, 1937



top:
First air-conditioned carriage, 1935

centre:
*All steel carriage, "Spirit of Progress"
1937*

below:
Saloon type carriage, 1956

Rail Motor Cars

The advent of the rail motor car on the Victorian Railways dates from May, 1883, when Rowan's Steam Car was placed in temporary service. A combination of engine cabin and compartment for 40 passengers, the vehicle was purchased from Captain F. C. Rowan, of Melbourne. The power plant, built by Kitson & Co., Leeds, England, consisted of a vertical boiler and engine, fitted into a car designed by W. R. Rowan, of Copenhagen, Denmark—brother of F. C. Rowan. The vehicle was mounted on six wheels, including four coupled drivers. A spare power unit was delivered with the car.

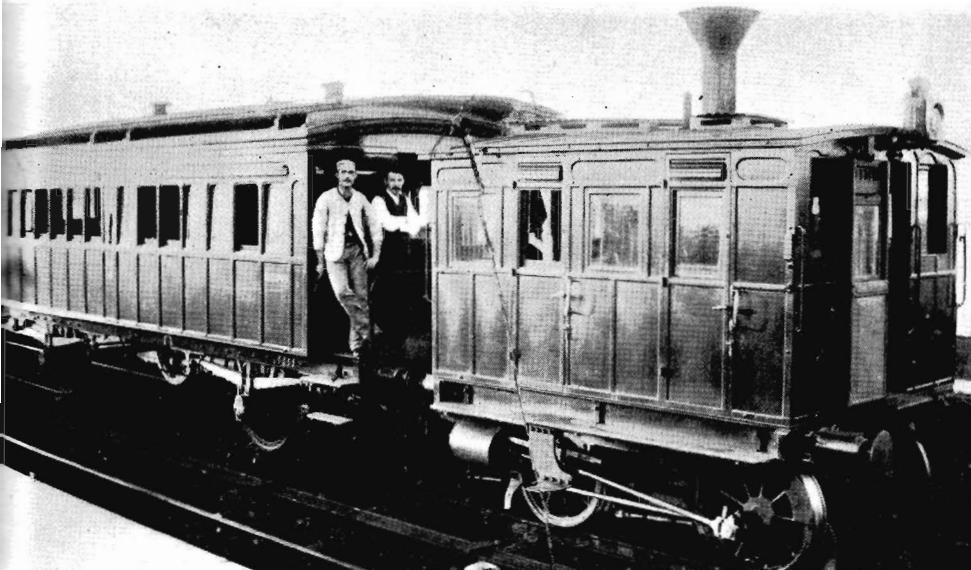
Very little information is available concerning the early operations of this car, but records indicate that, after a brief period of working, it remained idle for several years. Soon after the opening of the Outer Circle Railway in 1890, the car was returned to work on that line, being specially equipped with a booking office. About the same time, the Department built a second steam car, using the spare engine which was fitted into a small passenger carriage, and coupled to a 4-wheeled trailer. When the Outer Circle Railway was closed both cars were used for a short time between Essendon and Broadmeadows, and subsequently were withdrawn from service in the middle 1890's.

In the following years, the Commissioners periodically reviewed the possibility of improving branch line traffic. One of the disabilities affecting residents on lines that carried comparatively light traffic was the time occupied in travelling by mixed trains. With such trains it was practicable to provide economical passenger transport for the districts served, but the time spent in shunting at stations en route made them unattractive.

To improve passenger services on branch and cross country lines, two petrol engine rail motor cars were purchased from the McKeen Co., Omaha, Nebraska, U.S.A., in 1911; each carried 73 passengers, and was of unusual design, with an early attempt at streamlining. They went into regular service on May 13, 1912—one between Ballarat and Maryborough and the other between Hamilton and Warrnambool. After about three years, they were withdrawn from traffic. In 1919, the engines were removed and the cars converted for ordinary passenger train use. They were employed for a time during the early 1920's on the Newport-Altona line, hauled by an old type engine (No. 103). The unique appearance of this train always aroused the interest of travellers.

To further experiment in the improvement of branch line operations, a vertical boilered engine unit was purchased in 1912 from Kerr, Stuart & Co., Stoke-on-Trent, England. This unit was installed in an 8-wheel car, built at Newport Workshops, with seating capacity for 54 passengers. The engine, which had four coupled wheels, was the first Walschaert valve gear locomotive unit to work on the Victorian Railways. As Motor Car No. 3, it went into service on January 25, 1913, but, after running about 50,000 miles, it proved unsuitable and was taken out of service.

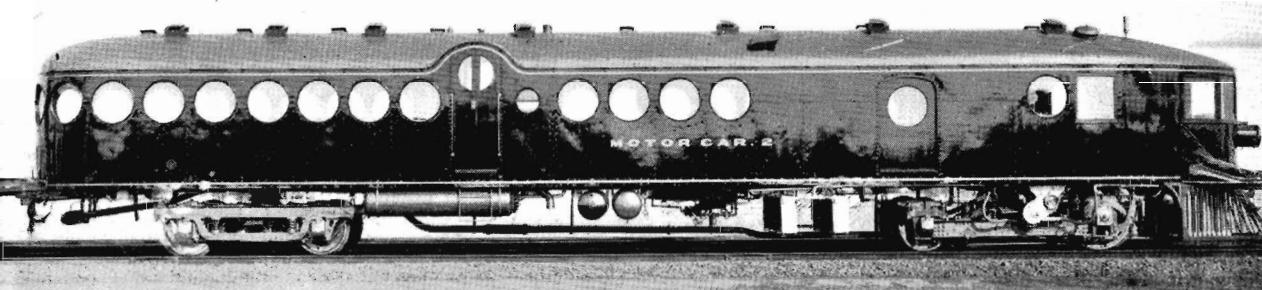
Soon after the First World War ended, the Commissioners decided to test whether petrol driven rail motor vehicles could be successfully used to improve passenger transport on sparsely settled lines. In 1921, a motor chassis, pur-

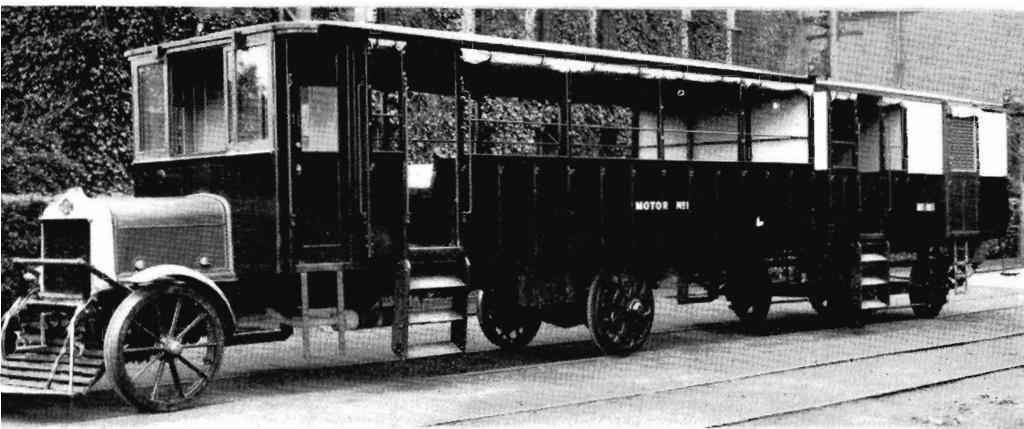


left : Rowan steam car
No. 2

centre : McKeen petrol driven
rail car, 1912

below : Rowan steam car
No. 1, 1883





Single-ended rail motor car and trailer, 1922

chased from Associated Equipment Company, England, was adapted at Newport Workshops for running on rails and fitted with a body to seat 43 passengers. Driven by a 45 h.p. engine, it hauled a trailer coach equipped to carry 12 passengers and two tons of freight. This vehicle went into service on June 26, 1922, on the 16-mile route between Merbein, Mildura and Redcliffs.

From the aspect of both public convenience and economical working, the new rail motor proved very satisfactory, and additional similar stock was obtained until, by 1926, more than 20 branch lines were serviced by these vehicles. From experience gained during the early period of working, a larger and more powerful type of car was introduced in 1925. Mounted on two bogies, it had driving controls at either end, and carried 56 passengers.

In 1928, the application of the rail motor was further extended by the addition of petrol-electric vehicles. Motive power was produced by a 220 h.p. petrol engine directly coupled to a 150-kilowatt generator supplying two traction motors. During recent years, the power units were converted to diesel-electric operation.

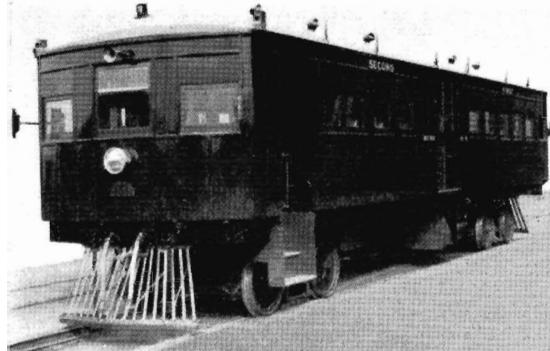
Between 1948 and 1950, three new types of diesel cars were placed in service. Known as the Walker rail-car, they consist of :

- 102 h.p. class, carrying 40 to 45 passengers
- 153 h.p. class, carrying 40 to 45 passengers
- 280 h.p. class, (articulated) carrying 94 passengers

When required, a trailer is attached to the older diesel-electric and the 153 h.p. cars, approximately doubling passenger capacity. The success of rail-car services as a convenient and economical means of transport for light traffic is demonstrated by the extent of operations. Thirty-seven per cent of the country passenger mileage of the Victorian Railways system is covered by these vehicles.

Rail car stock now in service consists of :

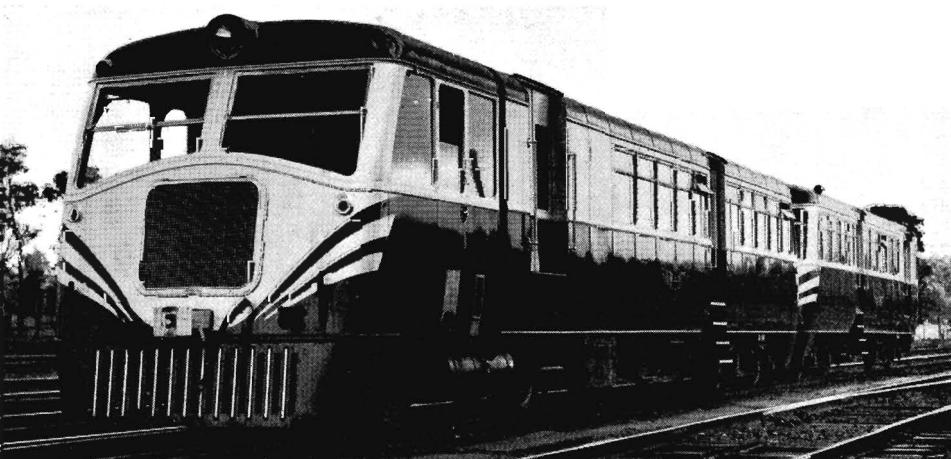
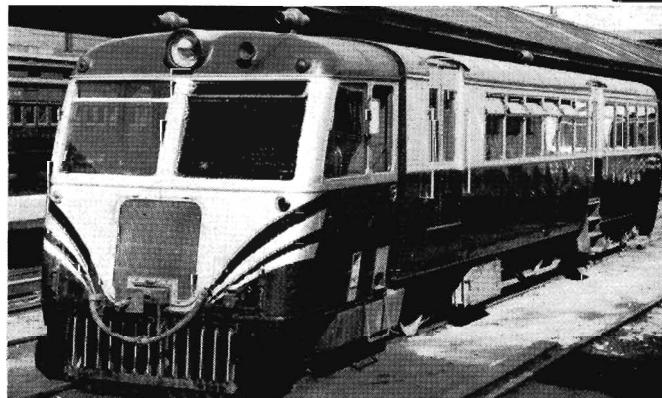
- 10 double-end 220 h.p. diesel-electric
- 12 single-end 102 h.p. diesel
- 15 single-end 153 h.p. diesel
- 12 double-end 280 h.p. diesel, (articulated)



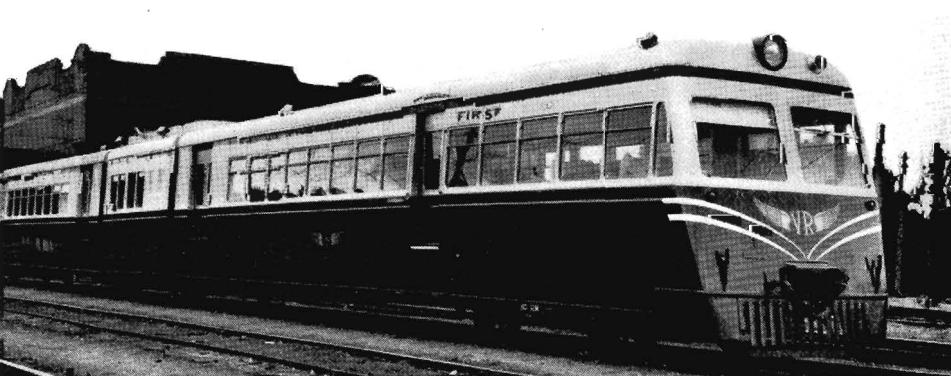
above : Double-ended rail motor car, 1925

above right : Diesel-electric rail motor built in 1928 as petrol-electric and converted in 1951

right : 102 h.p. Diesel rail-car, 1948



153 h.p. Diesel rail-car and trailer, 1948



280 h.p. Diesel rail-car, 1950

Train Lighting

For over a quarter of a century the interior illumination of carriages was provided by lamps burning colza oil. This oil (distilled from cole seed, a plant of the cabbage type) was imported for general use as an illuminant. Each carriage compartment had, as a general practice, one lamp containing an individual oil reservoir feeding a flat flame burner enclosed in a clear glass bowl with a plated reflector. The diffusion of light in the carriages, though feeble, was satisfactory according to contemporary standards. As time passed, many suggestions for improving carriage lighting were considered by the Railway Department, mainly with so-called patent lamps. In July, 1867, Higinbotham rejected a proposal to use town gas for train lights. He stated that an additional vehicle, to carry a gasometer, would be required for each train. Evidently some trials were made with gas, for an unofficial report in December, 1872, stated it was too expensive.

At Benalla, on the night of August 18, 1873, during the celebrations in connexion with the opening of the railway to that town, mineral oil lamps were tested in a saloon car. Experiments with kerosene and gas were continued, and in 1877 kerosene lamps were fitted to a large number of carriages.

The Department, in 1879, set up a gas-making plant at Princes Bridge station. This equipment, which extracted gas from oil, could supply 1,000 cubic feet in eight minutes at a cost of six shillings, which was considerably cheaper than town gas. Gippsland trains and Princes Bridge station were lighted with the gas in July, 1879. After a series of experiments, the gas-making plant was dismantled, and the installation of kerosene lamps in the carriages was expedited until they were all equipped by about 1884.

Many types of patent lamps, and other lighting fuels, were tried during the following years. In 1898, the Department erected works at Spencer Street for the manufacture of Pintsch gas, to be used instead of kerosene for carriage illumination. This gas is extracted from oil, New South Wales crude shale oil being used until recent years, when another type proved to be more suitable.

Pintsch gas was first used in the new corridor carriages for the "Sydney Express" late in 1898, but several years elapsed before all carriages were equipped. Originally fitted with flat-flame burners, the lamps were subsequently adapted for incandescent mantles. For the first years, the gas was conveyed to the three metropolitan stations in a travelling gasometer for supplying the cars. Distributing mains were then laid from the gas works to the three stations, and additional travelling gasometers were provided to serve country depots.

Manufacture ceased in October, 1956. In lieu, a mixture of town gas and oil refinery waste gas is used. The mixture is piped from West Melbourne gas works to a storage tank at Spencer Street.

With the adoption of electric traction in 1919, suburban trains were changed from gas to electric light as each section of line was converted from steam operation. Country trains have since been fitted with electric light; each car has an individual generator, driven by a belt from the axle. More recently,

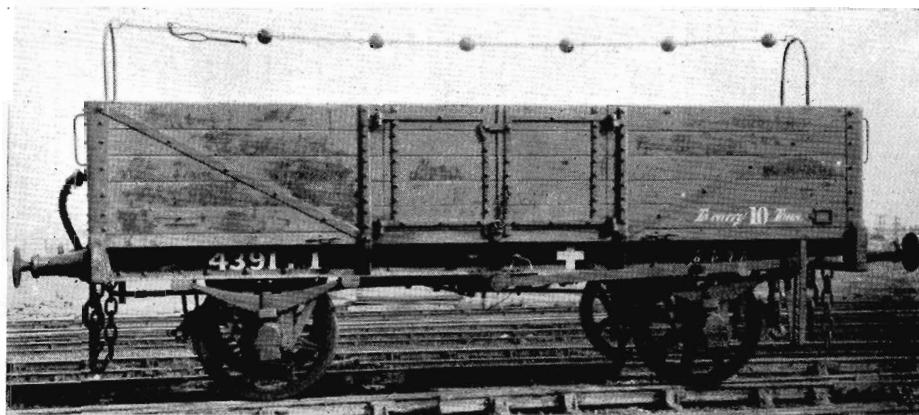
new suburban ("Harris" type) and country and interstate carriages have been equipped with fluorescent lighting. A number of older suburban and country carriages are equipped with both gas and electric lighting installations to permit of their use in either service as occasion demands.

With the introduction of standard gauge, a power van was attached to passenger trains on that line to provide current for train lighting, etc., in conformity with the New South Wales practice.

Special Goods Wagons

Increased productivity resulting from activities of a growing, progressive and ever-prospering community required facilities to serve additional agricultural acreage, bigger factories and brighter marketing emporiums. Railway services, from the very beginning, have provided and developed vehicles to carry almost every form of merchandise, whether it is firewood or fish, stone or steelwork, meat, petrol or explosives. Especially in recent years in Victoria, the spectacular expansion of commerce and industry has caused the appearance of goods wagons designed for the transport of many new products.

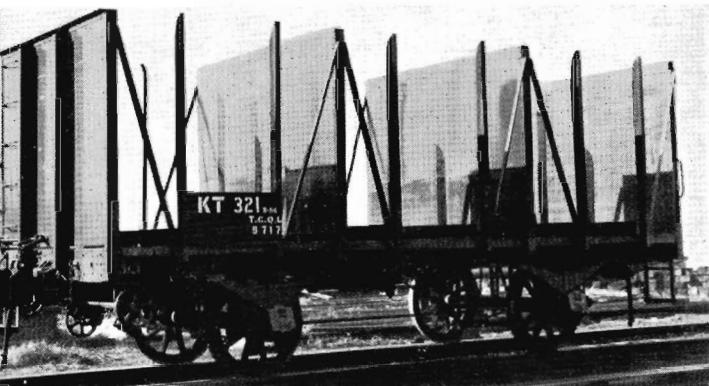
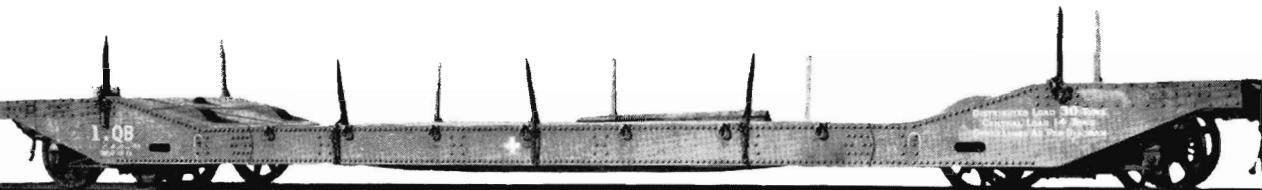
The inaugural goods stock of the Victorian Railways Department consisted of high-sided ordinary, and low-sided open wagons, open flat vehicles for transporting gentlemen's carriages, long poles etc. and a few sundry types, mainly for timber and explosives. Sheep and cattle vans were added, together with the box-wagons for better protection of certain merchandise. Steel hopper wagons for stone ballast superseded the ordinary type timber wagons in earlier use. Bogie wagons, both flat and with raised sides, catered for long articles such as girders. Many years elapsed before the ice refrigerated vehicle for meat, fish and dairy products appeared. Then followed such special stock as the water-tank wagons to take this precious fluid to drought areas. At the beginning of the present century, some of these were hired by the Shell Oil Company—the first rail oil-tankers in this state.



Open goods wagon, 1894

So the variety increased to meet requirements of the producers and the marketers. Some of the special wagons and vans now in service provide for up to 10,000 gallons of petroleum products, coal distillates, and acids; bulk cement; water; sheep; cattle; racehorses; refrigerated goods; explosives; coal; ballast; overhead wire erection; bulk goods containers; long rails; pressed wood sheets; and paper mills pulp wood.

In conjunction with South Australian Railways, wagons for the carriage of motor car bodies from Adelaide to Melbourne and other places are in regular service.



above : Well wagon, 1902

left : Special wagon for pulpwood logs

below : X class wagon discharging first consignment of bulk handled flour, 1961



CHAPTER THIRTY-THREE

RAILWAY BRAKES

Wooden blocks ; Patent brakes ; John Woods ; Westinghouse ; Electro pneumatic ; Dynamic (rheostatic)

Efficient brake power on trains has been a subject of major importance in railway engineering and traffic sections—and the Department has kept up to date as improvements have been developed.

Until 1877, when a continuous automatic brake was tested, the only available brake power on trains was applied through the medium of wooden blocks acting on the engine tender wheels (or the driving wheels on tank engines) and on the brake-van wheels. Pressure was obtained with hand-screw wheels, operated by the driver and guard respectively. For emergency stops, the driver called the guard's attention to apply the van brakes by sounding two short blasts on the steam whistle. Similarly, the guard warned the driver of the necessity for an unscheduled stop by applying the van brakes and displaying a red flag or a red light. In the event of sudden danger, the driver was authorized to throw his engine into reverse gear. This caused a "counter pressure" in the cylinders, and, with the application of the hand brake, a quick stop was effected.

Brakes (spelt "breaks" in the early years) were not fitted to passenger carriages. To prevent their moving when standing in sidings or otherwise not in running, scotch (wedge shaped) blocks were placed against the wheels. Wagons had hand-lever brakes.

When the Ballarat and Bendigo lines were opened in 1862, the heavy grades necessitated increased brake power. Weights were added to the brake levers on goods wagons, and, when descending certain inclines, the brakes were pinned down, the trains being stopped while this was done, and again at the foot of the incline.

Strict instructions were enforced as to the weight and brake power of passenger and goods trains. If either class of train exceeded the specified number of vehicles or total gross weight, an additional brake van had to be attached, this being placed usually in the middle of the trains.

Descent of the heavy grades, many of which have an incline of 1 in 50, was an adventure for train crews in wet weather. Over-shooting station platforms was a fairly common—and understandable—occurrence. But collisions between trains were fortunately few, because, no doubt, of the widely spaced timing schedules, and double line working on the system except between Geelong and Newport.

Many so-called patent brakes and suggestions for improving brake power were submitted to the Railway Department from 1860 to 1880. Most were impracticable ; others were of weird and impossible design.

In 1870, Clarke's counter pressure brake system was brought under the notice of the Departmental engineers, but its adoption was rejected as being too expensive to install. In August of the same year, Le Chatelier's steam brake was fitted to Engine No. 53 (0-6-0 goods, O class), and good results were report-

ed. This system worked on the reversing gear, or counter pressure principle, and was extensively used on French railways.

Though continuous brakes, mainly Newall's and Fay's patents, had been employed on some English railways since 1858, their use on the Victorian Railways was strenuously opposed by Higinbotham throughout his term as Engineer-in-Chief. Until the early "seventies," his opinions on the matter were the reflections of many English railway engineers, who preferred separate brakes. The object of a continuous brake system is to apply brakes to a number of vehicles at the same time.

John Woods, a professional engineer who represented Stawell in the Legislative Assembly for 27 years between 1859 and 1892, was Commissioner of Railways and Roads for a brief period in 1875, and from 1877 to 1880. Both as an engineer and as Ministerial head of the Railway Department, he urged the adoption of improved brakes for trains. He had invented a continuous automatic hydraulic brake and, in October, 1876, he unsuccessfully sought a Parliamentary grant of £100 to experiment with it.

However, Woods resumed office as Commissioner of Railways seven months later, and conducted a series of unobtrusive tests of his patent. A B class passenger engine, five carriages and two vans were fitted with the brake, and on December 19, 1877, a trial run was made from Melbourne to Bendigo and return. Satisfactory results were claimed for the efficiency of the brake on the descending grades. Further trials were made during 1878, when Woods formed The Universal Continuous Brake Co. Late in that year, the Department ordered 20 sets of Woods' brake gear for fitting to carriages. By 1880, 18 engines and several complete trains were equipped.

The Westinghouse (American) automatic continuous air brake was by then claiming the attention of the local authorities, and Thomas Bent, who succeeded Woods as Commissioner of Railways, gave permission for a year's trial of the Westinghouse patent—at the company's expense. Tests were made on the Brighton line in September, 1882; but while preparations for these were in course, installations of the Woods brake were being continued. More than 30 engines and a substantial number of carriages had by then been so equipped.

Both brakes were similar in action, and capable of either automatic or non-automatic operation. The Woods type was worked from the engine boiler pump, or the injector. The Westinghouse pattern is supplied from an air pump, and, for this reason, some of the Departmental engineers claimed it was more costly to install than the Woods brake.

Eventually, it was decided to make comparative tests of the rival patents, under the direction of a Board of Inquiry composed of the Locomotive Superintendents of the South Australian, Queensland, and Tasmanian Railways. Engines No. 50 B class and No. 40 M class, fitted with the Woods brake, and No. 108 B and No. 25 C, with Westinghouse gear, ran a series of trials near Werribee on January 25, 26 and 30, 1884, hauling trains of nine carriages. On January 31, a final test was run on the 1 in 56 grades near Gisborne. A speed of 70 miles an hour is said to have been reached on one occasion.

Results appear to have been inconclusive, for controversy continued as to the superiority of either type of brake. Minister Duncan Gillies favoured the expedient of employing the Woods brake on trains running north from Melbourne, and the Westinghouse on those to Gippsland and on the south suburban lines.

Finally, large quantities of the Westinghouse patent type were ordered at the end of 1884. In the same year Smith's vacuum brake had been tested on a train running between Melbourne and Wodonga, and this type was fitted to some engines and carriages, thus making three different types of continuous brakes in use, as follows :

Woods (hydraulic)	67	engines
Westinghouse (air)	60	"
Smith's (vacuum)	5	"

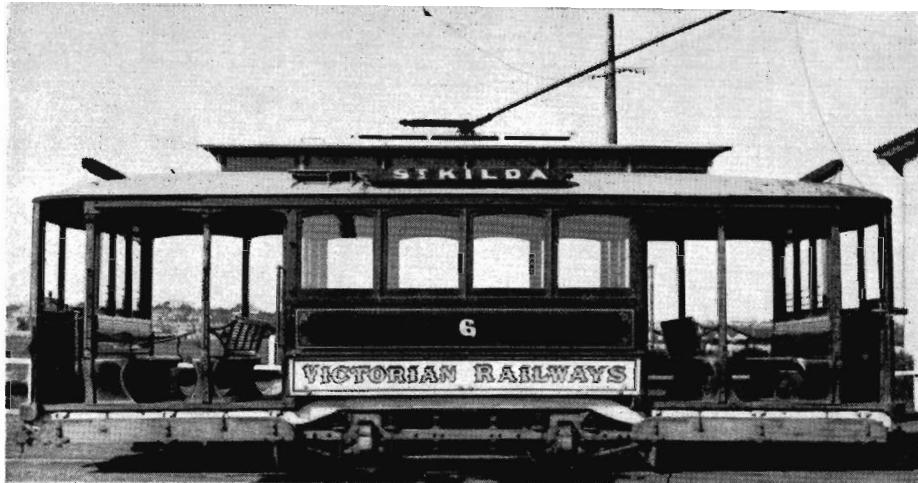
The Westinghouse patent, proving best, quickly replaced the other types, and became standard equipment for Victorian Railways stock.

In 1887, the use of cast iron brake blocks in substitution for wood commenced. Many patents for prolonging the life of wood blocks had been examined and tested throughout the previous years, but none were satisfactory. Results of a five-week trial in July-August, 1871, of a patent composition applied to the brake blocks showed no lessening of wear. In fact, there was a suggestion that the treatment increased the rate of deterioration.

Soon after the completion of the suburban railway electrification scheme in 1923, experiments were made with an electro-pneumatic brake for use on electric trains. With this system, the air brakes are electrically applied on all carriages simultaneously. For economic reasons this brake was not adopted at that time.

The "Harris" suburban trains, however, have electro-pneumatic brakes and are now equipped with non-metallic brake blocks which are only one-fifth of the weight of cast iron blocks. They also have a longer life and give smoother stopping.

Dynamic (rheostatic) braking was adopted on the main-line diesel-electric locomotives and main-line electric locomotives purchased by the Department. During dynamic braking, power is generated in the locomotive traction motors and absorbed in resistances on the locomotive, the energy so generated acting as a brake to control the train down to low speed.



CHAPTER THIRTY-FOUR

Combination electric tram car, 1906

ELECTRIC STREET RAILWAYS

Routes served : Political ingenuity : Inauguration of street railways ; Elwood depot fire : Standard gauge applied : Closures of lines : Buses

Electric street railways—or tramways—from St. Kilda station to Brighton Beach station and from Sandringham station to Black Rock and Beaumaris, were constructed and worked by the Victorian Railways Department. They were the only tramways in the metropolitan area not under the control of the Melbourne and Metropolitan Tramways Board.

Inaugurated in May, 1906, the St. Kilda and Brighton Electric Street Railway was the first electric tramway of permanent consequence in Victoria ; a small line from Box Hill to Doncaster, built in 1889, had failed after a short period and was dismantled.

An interesting example of political ingenuity is provided in the genesis of the electric street railways. Thomas Bent (later Sir Thomas) represented Brighton in the State Parliament from 1871 to his death in 1909. For some time prior to 1903, he had endeavoured to obtain approval for the construction of an electric tramway to Elwood and Brighton districts. The Parliamentary Standing Committee on Railways opposed the project. Possibly, the Melbourne Tramway and Omnibus Co. exerted its influence against the proposal.

In 1904, Bent became Premier, and immediately formulated a plan to overrule the Railways Standing Committee. Any work of railway construction, exceeding £25,000 in cost, had to be approved by the committee. Bent listed a proposed electric tramway from St. Kilda to Brighton as an "electric street railway", estimated to cost £19,500.

To finance the work, Bent appropriated for railway purposes a Treasury fund known as the Country Tramways Trust Fund, amounting to £90,872. This artifice was authorized by Act No. 1948 : The Railways Special Funds Application Act, passed on November 30, 1904. On the same day, The St. Kilda and Brighton Electric Street Railway Act (No. 1956) was passed, authorizing the Board of Land and Works to construct a 4' 8½" gauge single track line, 3 miles 23 chains long, from the cable tram terminus at Acland Street, St. Kilda, to Park Street, Middle Brighton. Thus the Railways Standing Committee was by-passed.

Construction commenced in 1905. During the course of the work, a further Act (No. 1973) was passed on November 22, 1905, authorizing extensions of the line from Acland Street to St. Kilda station and Middle Brighton to Brighton Beach station. This increased the length to 5 miles 10 chains. It was also enacted that the whole line be constructed to 5' 3" instead of 4' 8½" gauge.

The first portion of the line was completed early in 1906. Engaged by the Government to advise on electric street railways and to superintend their construction, F. E. Bradford was appointed Manager of the St. Kilda-Brighton line in 1906. On the termination of his appointment, the Electrical Engineering Branch assumed control in 1913, with Gerald Massey as Power Station Superintendent at Elwood. After some years, administration of the entire service was transferred to the various Departmental branches connected with the operations of the lines. This brought the administration in line with methods applied to the railway system in general. A tramway depot, located at Elwood, consisted of power station, car barn, and offices. The power station equipment included two Babcock and Wilcox coal-fired boilers, supplying steam for two Bellis and Morcom 180 h.p. reciprocating engines, coupled to a General Electric Co.'s 300-kilowatt 550-volt generator. A set of storage batteries was also provided for peak loading assistance, and for emergency supply in the event of a power station failure.

Following the delivery of rolling stock, the line from St. Kilda station to Park Street, Middle Brighton—4 miles 5 chains—was opened to traffic on Monday, May 7, 1906. The time-table provided trams at intervals of 10 minutes in the peak periods and 20 minutes during slack hours, connecting with all trains at St. Kilda.

Passenger sections were :

1. St. Kilda station to Dickens Street
2. Dickens Street to Elwood Street
3. Elwood Street to Park Street (now Head Street) Elsternwick
4. Park Street to Park Street, Middle Brighton

Fares :	One section	1d.
	Two sections	2d.
	Through fare	3d.
	Through tickets :	12 for 2/6d.



Open trailer,
1907

In accordance with single line practice, "staff and ticket" working regulations were applied for the safe operation of the street railway. Crossing loops, or turn-outs, were provided at five locations, in addition to those at the terminuses. These crossings were numbered consecutively from St. Kilda. The staff was a key-shaped metal strip six inches long and one inch wide, bearing the number of the section controlled. At the staff section station, a cabinet containing a telephone and staff ticket boxes was unlocked with the staff key. With the extension of the line to Brighton Beach, the staff sections were increased, and, in some cases, relocated.

Traffic was worked for the first months with five combination motor cars, but an early increase of patronage necessitated doubling the number of cars. For the period May 7 to June 30, 1906, revenue totalled £1,449, and returned a gross profit of £308.

On December 22, 1906, the extension from Middle Brighton to Brighton Beach station was placed in service. This added another passenger section, the through fare now being fourpence. Rolling stock was increased to 17 motor units and trailers.

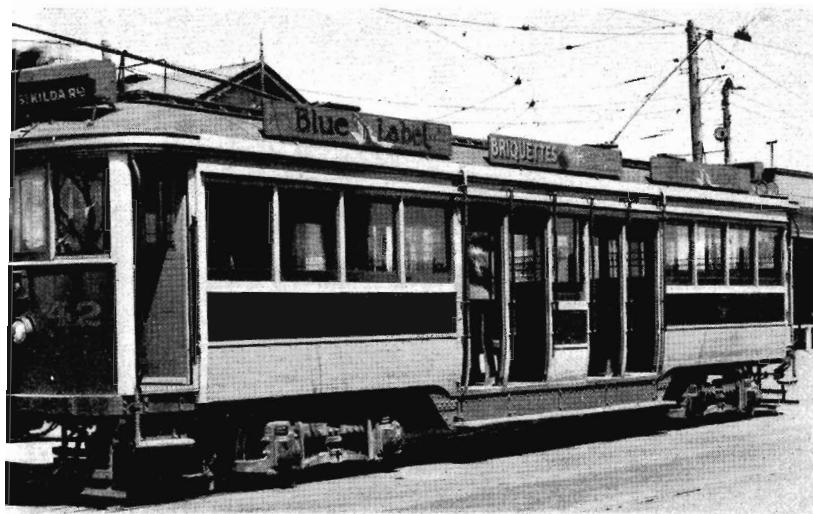
In the early morning on Thursday, March 7, 1907, the Elwood car barn and offices, and all the rolling stock (17 cars) were destroyed by fire. The power station was practically unharmed. After the fire, a mass of molten silver and copper, streaked with gold, was found in the debris. This represented the previous day's revenue—£30—which had been in a tin box, locked in the office. Traffic was suspended on March 7, but resumed next day to a reduced time-table worked with six steam omnibuses.* These vehicles were, in 1905-06, employed on a railway bus route between Prahran and Malvern, but for about a year had been out of use.

The Railways Commissioners purchased seven trams from the New South Wales Government Tramways. These, adapted to 5' 3" gauge, together with three other cars built at Newport Workshops, were placed in service on the St. Kilda-Brighton route at the end of March, 1907. By July, 11 more cars from Newport were in running, bringing the total to 21.

After a few years, the progressive increase in passenger traffic necessitated improvements to the service. The line from St. Kilda station to Elwood depot was duplicated in July, 1913, and several new trams, of bigger capacity, were added to the stock. A new time-table provided a five-minutes schedule in the peak periods. Duplication of track to Brighton Beach was completed in 1915. Late in 1918, the Elwood steam power station was dismantled, and electricity transmitted from the Newport power station.

Steady patronage had been accorded the St. Kilda-Brighton electric street railway from its inception in 1906. Throughout 20 years prior to the outbreak of World War II in 1939, passenger journeys averaged 5,000,000 annually. During the war, because of petrol rationing, this figure increased to a maximum of nearly 7,000,000 in 1945.

After that, a progressive decline occurred. The fall in traffic and rapidly increasing costs resulted in such substantial losses that service between Head



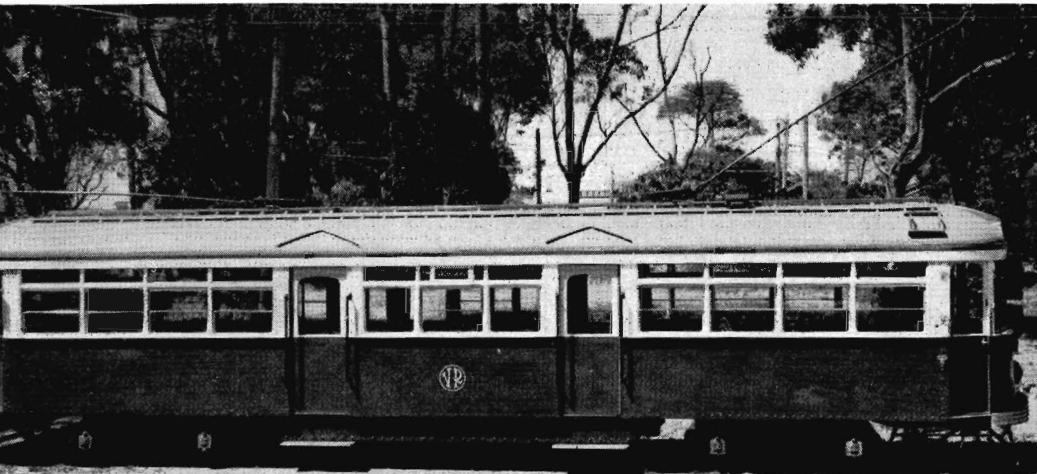
Bogie electric tram car, 1913

Street, Brighton, and the terminus at Brighton Beach was discontinued. The first section—Park Street, Middle Brighton to Brighton Beach—was closed on January 1, 1957 ; the remaining portion from Head Street to Park Street on July 1, 1957. Rail tracks and overhead electrical equipment were subsequently dismantled.

An agreement was reached with the Brighton City Council whereby the Railway Department paid £195,000 to the Council to cover the cost of restoration of the roadway.

The remaining St. Kilda station to Head Street section was closed on February 28, 1959. In this case the Railways Commissioners paid the St. Kilda City Council the sum of £199,000 for restoration of the roadway.

Construction of the line from Sandringham to Black Rock was recommended in October, 1914, by the Railways Standing Committee, at an estimated cost, including rolling stock, of £46,500. By direction, 4' 8½" gauge was specified



Bogie electric tram car, 1942

for the line, of double track construction for all but a short portion of its 2 miles 33 chains length. The adoption of 4' 8½" was, apparently, the first Victorian contribution to standard rail gauge.

Building of the line was postponed for two or three years because of the First World War. When construction commenced, progress was further delayed by post-war shortages of equipment. However, on March 10, 1919, the first portion, three-quarters of a mile, was opened for traffic. Electricity from Newport Power Station was delivered to a sub-station at Sandringham. By 1920, the entire line was in service, with passenger sections covering Sandringham station to Bluff Road, and the Bluff Road to Black Rock.

The original rolling stock consisted of six single-truck motor cars and six open trailers. These had been in use on the St. Kilda-Brighton line, but were converted to 4' 8½" gauge in 1918 for the Black Rock service. The trailers were replaced in 1921 by four bogie motor cars.

In 1925, the Railway Department entered into an agreement with the Sandringham City Council for the latter to provide an annual subsidy of £2,000 for five years to the working expenses of a proposed extension of the Sandringham-Black Rock line to Beaumaris. The extension, a single track, 4' 8½" gauge line, 2 miles 16 chains long, was opened for traffic on September 1, 1926.

Despite the subsidy, the Sandringham-Black Rock-Beaumaris electric street railway incurred a heavy financial loss each year. The bulk of the deficits was due to working the extension line. At the conclusion of the five-year term, the Department closed the extension on August 31, 1931.

Seven years later, on December 15, 1938, a Railways motor bus service was instituted, working between Sandringham, Black Rock and Beaumaris by way of the beach frontage. This service was additional to the trams operating between Sandringham and Black Rock. Due to the effects of World War II, the buses were withdrawn on January 2, 1942, to conserve petrol. Following the cessation of the war, the service was restored on May 13, 1946.

From March 10 to June 30, 1919, more than 616,000 passengers were carried on the Sandringham-Black Rock line, returning a net profit of £1,430; a yearly average of nearly 1,500,000 passenger journeys was maintained until the war period, 1939-45, when the number rose to 2,267,000 (in 1945) because of petrol rationing. During the next year, when revenue declined, the Railway Department considered the possible advantages of substituting a road motor bus service for the trams, but deferred a decision.

However, regular financial losses on the tramway operations brought about the termination of the services on November 5, 1956. At the same time, the Sandringham-Beaumaris bus was diverted to operate over the tram route to Black Rock. Rails and overhead electrical equipment were later removed, and the tram depot converted for use as a bus shelter and workshop.

By agreement, similar to that with the Brighton and St. Kilda City Councils, the Victorian Railways paid £100,000 to the Sandringham City Council for remaking and maintaining that portion of the roadways on which the tracks were located.

Railways
bus, 1905

CHAPTER THIRTY-FIVE

ROAD MOTOR SERVICES

First public bus service ; Geelong service ; Feeder buses ; Services abandoned

The introduction of road motor vehicles, or buses, in Victoria dates from December, 1905, when the Railway Department started a service between Prahran and Malvern. This innovation is understood to have been the first application in Victoria of self-propelled vehicles for public passenger traffic.

Arising from Parliamentary discussions on the possibilities of electric traction for Melbourne suburban railways, and the efforts of Thomas Bent to have electric tramways built, F. E. Bradford—an adviser to the Government on electrification and an advocate of tramways—recommended that other tram lines, additional to the ones already approved, be constructed. Bent, as Premier, had just previously (1904) evolved his scheme for over-ruling the objections of the Parliamentary Standing Committee on Railways to trams. The Railways Standing Committee was averse to Bradford's proposals, but eventually the Government decided to test patronage in a selected area, worked with motor omnibuses.

The route chosen lay between Prahran railway station and Malvern town hall, traversing Greville, Chapel and High Streets, a distance of about $2\frac{1}{2}$ miles. Six kerosene-fired steam-powered Chelmsford buses were imported from England in 1905. Special bodies, with a seating capacity of 24 passengers in each vehicle, were built and fitted to the chassis at Newport Workshops. Maximum speed was 20 miles an hour ; and when placed on the road the buses cost £1,278 each.

After these preliminaries, authority was given under Act No. 1983, passed on November 22, 1905, for the Railways Commissioners to acquire motor carriages, propelled by gas, electric, or mechanical power, and to operate them for passenger traffic on any public highway in Victoria to or from any railway station.

On Friday, December 1, 1905, the service was inaugurated, when No. 1 bus left Prahran station at 6.29 a.m. for Malvern. As patronage increased during the day, five vehicles went into running. One hundred and fifty-four trips were made, the last departing from Prahran at 11.44 p.m. On Sunday, the first run commenced at 1.29 p.m. from Malvern town hall. Buses were timed to meet all trains arriving at Prahran from Melbourne. This schedule, however, was not maintained owing to continual mechanical faults developing.

Control of the service was directed from a small office at Prahran station, with John Thomas Reid as Traffic Superintendent. The route was divided into three sections : Prahran station to Williams Road; Williams Road to Armadale station ; Armadale station to Malvern town hall. The fare was 1d. for each section, and fifteen stopping places were provided between the terminals.

The service was abandoned about the middle of June, 1906, as the novelty of motor transport had worn off for the local residents, and its irregularity had resulted in the diversion of patrons to the comparatively reliable competing horse-drawn conveyances. Even the Premier had been inconvenienced one evening at Prahran by the late arrival of a bus that had developed a fault en route.

For the approximate seven months the buses were in service, they carried a monthly average of 56,000 passengers. They were placed in storage at Newport Workshops, but were later used to provide an emergency service between St. Kilda and Brighton after the entire tramway rolling stock in the Elwood depot was destroyed by fire on March 7, 1907. The buses were subsequently written off and sold in 1911.

Several years afterwards, the Railway Department obtained a motor car for executives connected with construction work on the suburban electrification scheme. Then, in 1919, a fire engine was purchased from the Metropolitan Fire Brigade, and converted for emergency repair work on the overhead electric equipment of the suburban railways.



V.R. road
bus, 1927

Following the rapid increase of commercial and private motor vehicles from 1920 to 1925, serious depreciation in railway revenue resulted. In an effort to counteract the intense and unrestricted competition that arose, the Commissioners, with Government approval, introduced a bus service between Melbourne and Geelong on November 30, 1925. Two return trips daily were worked with a 28-passenger limousine. Additional vehicles were placed in running and, in 1926, an hourly schedule between 8 a.m. and 7 p.m. operated daily from each terminal.

“Feeder” road services were also commenced from Upper Ferntree Gully station to Belgrave and to Warburton. Later in the year, through traffic from Melbourne was substituted, and other routes were added. At the end of 1927, services were running from :

<i>Melbourne to Geelong :</i>	<i>{ passenger</i>	<i>30/11/1925</i>
	<i> } goods</i>	<i>12/12/1927</i>
<i>Geelong to Queenscliff</i>		<i>21/1/1927</i>
<i>Melbourne to Belgrave and Monbulk</i>		<i>13/10/1926</i>
<i>Melbourne to Warburton</i>		<i>18/7/1927</i>
<i>Melbourne to Portsea</i>		<i>12/11/1926</i>
<i>East Camberwell to Deepdene</i>		<i>10/10/1927</i>

*(replacing a branch line rail motor service, and
in March, 1929, extended to East Kew).*

Twenty passenger coaches were in service ; and a fleet of motor lorries conveyed goods, in quantities less than a rail truck load, from suburban stations to Melbourne goods sheds, thus expediting loading and dispatch and releasing rail trucks. Also, a number of lorries was employed for distributing Departmental materials, and the wide area covered by suburban electric traction necessitated the use of several vehicles for maintenance and emergency repairs to the overhead equipment. A road motor depot, built at Batman Avenue, near Princes Bridge, Melbourne, in 1926, included all facilities for the operation and maintenance of the vehicles. At first supervised by the Chief Electrical Engineer, road transport was later passed to the joint management of the Transportation and Rolling Stock Branches.

By 1927, road competition between the Department and private operators had developed into a state of uneconomic cut-rate tariffs. The Government sought to regulate the operations of all road motor services by the enactment of The Motor Omnibus (Urban and Country) Act, passed in December, 1927. This prescribed that any motor vehicle seating six or more persons could not be used to carry passengers on country roads at separate and distinct fares for each, except on an approved route, without a licence. In the Railway Department's case, these conditions did not apply, but the consent of the Governor-in-Council was necessary on a route.

As a result, the service from Melbourne to Portsea was discontinued from May 25, 1928, and to Geelong (passenger), Belgrave and Monbulk, and Warburton from June 30. Local feeder services from Upper Ferntree Gully to Belgrave and Monbulk, and from Lilydale to Warburton, were substituted

on July 1, 1928. The Belgrave route was extended to Cockatoo and Gembrook on July 7, 1930, but was curtailed to terminate at Cockatoo early in the next year. The Geelong and Queenscliff route was abandoned in June, 1931, owing to lack of patronage. Commencing on June 5, 1939, an off-peak passenger bus between Hawthorn and Kew replaced electric train working.

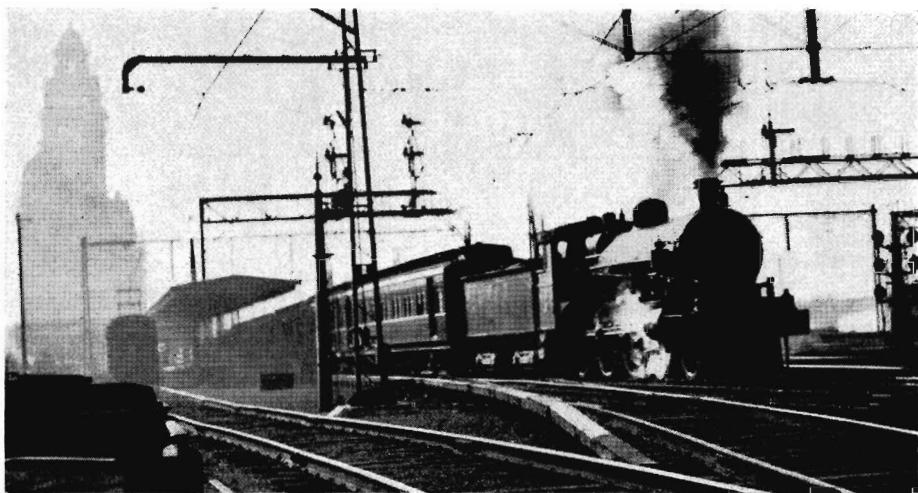
Owing to petrol restrictions, the Railway Department in 1941 abandoned the main road motor services. Lilydale to Warburton route closed on May 19; Belgrave and Cockatoo was transferred to a private operator; and the Melbourne-Geelong goods service was suspended on December 13. Only the suburban local runs remained; the feeder service from East Camberwell to East Kew, and the off-peak substitute from Hawthorn to Kew. The latter ceased running on November 2, 1956.

p. 254 A passenger bus service between Sandringham, Black Rock and Beaumaris commenced on December 15, 1938, but was discontinued from January 2, 1942, because of petrol restrictions. It was restored on May 13, 1946.

The Department also runs a passenger bus between Wangaratta and The Chalet, at Mt. Buffalo.



First road bus to Geelong, operated by Victorian Railways, 1925



"Geelong Flier", 1927

CHAPTER THIRTY-SIX

NAMED TRAINS

Early names ; "Commissioners' Tour Train" ; "Reso Train" ; "Better Farming Train" ; "Centenary-Jubilee Train" ; "Train of Knowledge"

Prior to 1926, Victorian main line trains had no public identification other than destinations and departure times, such as the 6.30 a.m. Geelong. By a process of custom, two important trains had become generally known as the "Sydney Express" and the "Adelaide Express". Subsequently, the former was, in effect, sub-divided into the "Albury Express" and the "Sydney Limited".

"The Flier"

Victoria's first officially named train, the "Geelong Flier", commenced on May 3, 1926. Departing from Flinders Street at 9 a.m., and returning from Geelong at 4 p.m., the 45 miles journey was traversed in 70 minutes each way.

In the following year the "Geelong Flier" was incorporated into an accelerated service to Port Fairy, starting from and terminating at Spencer Street. The distinctive name "Geelong" was dropped, and the train's title since 1927 has been "The Flier". Originally hauled by the ubiquitous A2 engine, "The Flier" later was headed by an R class (steam) and is now drawn by B class diesel-electric locomotives.

"Great Northern Limited"

The "Great Northern Limited", operating from Melbourne to Bendigo, and later to Swan Hill, followed the "Geelong Flier". Under the restrictions of war-time, it disappeared, and now only emerges at holiday peak periods,

to cover the 101 miles to Bendigo in $2\frac{1}{2}$ hours, which includes a three-minute stop at Castlemaine. A2 and R class steam locomotives and now B class diesel-electrics have in turn hauled this train.

“The Overland”

With the completion of the line between Melbourne and Adelaide by way of Bacchus Marsh and Ballarat, the “Adelaide Express” was inaugurated on January 19, 1887. This was the first inter-capital journey not requiring a border change of train, remaining the only one until September 17, 1930, when the standard-gauge through line from Sydney to Brisbane by way of Kyogle was opened. In 1926, the “Adelaide Express” was named “The Overland”. Present make-up of “The Overland” consists of air-conditioned twinette and roomette (double and single berth) sleeping carriages, and sitting carriages hauled by double-header diesel-electric locomotives.

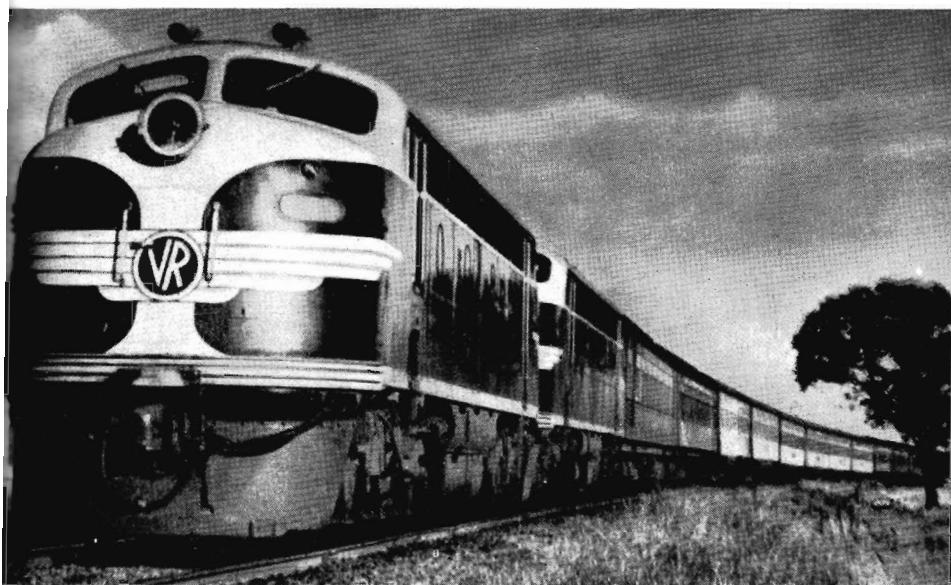
“The Boat Train”

To carry passengers to and from overseas liners, “The Boat Train” commenced running on March 7, 1936. It consisted of six sliding-door electric suburban carriages painted bright blue, with silver roofs, and with the name in red lettering. However, patronage was disappointing and the train was withdrawn in October, 1939.

“Spirit of Progress”

From 1883, the “Sydney Express” worked between Melbourne and Albury till, eventually, increased traffic originated the “Albury Express” and the “Sydney Limited”. Recurring phases of improved accommodation on the “Sydney Limited” reached the ultimate on November 23, 1937, with the introduction of “Spirit of Progress”. The train staff included a stewardess (later known as a hostess), the first such appointment on an Australian railway. First hauled by the famous S class steam engines, “Spirit of Progress” covered the $190\frac{1}{2}$ miles, non-stop, at an average speed of 52 miles an hour. The new S class diesel-electric locomotives drew the train to the same schedule.

With the introduction of the standard gauge passenger service on April 16, 1962, “Spirit of Progress” extended its run to Sydney, alterations to the bogies and air-conditioning system having been made for this purpose. Although primarily a night sitting train, it has a twinette sleeping carriage. Also, on four days a week, a combined sitting and sleeping carriage is attached for Canberra passengers, and is uncoupled at Goulburn so that passengers do not have to change trains.



*Diesel-electric
locomotives haul
"The Overland"
for the first
time, October 13,
1952*

"The Gippslander"

After 66 years, the Melbourne to Bairnsdale train was, in 1954, named "The Gippslander". This is now hauled by L class electric locomotives to the terminus of the electrified main line at Traralgon (97½ miles) and by T class light-line diesel-electrics over the remaining 73½ miles to Bairnsdale.

"Intercapital Daylight"

"The Daylight", inaugurated as a thrice-weekly service on March 26, 1956, and extended to a Monday to Saturday running on September 25, 1956, ran non-stop each way between Melbourne and Albury. An average speed of 53½ miles an hour made it Australia's fastest train. It connected at Albury with a similarly named train to and from Sydney, by which the journey between the capitals was completed in 13½ hours. Diesel-electric locomotives operated this service in both states.

On April 16, 1962, the New South Wales train, which had operated on the Albury-Sydney side of the previous daylight service, became the "Intercapital Daylight" as the day sitting train for the through Melbourne-Sydney standard gauge service.

"Mildura Sunlight"

The "Mildura Sunlight", inaugurated on September 3, 1957, works in each direction between Melbourne and Mildura in daylight on Tuesdays, Wednesdays and Thursdays. Introducing the new style air-conditioned saloon type sitting carriages to country passengers, the train is hauled by diesel-electric locomotive, traversing the 351 miles in 10 hours.



"Sydney Express", about 1930

"Southern Aurora"

This luxury night sleeping train was introduced on April 16, 1962, for the overnight standard gauge service between Melbourne and Sydney. "Southern Aurora" consists of roomette and twinette sleeping carriages, a dining car, a club car, a brakevan and a power car to generate electricity for lighting, cooking and air-conditioning. Diesel-electric locomotives haul this train.

"Fruit Flier"

On October 13, 1958, a fast goods train commenced running three days a week between the Sunraysia district and Melbourne in an attempt to win back from road transport the fruit and vegetable traffic, and to provide a service for shelf lines and similar merchandise formerly carried by the night train that had been replaced on Mondays to Thursdays by the "Mildura Sunlight". Its express running caught local imagination and the train was dubbed the "Fruit Flier". Subsequently, refrigerated vans were added, and the service increased to six trains a week.



left: *Inauguration of "Spirit of Progress", November 17, 1937*
from left: H. W. Clapp, Chairman;
M. J. Canny, Commissioner;
R. G. Menzies, Federal Attorney-General;
A. A. Dunstan, Premier



above: *"Spirit of Progress" on its first run*

left: *Last run of "Spirit of Progress" on broad gauge, April 16, 1962.*
At the request of the Australian Railway Historical Society, steam locomotives were specially used for this occasion

Leaving Mildura at 5 p.m., with stops at Irymple, Redcliffs, Carwarp and Hattah, the "Fruit Flier" is scheduled to reach Melbourne at 3.40 a.m., although it normally is ahead of time, with a 2.30 a.m. arrival recorded.

"Commissioners' Tour Train"

For many years, it has been the custom of the Victorian Railways Commissioners to annually inspect the entire railway system. To do this, a train, colloquially named "The Commissioners' Special", comprising sleeping, office, and domestic carriages, makes about 11 trips each year.

Usually, two of the three Commissioners, accompanied by the Heads of the Traffic and appropriate engineering branches, set off from Melbourne on tour of a particular area, each tour being of from three to five day's duration. At convenient locations, representatives of local interests are interviewed, and matters relating to the upkeep of Departmental property, trade competition, train services and other matters coming under notice are recorded for necessary action.

As to when the Commissioners made the first inspection of lines cannot now be determined, but it is known that after 1903, Engine No. 100 (built at Williams-town Railway Workshops in 1871, and the first Departmental-built locomotive) hauled the "Commissioners' Tour Train", and was referred to as the Commissioners' engine. Scrapped in 1916, it was replaced by the various types of D class engines. It is essential that a light-line locomotive be used, so that both main and branch lines may be conveniently traversed.

"Reso Train Tours"

With the expansion of Australian primary and secondary industries after the First World War, the Victorian Railways Commissioners observed the need for leaders of industry in the metropolis and the rural areas to gain a better knowledge of the prospects and problems confronting each other.

As formal gatherings organized to meet this need were too limited in scope, it was decided to run special trains on which the passengers could be accommodated for several days and thus be given ample opportunity for exchanging views and experiences, as well as making comprehensive inspections of the districts traversed.

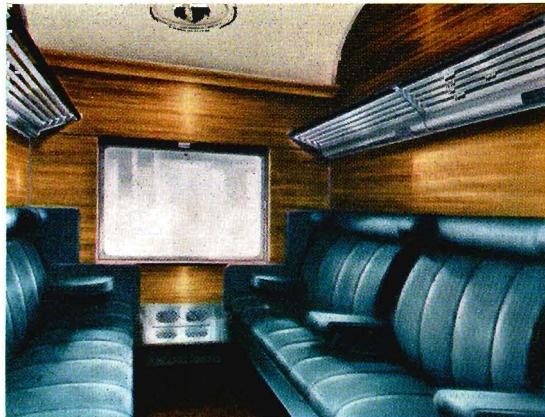
In 1922, the "Victorian National Resources Development Train" came into being. This name was abbreviated to "Reso" and the passengers who journeyed with the train on its many tours became known as "Resonians".

The "Reso Train" is completely self-contained and includes sleeping carriages, parlour-observation carriage, and dining carriage. Every comfort and convenience are provided for passengers, who live on the train in conditions that make it a first-class hotel on wheels.

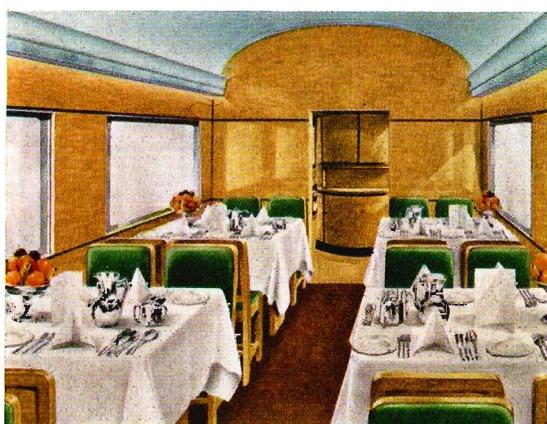
The Department, with the enthusiastic co-operation of country municipal authorities and other public organizations, arranges visits to selected districts. There, the "Resonians" inspect representative farming, manufacturing, and



"Parlor Car" with its rounded observation end



First-class non-smoking compartment



"SPIRIT OF PROGRESS" INTERIORS,
AS ORIGINALLY DESIGNED, 1937.
EACH CARRIAGE WAS AIR-CONDITIONED. . .

Dining car seated 48 passengers

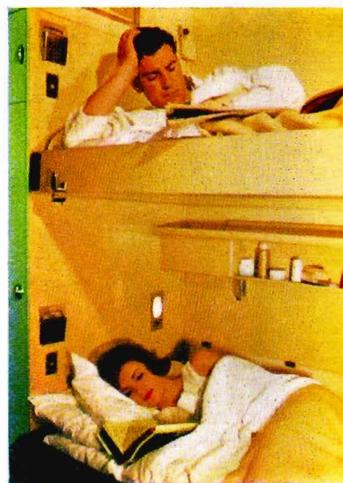


Saloon type sitting carriages, with adjustable, reclining seats, replaced some of the original compartment type carriages on "Spirit of Progress"

. . . AND TODAY

The buffet car replaced the dining car when "Spirit of Progress" was converted to standard gauge, April 16, 1962.





Twinette cabin on "The Overland" features all the amenities for travel by day (left) or night. Each cabin has its own toilet facilities, hot and cold shower, iced drinking water, power plug for electric shaver, etc.

Saloon carriages on "The Overland" have adjustable, reclining seats.



Roomette carriages on "Southern Aurora" have staggered corridors, as shown in the cut-away model (left), to give more space inside the cabins. Amenities (centre) are similar to those of the twinette cabins, except that hot and cold showers are at the end of the carriages. "Southern Aurora" and "Spirit of Progress" twinettes (upper right) feature similar comfort to that of "The Overland". Lower picture shows the "Club Car" of "Southern Aurora".



business establishments, and any important government undertakings. Each tour extends, usually, over five or six days.

The first "Reso" tour, from August 28 to September 2, 1922, traversed the Mildura and Swan Hill districts. It proved to be eminently successful, and completely realized the planned objectives.

After that, the "Reso Train" made trips each year to various parts of the State, but World War II, with its attendant restrictions, caused the cessation of the tours over this period, and for some years following it.

However, in June, 1954, with all restrictions on train services removed, "Reso" tours of Victoria were resumed with a tour of the Murray Valley and North-east Victoria.

The popularity of "Reso" was demonstrated by the formation of the "Brotherhood of Resonians". This is an association consisting of those who have participated in the "Reso" tours. An annual reunion dinner is held for members who also share the right with the Commissioners to nominate participants in forthcoming tours.

One of the little known activities of the Brotherhood of Resonians was the investigation, in 1935-36, of the effects of soil erosion. This was followed by a campaign which resulted in the formation by the Government of a Soil Erosion Committee.

"Better Farming Train"

The Victorian Railways "Better Farming Train" was, to all intents and purposes, a mobile college disseminating information on agricultural science, domestic economy, and public health.

Appreciating the advantages to be obtained by on-the-spot instructions to farmers on scientific methods of production, the State Department of Agriculture and the Railways Commissioners, in 1924, organized a "Better Farming Train". In subsequent years, the Commonwealth Bank gave considerable practical help. From the first tour, the great value of this train in the spreading of scientific knowledge and the encouragement of successful practices was recognized by farmers.

Old carriages and wagons were rebuilt to suit the requirements of the "Better Farming Train", which originally comprised 15 vehicles. Later, three carriages were added. Painted an orange-yellow colour, and 817 feet long, the train had a very distinctive appearance,

Hauled by a 2-8-0 K class engine, the train consisted of staff carriages, wagons carrying pure bred cattle and sheep, models of farm utilities, electric generating plant and stock fodder, and poultry exhibits, as well as carriages containing exhibits ranging from veterinary science to growing grass. Carriages were also provided for lectures and demonstrations on cooking, needlework, child welfare and home nursing.

Expert staffs from the Department of Agriculture and the Education Department travelled with the train. At each stopping place the District Health Officer and a nurse supplemented the travelling staff.

On its inaugural tour, the "Better Farming Train" left Melbourne for Gippsland on October 13, 1924. At Bunyip, the first over-night stopping place, several hundred people assembled at the train to hear a radio broadcast of Dame Nellie Melba's farewell appearance on the operatic stage in Melbourne. Broadcasting being then in its pioneering period, the incident may well be regarded as a noteworthy episode.

After visiting 12 towns, it returned to Melbourne on October 23. Public attendances at lectures and demonstrations totalled 13,250 persons. The train then continued regular tours.

On April 16, 1925, the women's section of the "Better Farming Train" commenced running, and continued periodical trips until November 21, 1929. Fourteen special tours, additional to the schedule of the complete "Better Farming Train", were made, and 12,000 people attended the lectures.

For these special tours of the women's section, two old carriages were rebuilt as lecture cars. One—the mothercraft and child welfare car—was very attractively decorated inside. It seated 80 persons. The domestic economy car accommodated 60 persons. It contained a fire stove and the necessary equipment for cooking demonstrations.

Resulting from these tours of the women's section of the "Better Farming Train", Health Tours were inaugurated at the request of the Public Health Department.

An additional carriage, known as the Public Health car, was added to the train. Synchronizing with the visit of the train, the District Health Officer arranged a Health Week campaign in his area. Lectures were given and moving picture films on health subjects were shown on the train and in local halls.

The movement from place to place of the women's section train necessitated special arrangements. The cars were attached to an ordinary train (either passenger or goods) and taken to a particular place, where they might remain for two or more days. They would then be carried further by another suitable train. In this way, more lectures could be given at each centre.

Until 1930, four to six trips were made each year by the complete "Better Farming Train". During the generally depressed business conditions that ensued for the next five years, only one visit in each year could be permitted. From 1936, the train was out of use and, during World War II, the carriages were requisitioned for conversion to recruiting trains. Since then the project has not been resumed.

Altogether, the "Better Farming Train" made 39 tours and visited 390 towns, at which more than a quarter of a million people attended the lectures and demonstrations.

Many tributes to its practical benefits were made by competent authorities locally, interstate and overseas. The great assistance given to country people all over Victoria was reflected in the remarkable popularity of the train. Its



An early Commissioners' inspection train



"Centenary-Jubilee Train", 1951



"Better Farming Train"

success was the result of the co-operation of the associated Government Departments, namely, Agriculture, Education, Child Welfare and Public Health, with the practical assistance of the Commonwealth Bank. The Railways Commissioners regard the pioneering and extension of the enterprise as a worthy achievement by all concerned.

“Centenary—Jubilee Train”

The year 1951 was memorable for, among other things, the centenary of the establishment of the colony of Victoria, the granting of self-government, and the public discovery of gold. In addition, the jubilee of the Commonwealth of Australia was an occasion for special remembrance.

Co-operating with the Commonwealth Government, the Victorian State Government organized the “Centenary—Jubilee Train” to celebrate these anniversaries.

Attractively painted in green and gold, the train consisted of locomotive 430 N, eleven carriages with end doors to make a continuous passageway through the train, and a van.

Valuable and representative paintings from the National Art Gallery, rare manuscripts and prints were displayed, as well as models illustrating the history of gold production, and models and pictures of national projects controlled by the various state departments.

The Commonwealth section included displays from the Navy, the Army, the Air Force, and the Post Office, a war materials exhibit from the Department of Supply, and diagrams and maps of the Snowy Hydro-electric scheme.

The Victorian Railways exhibit portrayed the century's growth and development in railways in Victoria, and their influence on the prosperity of the State.

During its 6,000 miles tour throughout Victoria from February 1 to June 30, 1951, the train visited 168 stations. The enthusiasm and interest it aroused was demonstrated in the crowds which assembled at each place. 548,000 persons inspected the exhibits, and an entertainment unit which accompanied the train gave 100 performances which were attended by 96,000 people.

“Train of Knowledge”

In March, 1958, 200 Macleod High School girls and boys toured 750 miles through western and central Victoria by the “Train of Knowledge”. Meals and sleeping accommodation were arranged at country towns. The scholars visited selected farms, orchards, and factories at various places, gaining valuable first-hand knowledge of the country. A daily newspaper, “TOK Topics”, was produced on the train.



ROYAL TOURS

Duke of Edinburgh ; Prince Albert and Prince George ; Duke and Duchess of Cornwall and York ; Prince of Wales ; Duke and Duchess of York ; Queen Elizabeth II and the Duke of Edinburgh ; The Queen Mother ; Princess Alexandra

Culminating in the visit of Her Royal Highness Princess Alexandra in 1959, Victoria has been host to members of the British Royal Family on 10 occasions during the past 93 years. Each visit was remarkable for the public enthusiasm to the guest. Each occasion made heavy demands on the railways, the special services for which were handled without mishap.

The first Royal visitor was His Royal Highness, Alfred Ernest Albert, Duke of Edinburgh, son of Queen Victoria and Prince Albert. He arrived at Hobson's Bay aboard "H.M.S. Galatea" on November 23, 1867, escorted from Port Phillip Heads by a large fleet of local steamships. To view the arrival, the Railway Department advertised "On Saturday, November 23, to view the maritime procession, trains will leave Melbourne every half hour for Williamstown. Fares 1st return, 1/6d. ; 2nd. return, 1/-". Many thousands of people made the journey.

A special train for His Royal Highness, fitted as sumptuously as the carriages then in use permitted, was hauled by engine No. 50. Several trips were made to Geelong, Ballarat, Bendigo and Echuca—the only country lines then existing. Recorded times for runs between Melbourne and Geelong (45 miles) ranged from 52 to 60 minutes.

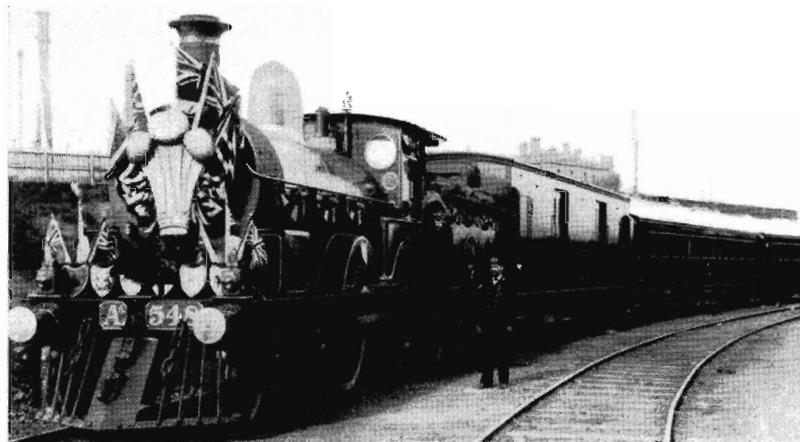
Fourteen years later, on June 25, 1881, Prince Albert and Prince George, sons of the Prince of Wales (later King Edward VII) reached Victoria during the course of a world cruise with a Royal Navy squadron. The Princes journeyed by coach from Adelaide to Hamilton, then by train to Melbourne *via* Ararat, Ballarat and Geelong. (The Melbourne—Adelaide direct line was only partially built.) As the Princes were only 17 and 16 years of age, no special public festivities were arranged during their stay.

To inaugurate the Parliament of the Commonwealth of Australia at Melbourne in 1901, the Duke and Duchess of Cornwall and York arrived on May 5. The Duke, the former Prince George of the 1881 visit, later became King George V. During their stay, the Royal couple travelled extensively about Victoria in a special train, luxuriously equipped.

Subsequent Royal visitors were the Prince of Wales (later Edward VIII) in May, 1920, on a world tour ; the Duke (later King George VI) and Duchess of York in April, 1927, who came to open the first Commonwealth Parliament at Canberra ; and the Duke of Gloucester in October, 1934, to inaugurate the Victorian Centenary celebrations.



Locomotive No. 50 decorated for tour by H. R. H. The Duke of Edinburgh, 1867



Visit of H. R. H. The Duke of Cornwall and York, 1901



Their Royal Highnesses, The Duke and Duchess of York, 1927



Visit of H. R. H. The Prince of Wales, 1920

A visit by King George VI, arranged for 1949, was cancelled because of his illness.

Princess Elizabeth and her husband, the Duke of Edinburgh, were on the way to Australia in February, 1952, when the death of her father, King George VI, necessitated her recall to England to become Queen Elizabeth II.

Then in February, 1954, the most important of all Royal visitors came to Victoria—Her Majesty Queen Elizabeth II, accompanied by her consort, the Duke of Edinburgh. A comprehensive rail tour of Victoria was made by the Royal couple in a special train consisting of two diesel-electric locomotives and nine carriages.

On two nights during the tour, special and unusual arrangements were made to house the official party accompanying the Queen and the Duke. At Goorambat, 132 miles from Melbourne on the Yarrawonga line, and at Dowling Forest, near Ballarat, the Royal train was sidetracked overnight. Sleeping accommodation for officials, staff and press representatives, totalling 90, was provided in an adjacent train.

An extensive schedule of special country passenger train services for people wishing to see the Queen necessitated the loan of 70 carriages from South Australian Railways to augment Victorian stock.

November 22, 1956, is a day of proud and pleasant remembrance for Melbourne—the official opening of the Olympic Games by the Duke of Edinburgh, specially invited for the occasion. During his visit, the Duke travelled from Melbourne to Morwell and Maryvale by special train.

In February, 1958, Her Majesty Queen Elizabeth the Queen Mother arrived for a brief stay. Her visit to Ballarat by Royal train on March 2 to inspect the begonia display made the day a memorable one.

Princess Alexandra began her Victorian tour by train, arriving in Melbourne from New South Wales on September 16, 1959. The Princess also travelled by Royal train to Camperdown on September 19, returning to Melbourne on September 21.

Special country and suburban trains were run for school children and others to see Princess Alexandra.

Her Majesty Queen Elizabeth II and the Duke of Edinburgh, 1954



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MINISTERIAL HEADS OF THE VICTORIAN GOVERNMENT RAILWAYS, 1856—1962

TRUSTEES OF THE MELBOURNE, MOUNT ALEXANDER,
AND MURRAY RIVER RAILWAY : 1856—1857

(Appointed by Act of the Legislative Council of Victoria, March 19, 1856)

Charles Pasley	Commissioner of Public Works	{	19/3/1856	11/3/1857
Andrew Clarke	Surveyor-General			
Charles Gavan Duffy	Commissioner of Public Works	}	11/3/1857	29/4/1857
George Samuel Wegg Horne	Surveyor-General			

On the defeat of the first O'Shanassy Ministry and the accession of the second Haines Ministry on April 29, 1857, the Ministerial offices of Commissioner of Public Works and Surveyor-General were abolished and a "President of a Board of Lands and Works" was substituted. Ministerial direction of the Railways Department was transferred from the "Trustees of the Melbourne, Mount Alexander, and Murray River Railway" (which positions then lapsed) to the President of the Board of Land and Works. The position of Surveyor-General was made a civil appointment, but the office of Commissioner of Public Works was restored on December 21, 1858, during the term of the second O'Shanassy Ministry.

THE BOARD OF LAND AND WORKS : 1857

(Established by Proclamation of April 28, 1857)

David Moore	President	29/4/1857	24/11/1857
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THE BOARD OF LAND AND WORKS : 1857—1858

(Established by Act No. 31, of November 24, 1857)

David Moore	President	24/11/1857	10/3/1858
Charles Gavan Duffy	President	10/3/1858	21/12/1858

THE BOARD OF LAND AND WORKS : 1858—1884

(Ministers of the Railway Department)

- (A) Commissioner of Public Works
- (B) Commissioner of Railways
- (C) Commissioner of Railways and Roads.

George Samuel Wegg Horne	(A)	21/12/58	27/10/59
John Charles King	(A)	27/10/59	25/11/59
James Goodall Francis	(A)	25/11/59	3/9/60
John Robinson Bailey	(A)	3/9/60	2/10/60
Vincent Pyke	(A)	2/10/60	26/11/60
Thomas Loader	(B)	26/11/60	4/12/60
James Stewart Johnston	(A)	4/12/60	20/2/61
James McPherson Grant	(A)	20/2/61	21/5/61
John Houston	(B)	21/5/61	14/11/61
James Stewart Johnston	(A)	14/11/61	30/12/61
William Henry Fancourt Mitchell	(C)	30/12/61	27/6/63
James MacPherson Grant	(A)	27/6/63	5/9/64
Matthew Hervey	(A)	5/9/64	22/7/65
James Goodall Francis	(C)	22/7/65	18/7/66
Henry Miller	(C)	18/7/66	16/1/67
John MacGregor	(C)	16/1/67	4/3/67
James Forrester Sullivan	(C)	4/3/67	6/5/68
George Briscoe Kerferd	(B)	6/5/68	11/7/68
Charles Edwin Jones	(C)	11/7/68	9/3/69

James Forrester Sullivan	(C)	12/4/69	2/9/69
William Wilson	(C)	2/9/69	20/9/69
Francis Longmore	(C)	20/9/69	9/4/70
William Wilson	(C)	9/4/70	19/6/71
Francis Longmore	(C)	19/6/71	10/6/72
Duncan Gillies	(C)	10/6/72	7/8/75
John Woods	(C)	7/8/75	20/10/75
Joseph Jones	(C)	20/10/75	21/5/77
John Woods	(C)	21/5/77	5/3/80
Duncan Gillies	(B)	5/3/80	3/8/80
James Brown Patterson	(B)	3/8/80	9/7/81
Thomas Bent	(B)	9/7/81	8/3/83
Duncan Gillies	(B)	8/3/83	1/2/84

MINISTERS OF RAILWAYS : 1884 to 1935

Duncan Gillies	1/2/84	5/11/90	Donald Mackinnon	22/12/13	9/11/15
William Shiels	5/11/90	16/2/92	Hugh McKenzie	9/11/15	29/11/17
James Henry Wheeler	16/2/92	23/1/93	Agar Wynne	29/11/17	21/3/18
James Brown Patterson	23/1/93	14/8/93	Samuel Barnes	21/3/18	7/9/23
Richard Richardson	14/8/93	27/9/94	Francis Edward Old	7/9/23	19/3/24
Henry Roberts Williams	27/9/94	5/12/99	Frederick William Eggleston	19/3/24	18/7/24
Alfred Richard Outtrim	5/12/99	19/11/00	Edmond John Hogan	18/7/24	18/11/24
William Arthur Trenwith	19/11/00	10/6/02	Frederick William Eggleston	18/11/24	1/9/26
Thomas Bent	10/6/02	21/7/03	John Allan	1/9/26	20/5/27
William Shiels	21/7/03	16/2/04	Thomas Tunnecliffe	20/5/27	26/11/28
Thomas Bent	16/2/04	8/1/09	Frank Groves	26/11/28	10/12/29
Alfred Arthur Billson	8/1/09	18/5/12	John Cain	10/12/29	18/5/32
Peter McBride	18/5/12	19/2/13	Robert Gordon Menzies	18/5/32	25/7/34
Alfred Arthur Billson	19/2/13	9/12/13	Wilfrid Selwyn Kent Hughes	25/7/34	20/3/35
John William Billson	9/12/13	22/12/13			

MINISTERS OF TRANSPORT : 1935 to 1962

Wilfrid Selwyn Kent Hughes	20/3/35	1/4/35
Albert Louis Bussau	1/4/35	18/4/38
Herbert John Thornhill Hyland	26/4/38	14/9/43
William Barry	14/9/43	18/9/43
James Arthur Kennedy	18/9/43	2/10/45
James Stanley Disney	2/10/45	21/11/45
Clive Philip Stoneham	21/11/45	20/11/47
Wilfrid Selwyn Kent Hughes	20/11/47	29/10/49
Thomas Tuke Hollway	29/10/49	13/12/49
Edward Fritz Guye	13/12/49	27/6/50
Herbert John Thornhill Hyland	27/6/50	28/10/52
John Don	28/10/52	31/10/52
Herbert John Thornhill Hyland	31/10/52	17/12/52
Patrick Leslie Coleman	17/12/52	31/3/55
Donald Patrick John Ferguson	31/3/55	7/6/55
Arthur George Warner	7/6/55	4/9/62
Edward Raymond Meagher	4/9/62	

VENNER, Francis Willcox

SERVICE OF COMMISSIONERS, 1883—1962

Chairman	Commissioners	Term of office from to
Richard Speight	Alfred John Agg Richard Ford William Henry Greene	31/12/83 17/3/92 1/2/84 16/10/86 (died) 1/2/84 17/3/92 22/1/87 17/3/92
Richard Hodge Francis	* Francis Rennick William McLeod Kibble Kynaston Lathrop Murray	18/3/92 31/3/94 * 18/3/92 30/6/92 * 18/3/92 31/3/94 * 1/7/92 31/3/94
James Syder	*	1/4/94 30/6/96
	Thomas Hale Woodroffe Robert Lochhead	* 1/4/94 30/6/96 * 1/4/94 30/6/96
John Mathieson		1/7/96 3/5/01
William Francis Joseph Fitzpatrick		* 4/5/01 3/5/03
Thomas Tait		4/5/03 30/11/10
	William Francis Joseph Fitzpatrick Charles Hudson Charles Ernest Norman	4/5/03 30/11/10 4/5/03 25/3/09 (died) 1/7/09 5/4/15
William Francis Joseph Fitzpatrick	Louis McClelland	1/12/10 5/4/15
Charles Ernest Norman		13/1/11 29/6/17 (died)
	Edwin Bona Jones William Montgomery Shannon Charles Miscamble	6/4/15 16/9/20 6/4/15 1/8/19 (died) 9/4/19 9/4/33 15/9/19 28/7/24
Harold Winthrop Clapp	Thomas Barry Molomby Norman Charles Harris Michael Joseph Canny	17/9/20 30/6/39 1/8/24 31/12/33 9/4/33 25/1/40 1/1/34 31/12/48
Norman Charles Harris	Ernest Corby Eyers Robert George Wishart Adam Gordon Fletcher	26/1/40 18/1/50 * 26/1/40 30/4/40 1/5/40 25/1/50 1/1/49 31/12/53
Robert George Wishart	Oscar Gwynne Meyer Edgar Henry Brownbill	26/1/50 10/11/55 (died)
Edgar Henry Brownbill		(a) 26/1/50 23/4/56 * 1/2/53 23/4/56
	Norman Quail George Rogers George Frederick Brown Edwin Peter Rogan	*(b) 22/11/55 31/12/60 * 24/8/56 31/1/57 (c) 1/4/58 1/1/61

* Acting or Deputy for portion or whole of period

(a) appointed Deputy Chairman (a new title) on 18/7/56

(b) appointed Deputy Chairman on 1/4/58

(c) appointed Deputy Chairman on 1/1/61

SECRETARIES : 1856-1962

Richard Woolley	1856-1857
Arthur Bury (Acting)	1857
Joseph Ward	1857-1860
Joseph Jenkins Hewitt (Acting)	1860
Richard Nash	1860-1862
William Henry Wright	1862-1870
John Steavenson	1870-1876
Peter Paul Labertouche	1876-1892
Robert George Kent	1892-1903
Louis McClelland	1903-1910
Edwin Bona Jones	1910-1915
George Henry Sutton	1915-1923
Ernest Corby Eyers	1923-1947
Burt Kelly	1947-1949
Norman Quail	1949-1955
Joseph Leslie Timewell	1955-1957
Patrick Farnan	1957-1958
Alfred Gilmore	1958-1961
Wils Walker	1961-

ENGINEERS-IN-CHIEF : 1856-1891

George Christian Darbyshire	1856-1860
Thomas Higinbotham	1860-1878
Arthur Wells (Acting)	1874-1875
Robert Watson	1878-1879
William Eisdon (Engineer-in-Chief and General Manager)	1879-1881
Robert Watson	1881-1891 (Died)
George Christian Darbyshire	1891

The Engineer-in-Chief was transferred to the Board of Land and Works (Railway Construction Branch) as from January 1, 1892, when the Board resumed control of railway construction.

TRAFFIC BRANCH : 1858 TO 1962

STORES BRANCH : 1857-1962

RAILWAY STOREKEEPER

Robert Young	1857-1858
W. H. Bucirde	1858-1861
Frederick Farmer Moore	1861-1864
Laurence James Rochfort (Controlled by Accountant)	1864-1878
Laurence James Rochfort	1878-1881
Arthur Ingram	1881-1892
Edward James Goode	1892-1894
CHIEF RAILWAY STOREKEEPER	
Edward James Goode	1894-1903
CHIEF STOREKEEPER	
Edward James Goode	1904-1907
George Henry Sutton	1907-1915
Charles William John Coleman	1915-1927
COMPTROLLER OF STORES	
Charles William John Coleman	1927-1933
William David Morgan	1933-1935
Howard Stuart Sergeant	1935-1939
Leslie Charles Stewart (Acting)	1939-1940
Howard Stuart Sergeant	1940-1947
Leslie Charles Stewart	1947-1954
Frederick Orchard	1954-

TRAFFIC SUPERINTENDENT

William Paley Hammett	1858-1861
John Carruthers	1861-1863
John Jeremy	1863-1869
William Meeke Fehon	1869-1872

TRAFFIC MANAGER

Anthony Parker Mathison	1872-1878
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GENERAL TRAFFIC MANAGER

John Anderson	1878-1887
Richard Hodge Francis	1887-1892
James Syder (Acting)	1892-1894
Richard Hodge Francis	1894-1897
William Francis Fitzpatrick	1897-1901
Robert Lochhead (Acting)	1901-1903

GENERAL SUPERINTENDENT OF TRANSPORTATION

Samuel Jones	1903-1911
Charles Macaw	1911-1916
Thomas Barry Molomby	1916-1924
Michael Joseph Canny	1924-1934
Maurice Austin Remfry	1934-1949

CHIEF TRAFFIC MANAGER

Maurice Austin Remfry	1950
George Rogers	1950-1956
Thomas Robinson Collier	1956-1959
James Roy Rewell	1959-

On January 1, 1950, the Transportation Branch was re-named Traffic Branch and the title of General Superintendent of Transportation altered to Chief Traffic Manager.

ROLLING STOCK BRANCH : 1858-1962

LOCOMOTIVE SUPERINTENDENT

Frederick Collier Christy 1858-1870

GENERAL OVERSEER OF LOCOMOTIVES AND WORKSHOPS

William Meikle 1871-1878

LOCOMOTIVE SUPERINTENDENT

Solomon Mirls 1878-1890

Allison Dalrymple Smith 1890-1893

CHIEF MECHANICAL ENGINEER

Thomas Hale Woodroffe 1893-1912

William Montgomery Shannon 1912-1919

Alfred Ernest Smith 1919-1928

Norman Charles Harris 1928-1933

Andrew Campbell Ahlston 1933-1955

George Frederick Brown 1955-1958

William Owen Galletly 1958-

The title Locomotive Superintendent was changed in 1893 to Chief Mechanical Engineer, controlling all locomotive and mechanical work. The Locomotive Branch was renamed 'Rolling Stock Branch in 1903.

AUDIT BRANCH : 1859-1931

TRAFFIC AUDIT CLERK

James Down 1859-1863

CHIEF AUDIT CLERK

James Down 1863-1864

TRAFFIC AUDITOR

James Down 1864-1868

(Controlled by Accountant) 1869-1872

Harold Kent 1872-1896

RAILWAYS AUDITOR

Harold Kent 1896-1902

John Walter Hacker 1902-1905

Robert Allan McLwraith (Acting) 1904

AUDITOR OF RECEIPTS

John Walter Hacker 1905-1906

William Gallity Ritchie 1906-1917

James Stewart 1918-1921

George Kennedy Low 1922-1927

David Henry Falconer 1927-1931

The Railways Auditor was from 1859 to 1866 under the direct supervision of the Secretary. From 1866 to 1868 the Auditor headed a separate Branch, which then, from 1869 to 1872, came under the control of the Accountant. In 1872, Audit again was made a separate Branch until 1903 when it was amalgamated with the Accountancy Branch. For the third time, Audit became a separate Branch in 1905 and remained in existence until 1931, when it was disestablished and combined with the Accountancy Branch.

WAY AND WORKS BRANCH : 1878-1962

ENGINEER FOR EXISTING LINES

William Henry Greene	1878-1887
John Lunt	1887-1892
Thomas Hale Woodroffe	1892-1893
Charles Ernest Norman	1893-1900

CHIEF ENGINEER FOR EXISTING LINES

Charles Ernest Norman	1900-1903
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CHIEF ENGINEER OF WAY AND WORKS

Charles Ernest Norman	1903-1909
James Hamilton Fraser	1909-1918
Edward Henry Ballard	1918-1929
John Marmaduke Ashworth	1929-1938

CHIEF CIVIL ENGINEER

John Marmaduke Ashworth	1938-1939
Adam Gordon Fletcher	1939-1948
Alexander Peter Taylor	1949-1955
Leslie Arthur Reynolds	1955-

The office of Engineer for Existing Lines was created in 1878, as portion of the Engineer-in-Chief's establishment, to supervise the maintenance of existing lines. In 1892, when the Board of Land and Works resumed authority for the construction of new lines, the "Existing Lines" became a distinct Branch. It was renamed Way and Works Branch in 1903, administered by the Chief Engineer. The title of the office was changed to Chief Civil Engineer in 1938.

TELEGRAPH BRANCH : 1878-1919

TELEGRAPH ENGINEER

Kynaston Lathrop Murray	1878-1892
William Alfred Holmes	1892-1894
Kynaston Lathrop Murray	1894-1897

TELEGRAPH SUPERINTENDENT

William Alfred Holmes	1897-1919
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The Telegraph Branch was established on January 1, 1878, to take over the construction, operation and maintenance of railway telegraphs. The telegraph circuits in existence at that time were the property of the Victorian Postal Department. The Branch was disbanded in 1919 and absorbed into the Electrical Engineering and Way and Works Branches.

ACCOUNTANCY BRANCH : 1856—1962

ACCOUNTANT

<i>Archibald Dick</i>	1856—1859
<i>Samuel Magnus</i>	1859—1860
<i>Anthony Parker Mathison</i>	1860—1872
<i>George Theodore Adams Lavater</i>	1872—1887
<i>Robert George Kent (Acting)</i>	1887—1890
<i>George Theodore Adams Lavater</i>	1890—1891
<i>Robert George Kent</i>	1891—1893
<i>Robert Singleton</i>	1893—1896

CHIEF ACCOUNTANT

<i>Robert Singleton</i>	1896—1900
<i>James Hamilton Reid</i>	1900—1902
<i>Harold Kent</i>	1902—1905
<i>James Walsh</i>	1905—1906
<i>John Walter Hacker</i>	1906—1914
<i>Thomas Francis Brennan</i>	1914—1931

COMPTRROLLER OF ACCOUNTS

<i>Thomas Francis Brennan</i>	1931—1937
<i>Andrew Williams</i>	1937—1938
<i>Leslie James Williamson</i>	1938—1959
<i>William James Dandie</i>	1959
<i>Arthur William Geuer</i>	1959—

From 1856 to 1896, the Accountant was under the supervision of the Secretary. The Accountancy Branch was formed on July 1, 1896. In June, 1931, the Auditor of Receipts Branch was absorbed by the Accountancy Branch, and the title of Chief Accountant changed to Comptroller of Accounts.

COMMERCIAL BRANCH : 1903—1962

(Originally Traffic Branch)

CHIEF TRAFFIC MANAGER

<i>Robert Lochhead</i>	1903—1905
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GENERAL PASSENGER AND FREIGHT AGENT

<i>Edwin Bona Jones</i>	1905—1911
<i>William Edward Nicholas Keast</i>	1911—1930
<i>James McClelland</i>	1930—1947
<i>Marcus Ridgway</i>	1947—1949

CHIEF COMMERCIAL MANAGER

<i>Marcus Ridgway</i>	1950—1953
<i>Rupert Campbell Burgess</i>	1953—1962
<i>Malcolm McLaughlin</i>	1962—

The Traffic Branch was created on October 1, 1903, as a separate entity from the Transportation Branch of which it was previously an adjunct. Management was directed at first by a Chief Traffic Manager, but, in 1905, the administrative title was changed to General Passenger and Freight Agent.

On January 1, 1950, the Traffic Branch was renamed Commercial Branch, and the title of the head of the Branch altered from General Passenger and Freight Agent to Chief Commercial Manager.

PRINTING BRANCH : 1912-1921

SUPERINTENDENT OF PRINTING

Alwyn Valentine 1912-1921

The Printing and Stationery Branch was formed in 1912, and transferred to the control of the Stores Branch on January 1, 1922.

ELECTRICAL ENGINEERING BRANCH : 1913-1962

CHIEF ELECTRICAL ENGINEER

William Stone	1913-1920
Harold Parkyn Colwell	1920-1954
Arthur Chamberlain Stockley	1954-

The Electrical Engineering Branch was formed in May, 1913, following on the decision to electrify the Melbourne suburban railways.

REFRESHMENT SERVICES BRANCH : 1919-1962

SUPERINTENDENT OF REFRESHMENT SERVICES

Charles Joseph Harris	1920-1925
William David Bracher	1925-1939
Albert William Keown	1939-1942
Herbert Linnett Kennedy (Acting)	1942-1945
Albert William Keown	1945-1956
Herbert Linnett Kennedy	1956-

The Refreshment Services Branch was formed on March 1, 1920, to take over the control of all railway refreshment rooms which were then leased to private enterprise. On July 1, 1923, the Branch assumed control of advertising rights on railway properties from contractors; and on July 1, 1924, bookstall trading rights were taken over by the Branch.

SIGNAL AND TELEGRAPH BRANCH : 1922-1931

CHIEF ENGINEER OF SIGNALS AND TELEGRAPHS

Francis MacNamara Calcutt	1922-1930
Samuel Percy Jones	1930-1931

The Signal and Telegraph Branch was formed on July 1, 1922, to control all signalling apparatus, previously supervised by the Way and Works Branch, and telegraphs and telephones, formerly under the management of the Electrical Engineering Branch. On June 30, 1931, the Signal and Telegraph Branch was dissolved and absorbed into the Way and Works Branch.

*Statement showing the Results of Working since the inception of the Victorian Government
Railways in 1858
(Control by Commissioners commenced on 1.1.1884)*

Period	Revenue	Working expenses	Net earnings	Interest etc.	Surplus	Deficit
£ 1858 to 31.12.1883	20,487,513	10,740,614	9,746,899	14,609,627		£ 4,862,728
Half-year ended 30.6.84	1,119,023	678,748	440,275	855,548		415,273
Year ended 30th June						
1885	2,181,932	1,277,425	904,507	1,029,902		125,395
1886	2,329,126	1,310,538	1,018,588	1,011,206	7,382	
1887	2,453,078	1,427,116	1,025,962	985,785	40,177	
1888	2,756,049	1,753,019	1,003,030	1,072,732		69,702
1889	3,110,140	1,945,837	1,164,303	1,128,228	36,075	
1890	3,131,866	2,132,158	999,708	1,213,402		213,694
1891	3,298,567	2,310,645	987,922	1,319,827		331,905
1892	3,095,122	2,138,139	956,983	1,353,763		396,780
1893	2,925,948	1,850,291	1,075,657	1,447,662		372,005
1894	2,726,159	1,635,419	1,090,740	1,460,850		370,110
1895	2,581,591	1,543,393	1,038,198	1,418,847		380,649
1896	2,401,392	1,546,475	854,917	1,438,603		583,686
1897	2,635,935	1,563,806	1,072,129	1,447,452		375,323
1898	2,628,896	1,646,054	982,842	1,437,269		454,427
1899	2,893,729	1,797,725	1,096,004	1,472,090		376,086
1900	3,045,162	1,902,540	1,142,622	1,430,448		287,826
1901	3,368,797	2,075,239	1,293,558	1,464,809		171,251
1902	3,401,843	2,166,118	1,235,725	1,492,695		256,970
1903	3,108,019	2,032,087	1,075,932	1,473,532		397,600
1904	3,438,141	2,022,403	1,415,738	1,515,755		100,017
1905	3,582,266	2,222,280	1,359,986	1,461,994		102,008
1906	3,789,068	2,217,343	1,571,725	1,472,397	99,328	
1907	4,022,231	2,370,696	1,651,535	1,483,283	168,252	
1908	3,883,742	2,450,317	1,433,425	1,483,807		50,382
1909	4,189,065	2,523,928	1,665,137	1,430,093	235,044	
1910	4,455,748	2,827,734	1,628,014	1,472,917	155,097	
1911	4,909,062	3,109,323	1,799,739	1,516,764	282,975	
1912	5,233,979	3,455,086	1,778,893	1,513,102	265,791	
1913	5,222,271	3,605,001	1,617,270	1,595,020	22,250	
1914	5,581,474	3,886,348	1,695,126	1,677,369	17,757	
1915	5,183,687	4,258,316	925,371	1,767,807		842,436
1916	5,730,743	4,141,588	1,589,155	1,927,107		337,952
1917	5,980,638	4,305,958	1,674,680	2,012,447		337,767
1918	6,593,873	4,603,905	1,989,968	2,126,906		136,938
1919	6,476,075	4,474,771	2,001,304	2,164,901		163,597
1920	8,287,063	6,265,755	2,021,308	2,234,202		212,894
1921	9,851,909	8,093,870	1,758,039	2,409,674		651,635
1922	10,857,853	8,287,146	2,570,707	2,589,816		19,109
1923	11,413,782	8,442,214	2,971,568	2,951,385	20,183	
1924	12,025,987	9,119,297	2,906,690	3,015,455		108,765
1925	12,830,283	9,704,455	3,125,828	3,099,885	25,943	
1926	12,743,566	9,833,239	2,910,327	3,092,696		182,229
1927	13,760,769	10,521,032	3,239,737	3,287,277		47,540
1928	12,953,039	10,166,136	2,786,903	3,340,612		553,709
1929	13,262,387	9,833,459	3,428,928	3,491,757		62,829
1930	12,088,013	9,598,893	2,489,120	3,526,117		1,036,997

Period	Revenue	Working expenses	Net earnings	Interest etc.	Surplus	Deficit
	£	£	£	£	£	£
1931	10,089,883	7,770,341	2,319,542	3,798,106*		1,478,564
1932	9,530,812	6,401,519	3,129,293	4,099,643*		970,350
1933	9,520,870	6,572,789	2,948,081	3,643,877*		695,796
1934	9,249,866	6,431,791	2,818,075	3,553,194*		735,119
1935	9,498,705	6,691,490	2,807,215	3,373,665*		566,450
1936	9,769,463	6,925,960	2,843,503	3,349,809*		506,306
1937	10,221,003	7,326,841	2,894,162	3,320,238*		426,076
1938	9,809,158	7,900,054	1,909,104	2,151,057†		241,953
1939	9,360,329	8,137,622	1,222,707	2,174,773†		952,066
1940	9,942,449	8,133,174	1,809,275	2,205,476†		396,201
1941	11,330,220	9,053,928	2,276,292	2,249,698†	26,594	
1942	14,614,836	11,683,316	2,931,520	2,282,173†	649,347	
1943	17,120,223	14,118,941	3,001,282	2,213,579†	787,703	
1944	15,974,634	13,295,896	2,678,738	2,230,602†	448,136	
1945	15,352,493	12,914,088	2,438,405	2,231,392†	207,013	
1946	14,768,322	12,615,559	2,152,763	2,215,163†		62,400
1947	13,662,846	13,007,672	655,174	2,137,342†		1,482,168
1948	16,421,057	15,335,060	1,085,997	2,160,363†		1,074,366
1949	17,371,706	17,938,390	—566,684(l)	2,167,435†		2,734,119
1950	22,160,515(a)	20,117,563	2,042,952	2,229,009†		186,057
1951	20,540,791(b)	20,949,294	—408,503(l)	2,377,908†		2,786,411
1952	26,208,187(c)	29,808,475	—3,600,288(l)	2,348,296†		5,948,584
1953	33,800,628(d)	34,260,123	—459,495(l)	2,432,353†		2,891,848
1954	37,776,840(e)	36,172,060	1,604,780	2,596,670†		991,890
1955	39,977,320(f)	37,265,773	2,711,547	2,853,106†		141,559
1956	37,182,292	38,268,206	—1,085,914(l)	3,184,766†		4,270,680
1957	37,497,815	39,356,645	—1,858,830(l)	3,333,905†		5,192,735
1958	36,066,303	38,351,510	—2,285,207(l)	3,596,499†		5,881,706
1959	38,246,885	38,267,711	—20,826(l)	3,816,322†		3,837,148
1960	39,240,397	39,616,378	—375,981(l)	4,017,823†		4,393,804
1961	43,037,446	42,624,172§	413,274	4,179,748†		3,766,474
1962	42,609,086	42,983,189§§	—374,103(l)	—¶		374,103
	971,979,981	848,109,409	123,870,572	188,748,812		64,878,240

* Includes exchange on interest payments abroad from 1930/31.

† Includes exchange on interest payments abroad and National Debit Sinking Fund Contributions from 1937/38.

1950/55—Revenue includes Treasury recoup to reduce interest payment to 1%.

(a) £1,687,828	(b) £1,789,670	(c) £1,754,640
(d) £1,798,278	(e) £1,934,903	(f) £2,148,060

(l) Working expenses exceeded net earnings by the amount shown.

§ Includes £920,346 transferred to Railway Equalization Account.

§§ Includes £3,658 transferred to Railway Equalization Account.

¶ Under Act 6831 interest and other charges are not now debited to the Department.

LINES OPENED FOR TRAFFIC

Date of opening		Length in miles
NORTHERN AND MIDLAND		
10/2/1859	Melbourne to Sunbury	23.95
8/7/1861	Sunbury to Woodend	24.70
25/4/1862	Woodend to Kyneton	8.32
21/10/1862	Kyneton to Bendigo	43.92
19/9/1864	Bendigo to Echuca	56.37
4/7/1876	Deniliquin to Moama (taken over by Victorian Railways on 1/12/1923)	44.06
4/7/1876	Moama to Echuca	1.06
26/3/1926	Barnes to Balranald	119.62
7/6/1881	Lancefield Junction (now Clarkefield) to Lancefield (closed 13/8/1956)	14.50
6/4/1892	Lancefield to Kilmore (closed 30/6/1904)	18.10
1/10/1888	Bendigo to Heathcote (closed 3/12/1958)	27.64
1/10/1888	Heathcote Junction to Kilmore	9.51
3/12/1889	Heathcote to Tooborac	10.56
22/8/1890	Kilmore to Tooborac	20.11
16/2/1880	Carlsruhe to Trentham	10.82
17/3/1880	Trentham to Daylesford	11.73
19/1/1887	North Creswick to Rocky Lead (Newlyn to Rocky Lead closed 28/7/1953)	12.65
1/6/1887	Rocky Lead to Daylesford Junction (closed 28/7/1953)	10.46
15/1/1891	Redesdale Junction to Redesdale (closed 26/9/1954)	16.25
7/7/1874	Castlemaine to Maryborough	33.02
6/10/1874	Maryborough to Dunolly	13.82
3/9/1878	Dunolly to Bealiba	12.16
23/12/1878	Bealiba to St. Arnaud	20.85
26/1/1882	St. Arnaud to Cope Cope	16.33
22/4/1882	Cope Cope to Donald	7.53
28/3/1893	Donald to Birchip	32.30
18/9/1899	Birchip to Woomelang	26.45
15/1/1903	Woomelang to Hattah	68.79
25/5/1903	Hattah to Nowingi	11.94
30/9/1903	Nowingi to Yatpool	16.19
27/10/1903	Yatpool to Mildura	13.23
4/7/1910	Mildura to Merbein	6.92
27/6/1925	Merbein to Yelta	5.87
11/4/1924	Red Cliffs to Werrimull	35.40
30/10/1925	Werrimull to Meringur	15.23
16/6/1931	Meringur to Morkalla	9.64
12/5/1942	Nowingi towards Millewa South (line operated by the Brunswick Plaster Mills)	15.69
20/11/1888	Dunolly to Inglewood	24.24
25/6/1912	Ouyen to Cowangie	56.39
25/6/1912	Cowangie to Murrayville	11.44
16/6/1884	Castlemaine (Maldon Junction) to Maldon	10.24
24/3/1891	Maldon (Laanecoorie Junction) to Shelbourne	9.89
7/7/1874	Ballarat to Creswick	11.05
16/11/1874	Creswick to Clunes	11.19
2/2/1875	Clunes to Maryborough	19.49
11/8/1881	Waubra Junction to Ballarat Race-course	2.10
1/10/1888	Waubra Junction to Waubra	13.74
21/10/1876	Maryborough to Avoca	14.93
18/11/1890	Avoca to Ararat (closed 8/7/1959)	39.04
28/5/1914	Ben Nevis to Navarre (closed 24/2/1954)	22.87
19/9/1876	Bendigo to Bridgewater	24.49
18/11/1876	Bridgewater to Inglewood	4.44
15/4/1882	Inglewood to Korong Vale	20.20
20/4/1883	Korong Vale to Charlton	22.62
1/10/1883	Charlton to Wycheeproof	16.48
8/3/1895	Wycheeproof to Sea Lake	47.89
29/6/1914	Sea Lake to Nandaly	17.68
28/5/1919	Nandaly to Mittyack	11.07

Date of opening	Line	Length in miles
16/6/1920	Mittyack to Kulwin	8.61
21/4/1887	Wedderburn Junction to Wedderburn	4.86
2/7/1883	Korong Vale to Boort	17.75
7/8/1894	Boort to Quambatook	21.96
1/3/1900	Quambatook to Ultima	30.23
1/7/1909	Ultima to Chillingollah	20.17
28/1/1914	Chillingollah to Manangatang	18.46
8/3/1921	Manangatang to Annuello	14.44
5/6/1924	Annuello to Robinvale	19.65
15/12/1882	Eaglehawk to Raywood	13.42
21/6/1883	Raywood to Mitiamo	22.44
12/2/1884	Mitiamo to Pyramid Hill	12.59
25/10/1884	Pyramid Hill to Kerang	24.54
30/5/1890	Kerang to Swan Hill	35.16
20/12/1924	Kerang to Murrabit	16.11
20/12/1924	Kerang to Koondrook (taken over by Victorian Railways on 1/2/1952)	14.00
16/3/1928	Murrabit to Stony Crossing	38.59
27/5/1915	Swan Hill to Piangil	27.39
24/3/1920	Piangil to Kooloonong	15.87
29/3/1926	Kooloonong to Yungera (closed 6/8/1957)	6.71
10/11/1915	Elmore to Cohuna	57.09
1/7/1929	Albion to Broadmeadows	8.58

WESTERN AND SOUTH WESTERN

17/1/1859	Footscray to Williamstown Pier	5.87
24/9/1887	Newport to Sunshine	4.29
25/6/1857	Newport to Geelong	38.51
1/2/1878	Race-course Junction to Geelong Race-course (closed 28/5/1909)	1.96
6/4/1885	Race-course Junction to Williamstown Race-course	0.69
1/10/1924	Williamstown Race-course Junction to Altona Beach	1.85
25/11/1876	Geelong to Winchelsea	25.64
13/3/1877	Winchelsea to Birregurra	12.79
27/7/1877	Birregurra to Colac	11.81
21/6/1923	Colac to Alvie (closed 18/12/1954)	9.65
2/7/1883	Colac to Camperdown	28.11
23/4/1887	Camperdown to Terang	13.87
4/2/1890	Terang to Warrnambool	28.84
4/2/1890	Warrnambool to Kororoit	9.36
4/2/1890	Kororoit to Port Fairy	11.05
21/5/1879	Geelong (Queenscliff Junction) to Queenscliff	20.72
17/3/1890	Moriac to Wensleydale (closed 20/10/1948)	10.92
5/6/1891	Birregurra to Forrest (closed 4/3/1957)	19.85
7/8/1889	Irrewarra to Beeac (closed 18/11/1953)	8.70
1/12/1910	Beeac to Cressy (closed 18/11/1953)	10.95
25/9/1911	Cressy to Newtown (closed 18/11/1953)	24.00
1/3/1902	Colac to Beech Forest (2' 6" gauge—closed 30/6/1962)	29.66
20/6/1911	Beech Forest to Crowes (2' 6" gauge—Weeaproinah to Crowes closed 10/12/1954; Beech Forest to Weeaproinah closed 30/6/1962)	14.11
5/4/1892	Timboon Junction to Timboon	22.32
4/2/1890	Terang to Mortlake	12.16
11/4/1862	North Geelong to Ballarat	54.18
9/9/1918	North Geelong to Fyansford	2.93
11/8/1874	Ballarat to Beaumont	28.65
7/4/1875	Beaumont to Ararat	28.64
15/2/1876	Ararat to Scallan's Hill	17.85
14/4/1876	Scallan's Hill to Stawell	1.00
17/12/1878	Stawell to Murtoa	35.44
26/6/1905	Stawell to Grampians (closed 29/3/1949)	15.84
5/2/1879	Murtoa to Horsham	18.00
1/7/1882	Horsham to Dimboola	21.46
19/1/1887	Dimboola to Serviceton	63.22

Date of opening	Line	Length in miles
2/4/1884	Sunshine to Melton	15.65
1/4/1886	Melton to Parwan	6.00
16/2/1887	Parwan to Bacchus Marsh	2.54
4/12/1889	Bacchus Marsh to Ballan	17.54
22/12/1886	Gordon to Ballan	7.38
7/5/1879	Gordon to Warrenheip	12.87
26/12/1900	Bungaree Junction to Race-course (closed 4/9/1951)	1.53
8/8/1913	Gheringhap to Maroona	99.76
12/9/1889	Ballarat East to Buninyong (closed 28/2/1947)	6.84
15/11/1886	Ballarat Cattle-yards Branch	2.92
1/8/1883	Scarsdale Junction to Scarsdale	13.12
10/10/1890	Scarsdale to Linton	7.97
17/1/1916	Linton to Skipton	12.75
1/1/1904	Race-course Junction to Burrumbeet Race-course (closed 1/7/1948)	1.14
24/4/1877	Ararat to Dunkeld	47.02
29/10/1877	Dunkeld to Hamilton	19.04
19/12/1877	Hamilton to Portland	53.82
22/8/1890	Dunkeld to Koroit (Dunkeld to Penshurst closed 19/2/1898)	48.99
22/8/1890	Hamilton to Penshurst	18.10
20/11/1888	Hamilton (Coleraine Junction) to Coleraine	23.01
1/11/1915	Hamilton to Cavendish	14.26
17/12/1917	Toolondo to Kanagulk	10.55
16/6/1919	Kanagulk to Balmoral	8.16
19/11/1920	Cavendish to Balmoral	25.03
15/2/1884	Branxholme to Henty	23.19
1/9/1884	Henty to Casterton	8.90
20/6/1916	Heywood to Dartmoor	25.71
28/11/1917	Dartmoor to Puralka (Mumbannar)	12.80
29/7/1915	Murrayville to South Aust. border	12.53
28/11/1917	Mumbannar to South Aust. border	5.65
1/6/1887	Lubeck to Rupanyup	9.77
15/6/1909	Rupanyup to Marnoo	15.33
25/7/1927	Marnoo to Bolangum	6.40
12/5/1886	Murtoa to Warracknabeal	31.20
5/1/1893	Warracknabeal to Beulah	21.92
6/3/1894	Beulah to Hopetoun	16.01
6/5/1925	Hopetoun to Patchewollock	26.96
25/8/1887	Horsham to Noradjuha	19.95
24/9/1912	Noradjuha to Toolondo	11.24
31/7/1894	East Natimuk to Goroke	28.64
3/5/1927	Goroke to Carpolac	9.05
19/6/1894	Dimboola to Jeparit	21.59
2/11/1899	Jeparit to Rainbow	18.47
26/6/1914	Rainbow to Yaapeet	10.59
10/12/1912	Jeparit to Lorquon	13.68
27/6/1916	Lorquon to Yanac	18.38

NORTH-EASTERN

21/10/1860	Essendon Junction to Essendon	3.50
30/11/1867	Newmarket Junction to Flemington Race-course	1.50
18/4/1872	Essendon to Schoolhouse Lane	54.00
26/8/1872	Schoolhouse Lane to Seymour	2.29
20/11/1872	Seymour to Longwood	23.38
20/3/1873	Longwood to Violet Town	20.54
18/8/1873	Violet Town to Benalla	16.14
28/10/1873	Benalla to Wangaratta	24.04
21/11/1873	Wangaratta to Wodonga	41.60
31/10/1927	Bowser to Peechelba	12.32
14/6/1883	Wodonga to River Murray	1.94
9/9/1884	North Melbourne to Coburg	5.07
8/10/1889	Coburg to Somerton	7.16
8/5/1888	Royal Park Junction to Clifton Hill	2.39
8/5/1888	Fitzroy Branch	0.89
8/10/1889	Whittlesea Junction to Preston Reservoir	4.78

Date of opening	Line	Length in miles
23/12/1889	Preston Reservoir to Whittlesea (Lalor to Whittlesea closed 29/11/1959)	17.28
5/12/1904	Northcote Loop Line	0.13
16/11/1883	Tallarook to Yea	23.69
12/11/1889	Yea to Molesworth	10.68
17/6/1890	Molesworth to Cathkin	2.74
10/9/1890	Cathkin to Alexandra Road (now Koriella)	4.41
10/11/1890	Cathkin to Merton	15.47
7/5/1891	Merton to Maindample	13.88
6/10/1891	Maindample to Mansfield	8.64
28/10/1909	Koriella to Alexandra	4.32
13/1/1880	Mangalore to Shepparton	45.25
1/9/1881	Shepparton to Numurkah	20.75
1/10/1888	Numurkah to Cobram	21.67
1/9/1890	Murchison East to Rushworth	12.81
26/8/1914	Rushworth to Colbinabbin	12.82
15/5/1917	Rushworth to Girgarre	13.54
13/1/1880	Toolamba to Tatura	6.83
19/8/1887	Tatura to Echuca	34.07
1/10/1888	Shepparton to Dookie	14.84
22/11/1892	Dookie to Katamatite	17.02
1/10/1888	Numurkah to Nathalia	13.79
15/12/1896	Nathalia to Picola	6.75
28/2/1905	Strathmerton to 8 miles 23 chains	8.20
9/7/1908	8 miles 23 chains to Tocumwal	2.07
3/9/1883	Benalla to St. James	20.33
6/5/1886	St. James to Yarrawonga	19.86
15/8/1938	Yarrawonga to Oaklands	38.20
7/7/1875	Beechworth Junction (now Bowser) to Everton	12.05
30/9/1876	Everton to Beechworth	10.21
23/7/1891	Beechworth to Yackandandah (closed 2/7/1954)	12.84
30/6/1914	Benalla to Tatong (closed 1/7/1947)	18.00
14/3/1899	Wangaratta to Whitfield (2' 6" gauge—closed 12/10/1953)	30.49
17/12/1883	Everton to Myrtleford	16.56
17/10/1890	Myrtleford to Bright	18.54
29/1/1879	Springhurst to Wahgunyah	13.95
10/9/1889	Wodonga to Huon Lane	14.07
18/7/1890	Huon Lane to Bolga	6.61
24/7/1891	Bolga to Tallangatta	5.03
13/6/1916	Tallangatta to Shelley	22.86
10/4/1919	Shelley to Beetomba	9.73
5/5/1921	Beetomba to Cudgewa	9.74

EASTERN AND SOUTH-EASTERN

23/11/1891	Spencer Street to Flinders Street	0.76
13/9/1854	Flinders Street to Port Melbourne	
13/5/1857	Flinders Street to St. Kilda	
8/2/1859	Princes Bridge to Richmond	
12/12/1859	Richmond to Cremorne	
19/12/1859	Windsor to North Brighton	
24/9/1860	Richmond to Pic-nic Station	
22/12/1860	Cremorne to Windsor	
13/4/1861	Pic-nic Station to Hawthorn	
21/12/1861	North Brighton to Brighton Beach	
21/10/1901	Princes Bridge to Collingwood	2.22
8/5/1888	Collingwood to Heidelberg	5.49
5/6/1902	Heidelberg to Eltham	8.35
25/6/1912	Eltham to Hurstbridge	6.64
2/9/1887	Brighton Beach to Sandringham	2.20
2/4/1879	South Yarra to Oakleigh	7.05
8/10/1877	Oakleigh to Bunyip	38.77
1/3/1878	Bunyip to Moe	31.59
1/12/1877	Moe to Morwell	8.76
1/6/1877	Morwell to Sale	39.10
11/1/1922	Herne's Oak to Yallourn	2.45

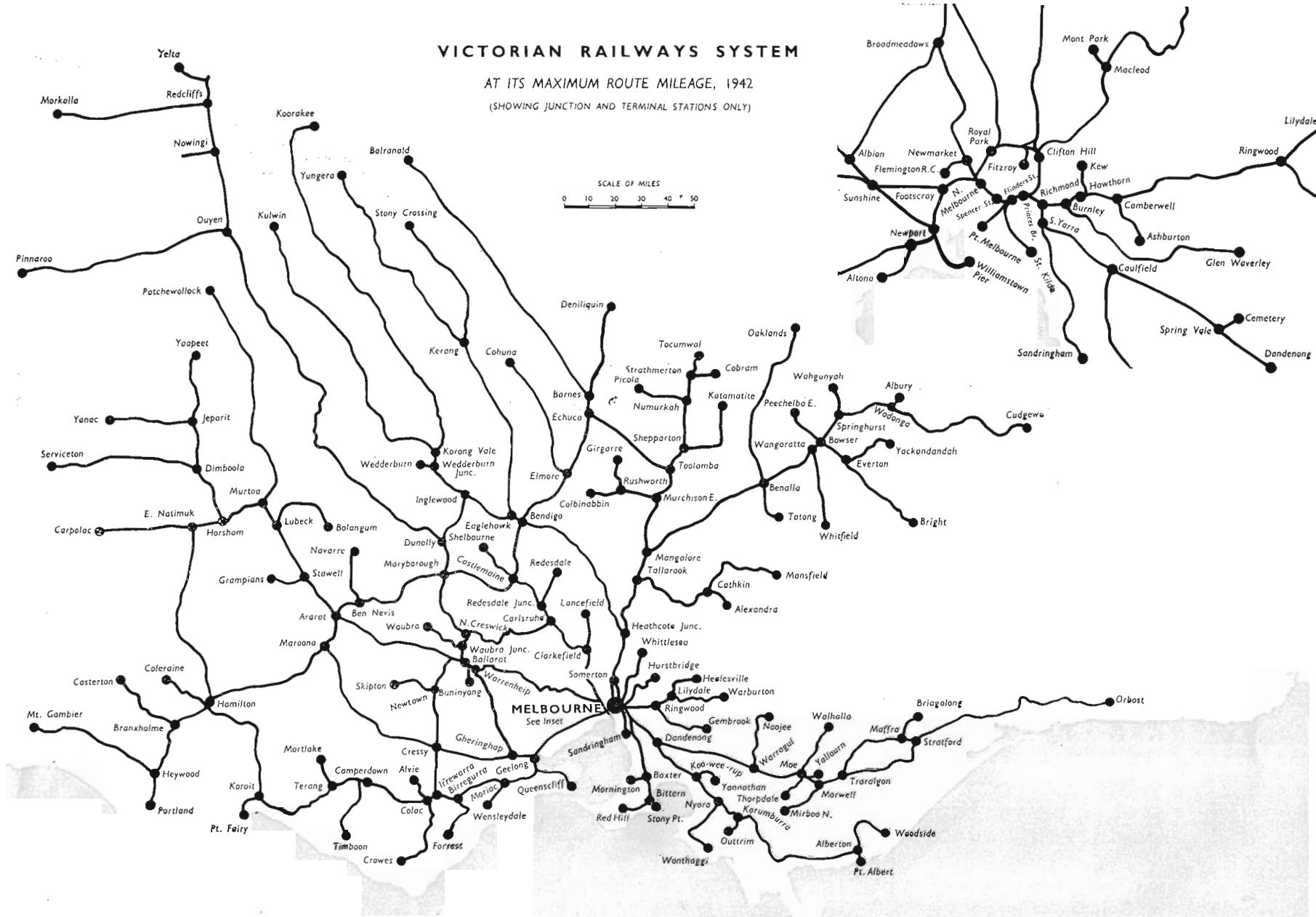
Hobson's Bay lines

Date of opening	Line	Length in miles
8/5/1888	Sale to Stratford Junction	8.97
24/3/1890	Burnley to Oakleigh (Darling to Waverley Road closed 9/12/1895)	6.29
30/5/1890	Camberwell to Waverley Road (Ashburton to Oakleigh closed 9/12/1895)	4.25
24/3/1891	Fairfield to Riversdale, including Canterbury loop line (Fairfield to Deepdene closed 12/4/1893; Riversdale Junction to East Kew closed 7/9/1943)	4.99
28/6/1948	Ashburton to Alamein	0.50
19/12/1881	Caulfield to Mordialloc	9.86
1/8/1882	Mordialloc to Frankston	10.02
1/10/1888	Frankston to Mornington Junction (now Baxter)	5.02
10/9/1889	Mornington Junction to Hastings	8.09
17/12/1889	Hastings to Stony Point	5.88
10/9/1889	Baxter to Mornington	7.67
12/12/1921	Bittern to Red Hill (closed 1/7/1953)	9.91
7/2/1904	Springvale Cemetery line (closed 19/12/1951)	1.60
1/10/1888	Dandenong (Great Southern Junction) to Tooradin	15.91
11/11/1890	Tooradin to Loch	23.53
2/6/1891	Loch to Korumburra	9.89
17/12/1891	Korumburra to Leongatha	9.20
13/1/1892	Leongatha to Port Albert (Alberton to Port Albert closed 14/2/1949)	58.75
29/6/1922	Koo-wee-rup to Strzelecki (Triholom to Strzelecki closed 22/11/1930 ; Yannathan to Triholom closed 7/8/1941 ; Bayles to Yannathan closed 15/4/1950 ; Koo-wee-rup to Bayles closed 4/2/1959)	30.55
1/6/1894	Black Diamond Junction to Black Diamond (closed 10/5/1951)	1.25
26/6/1905	Welshpool to Welshpool Jetty (2' 6" gauge—closed 1/1/1941)	3.23
7/5/1894	Korumburra to Jumbunna (closed 1/10/1953)	3.74
5/2/1896	Jumbunna to Outtrim (closed 4/9/1951)	2.40
9/5/1910	Nyora to Woolamai	15.56
9/5/1910	Woolamai to Powlett Coalfield	13.87
28/10/1892	Korumburra to Coal Creek	0.98
8/2/1921	Alberton to Yarram	3.62
16/12/1921	Yarram to Won Wron (closed 25/5/1953)	8.48
22/6/1923	Won Wron to Woodside (closed 25/5/1953)	9.68
12/5/1890	Warragul to Rokeby (closed 1/10/1958)	8.12
18/3/1892	Rokeby to Neerim South (closed 10/5/1951)	5.37
27/3/1917	Neerim South to Nayook (closed 1/10/1958)	8.02
28/4/1919	Nayook to Noojee (closed 1/10/1958)	5.99
8/5/1888	Moe to Thorpdale (closed 4/12/1958)	10.67
3/5/1910	Moe to Walhalla (2' 6" gauge—Platina to Walhalla closed 1/4/1944 ; Erica to Platina closed 14/10/1952 ; Moe to Erica closed 25/6/1954)	26.06
25/5/1960	Moe to Yallourn	4.26
10/4/1885	Marwell to Boolarra	12.11
8/9/1885	Boolarra to Darlimurla	4.44
7/1/1886	Darlimurla to North Mirboo	3.62
13/11/1883	Traralgon to Heyfield	22.06
18/3/1887	Heyfield to Maffra	10.92
8/11/1887	Maffra to Stratford	6.11
8/5/1888	Stratford to Bairnsdale	32.79
10/4/1916	Bairnsdale to Orbost	60.24
7/8/1889	Maffra to Briagolong (closed 16/7/1952)	11.79
24/3/1890	Burnley to Darling	4.40
3/2/1929	Darling to Eastmalvern	0.82
5/5/1930	Eastmalvern to Glen Waverley	5.12
3/4/1882	Hawthorn to Camberwell	2.09
1/12/1882	Camberwell to Lilydale	17.63
15/5/1888	Lilydale to Yarra Flats	7.35
1/3/1889	Yarra Flats to Healesville	8.02
19/12/1887	Hawthorn to Kew (closed 13/5/1957)	0.96
4/12/1889	Ringwood to Upper Ferntree Gully	7.44
18/12/1900	Upper Ferntree Gully to Gembrook (2' 6" gauge—closed 30/4/1954)	18.22
18/2/1962	Upper Ferntree Gully to Belgrave	3.04
13/11/1901	Lilydale to Warburton	23.97
21/10/1928	South Kensington to West Footscray	2.44

VICTORIAN RAILWAYS SYSTEM

AT ITS MAXIMUM ROUTE MILEAGE, 1942
(SHOWING JUNCTION AND TERMINAL STATIONS ONLY)

SCALE OF MILES



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