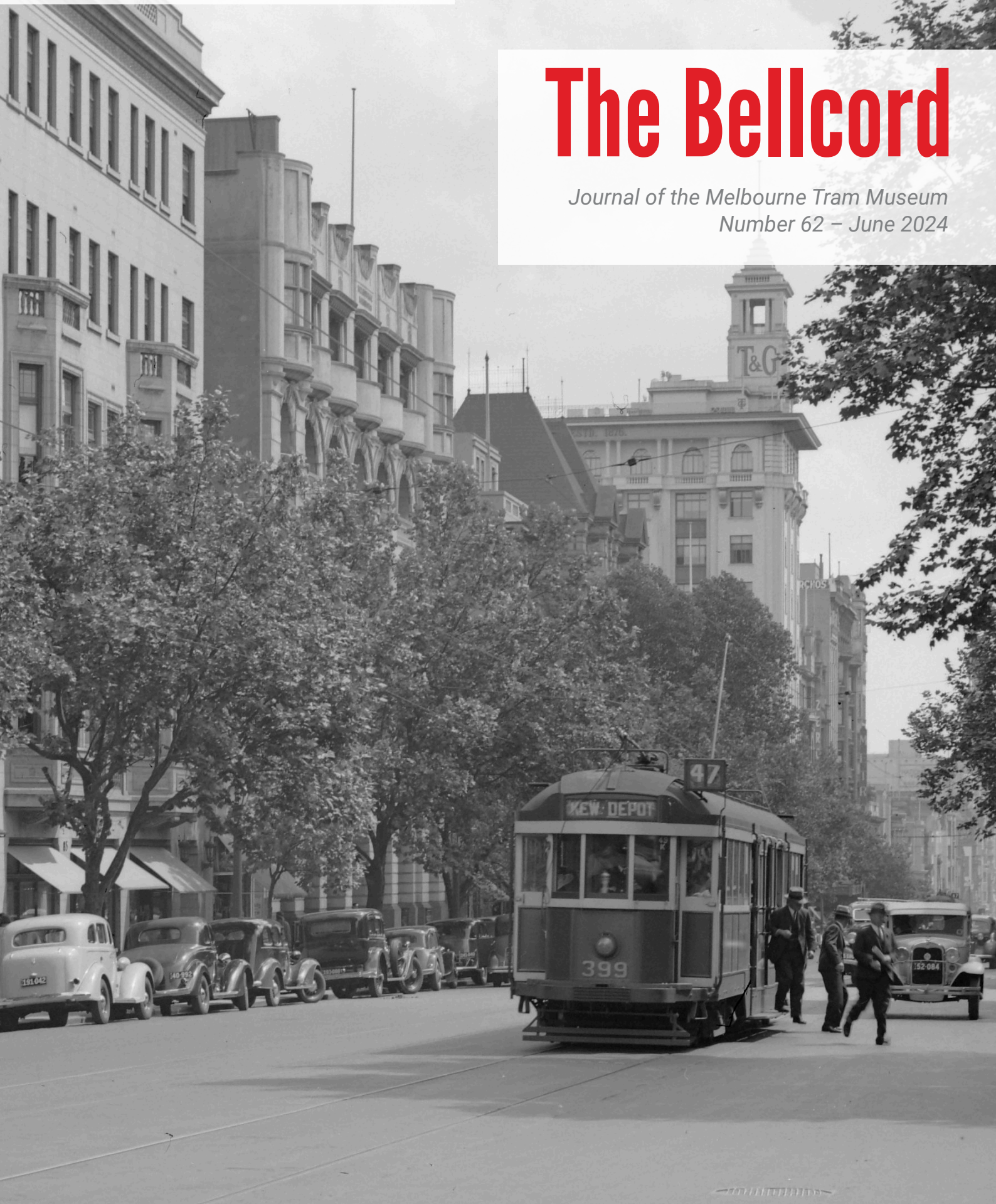




MELBOURNE
TRAM MUSEUM

The Bellcord

Journal of the Melbourne Tram Museum
Number 62 – June 2024



Front cover

Melbourne & Metropolitan Tramways Board W2 class no 399 in Collins Street, between Exhibition and Russell Streets, looking west, late 1930s. This particular tram was originally built as a W class, entering service in September 1926. It was converted to W2 class in February 1930.

Photograph from the Victorian Railways collection, State Library Victoria.

In this issue

The second part of Geoff Brown’s history of Brunswick Depot explores the redevelopment of the Brunswick cable car shed site in the mid-1930s to accommodate electric trams, as a result of the electrification of the Sydney Road cable tram route.

Readers should also check out Geoff’s [animated timeline](#) on the museum’s website. This illustrates the development of Melbourne’s tramways over the period from 1884 to 2024, showing how our city’s tram network has changed over the past 140 years.

Russell Jones answers the question we are frequently asked by museum visitors – why are Melbourne’s most celebrated trams known as W class?

Warren Doubleday explains the purpose of a mystery tool recently acquired by the museum.

Plus latest news about the museum and Melbourne’s tram network.

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Editor: Noelle Jones

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We were saddened to hear of the death of well-known tram enthusiast and museum member Norm Cross on Wednesday 29 May. Aged 81, he had been in poor health for some time. A full obituary will be prepared for the next issue of *The Bellcord*.

Since our last report, museum patronage and shop sales have remained strong, thanks to the efforts of our excellent and knowledgeable volunteers.

New items now available in the museum shop include winter scarves, Big Brick LEGO trams and a new model of the popular City Liner tram, as well as a trove of secondhand treasures, including books and other items.

June is a busy time for museum maintenance. The wall lamps on both sides of the depot building have just been renewed with sealed LED units. The walls will be repainted with a lighter green colour ('Glossy Olive' – a close match to that used in the late 1900s) and the floor with a red paving paint to give a consistent appearance. Other work to be completed during June includes replacing the carpet in the shop, repairing the wooden parts of the toilet windows and fitting a handrail for the step in the ladies toilets.

Open House Melbourne – 27-28 July 2024

Once again the museum is participating in this year's Open House Melbourne weekend. This is our busiest weekend of the year when we will be open to the public for two consecutive days from 10am to 4pm.

As in past years we will need as many volunteers as possible to assist and spread the word. More details will be sent by email to museum members.

For further information, contact [Rod Atkins](#).



The Big Brick Melbourne W class tram custom kit comes with a conductor in 1980s style Met uniform. There is also a City Circle custom kit which includes a driver in Yarra Trams uniform. Both kits are comprised of 100% genuine LEGO bricks and fit standard LEGO track. Kits are not motorised. Now available at the museum shop, \$120 each.

Around the tracks

Maidstone – The construction of the new tram depot in Maidstone on the former World War II Pyrotechnics factory site (later a Migrant Hostel) is progressing (see [drone footage of the site](#)). A visit to the site in early May showed that earthworks and drainage are well underway, with inspection pits, concrete slabs and the first of the steelwork in position.

Brunswick Tram Depot – The expansion of Brunswick Tram Depot has commenced. This will provide further tracks and an entry back into the yard from Sydney Road. To enable these additional tracks, the car parking area to the south of the existing yard is to be relocated underneath the elevated section of the Upfield Rail line south of Moreland Road. A visit to Cameron Street in late May showed that the work was well underway.

Victoria Street Melbourne – During February, PTV in conjunction with Yarra Trams announced a [proposal to upgrade the existing tram tracks in Victoria Street](#). This would see relocation of the junction in Swanston Street and installation of new track to create an east-west link at the intersection of Victoria and Elizabeth Streets. The former signal box at Franklin Street will remain and a small park created. Work is scheduled to commence in late July.

Balaclava Junction – During the recent track reconstruction work in St Kilda Road between Carlisle and Inkerman Streets, the route 3 tram was replaced by buses. However during the late evening trams ran via the little-used northeast leg of the Grand Union at Balaclava Junction. That is, trams turned right from Balaclava Road into Hawthorn Road and then ran into the City via Dandenong Road and St Kilda Junction. This is the only surviving grand union junction in the southern hemisphere, where two double tracks cross with points allowing trams coming from any direction to take any of the other three directions.

Moonee Ponds – New driver facilities are being installed at the stub siding in Pascoe Vale Road at Moonee Ponds Junction. During [this work](#) the siding has been shortened so that only one tram can shunt at a time. A similar project is underway at the [Wattle Park terminus](#).

Restaurant trams – The three Melbourne restaurant trams, withdrawn from service in 2018, have been transferred to Bendigo for storage. Negotiations are in progress aimed at agreement on upgrades that might allow the service to resume. No further details are currently available.

Restaurant tram no 938 in storage at Bendigo, 24 May 2024. Photograph by Mal Rowe.





Brunswick Depot: a new beginning

By 1930, the Melbourne suburb of Brunswick was home to nearly 60,000 residents. It was also a thriving centre for manufacturing, with over 300 factories. However the world-wide economic depression of the 1930s resulted in mass unemployment, particularly in working class areas like Brunswick.

During these years, the ageing cable trams continued to glide along Sydney Road, carrying anyone who could afford the fare. But these trams and their 'depot' were from a bygone era.

Electric trams had operated the North and East Coburg routes since 1916 and the West Brunswick (Albion Street) then West Coburg route from 1925 and 1927 respectively. Sydney Road's cable tram commuters wondered when they too would travel by electric tram.

The answer came in June 1934 with an unexpected announcement by [Alexander Cameron](#), Chairman of the Melbourne and Metropolitan Tramways Board (M&MTB). While tramway patronage had dropped 20% between 1930 and 1932, he noted that tramway revenue was now showing modest improvement, enough to fund the conversion of Sydney Road to electric traction.

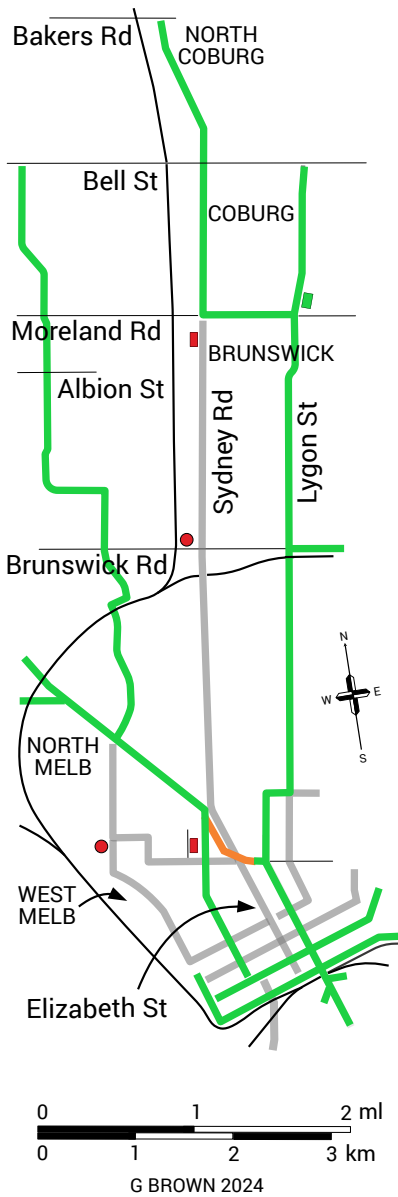
More details on the background to this unexpected decision together with the history of the Brunswick cable tramway can be found in the [March 2024 issue of The Bellcord](#).

Above: Yarra Trams D2 class 5018 passes the traffic office and retail shops at the front of Brunswick Tram Depot (2017).

As at May 2024 most of the shops are unoccupied – a common problem with suburban strip shops which have lost business to larger centres.

Photograph by Mal Rowe.

North Coburg - City Corridor
June 1935
 (before line conversion)



- Electric tramway, depot
- Electric track (single) for rolling stock transfer
- Cable tramway
- ● Car house, engine house
- Railway

See Geoff's [animated timeline](#) illustrating the development of Melbourne's tramway network – available on the museum's website.

Two year project

The conversion project spanned two years. The initial announcement included electric conversion of the Brunswick cable line, construction of a new depot and building 40 new electric trams. Months later the project was expanded to encompass electric conversion of the North Melbourne cable line, building additional trams and bus conversion of the lightly-patronised West Melbourne cable line.

After a year of planning, track excavation began in July 1935 and progressed in stages, starting with the North Melbourne line then working northward along the Brunswick line. Electric tram services opened in stages with the final section to Moreland Road, Brunswick opening on 26 April 1936. Construction of the new Brunswick Depot spanned the period from September 1935 to July 1936.

Key players in this major project were the Board's chief engineer, T.P. Strickland, and chief architect, Alan G. Monsborough. These senior officers and their staff prepared detailed designs and options for the Board's consideration, then oversaw their implementation.

Also key to the project was the guiding hand of Alexander Cameron, Board Chairman since 1919. However, Cameron was replaced as chairman in December 1935 before the project's completion.

T.P. Strickland – M&MTB Chief Engineer

The Board's chief engineer, [T.P. Strickland](#) (1875-1955), was born in Sydney where he graduated with an engineering degree in 1897. He then completed a Masters degree in Canada and returned to Australia in 1902, taking up employment with the NSW Government Railways and Tramways Department. In 1921 he was appointed M&MTB's chief engineer, retaining this position until 1938 when he resigned from the Board due to ill health.

Strickland's role included designing the Board's [General Scheme](#) – the plan for conversion of the cable tram system and expansion of the electric network. His role also included the design of a new tramcar for Melbourne, the W class, which he would develop and refine over the next 15 years.

Depot location

Strickland first investigated potential depot sites in North Coburg. Such a location would reduce the depot's construction timeline as work could proceed independently of cable tram operations. It would also reduce the regular shunting of trams near Moreland Road, a major cause of traffic congestion.

Board minutes and newspapers of that year do not provide information on the prospective North Coburg locations, but the 1935 Sands and McDougall Directory of Victoria shows undeveloped blocks of land south of the Bakers Road terminus near Fame and Ida Streets.



T.P. Strickland (1875-1955), M&MTB Chief Engineer. Photograph from the collection of Robert Green.

Nevertheless, after submitting details of alternative sites to the Board in September 1934, Strickland recommended the site of the existing Brunswick car house. (Note that 'car house' was the commonly used term for a cable tram depot.)

The Board accepted Strickland's recommendation. Rebuilding on this site would reduce 'dead running' (operating without passengers) and better suit the depot's future role of operating 'other lines in the district' – a reference that appeared in the Board's 1936 annual report. This may have foreshadowed the future closure of the Coburg Depot in 1952 or a connection to the West Coburg line via Moreland Road, which was an option canvassed at the time.

Alan G. Monsborough – tramway architect

The Board's chief architect, [Alan G. Monsborough](#) (1888-1938), was a man of extensive architectural experience. Born in Ballarat, he moved with his parents to South Africa where his father had served with the Victorian Mounted Rifles during the Boer War. He studied architecture and married there, returning to Victoria in 1914.

In the early 1920s, Monsborough took up a post in the M&MTB Architect's Department, becoming the chief architect in 1926. He retained this position until his sudden death in 1938. Among the long list of his design works for the M&MTB are the Preston Workshops (1924-28), Glen Huntly Depot (1924), Hanna Street Depot (1925, renamed South Melbourne in 1960), the second car shed at Malvern Depot (1929), Camberwell Depot (1930) and the M&MTB head office (1938).

Car shed design

With the decision to locate the new depot on the existing car house site, the depot's design needed to address motor traffic congestion caused by tram movements. The M&MTB's solution was to remove direct tram access from Sydney Road and replace it with a 'loop line' (as it was described) along Moreland Road and Cameron Street to the rear of the depot.

The car shed would hold 72 tramcars over nine roads (storage tracks), many more than the 40 cars needed for the new Sydney Road electric line, allowing space for additional trams to operate other lines.

Monsborough set about his design. Inside the shed, the nine parallel roads would be constructed on a steel framework above the floor, permitting free access for the servicing of underfloor motors and equipment. The shed would also house a wheel grinder, workshop and staff amenities.

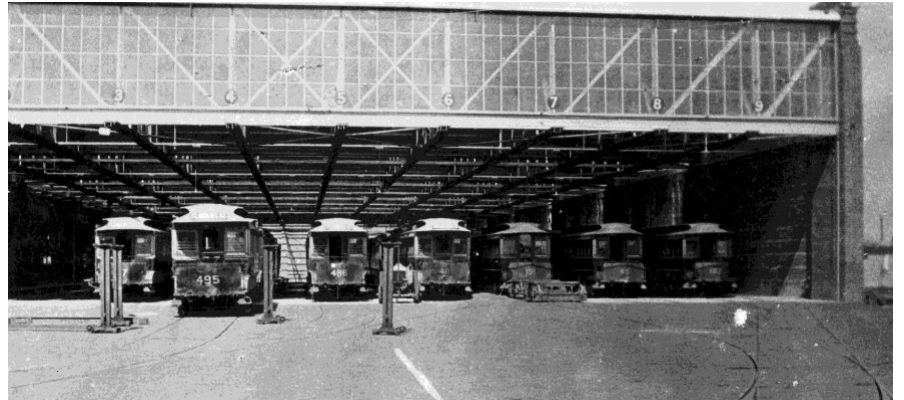
The shed's west facing sawtooth roof with skylights and its open western end would provide generous natural light. A wide-span roof would remove the need for internal pillars. This was a design similar to the sheds built at Malvern and Camberwell Depots.



Alan G. Monsborough (1888-1938), M&MTB chief architect. Official M&MTB photograph.

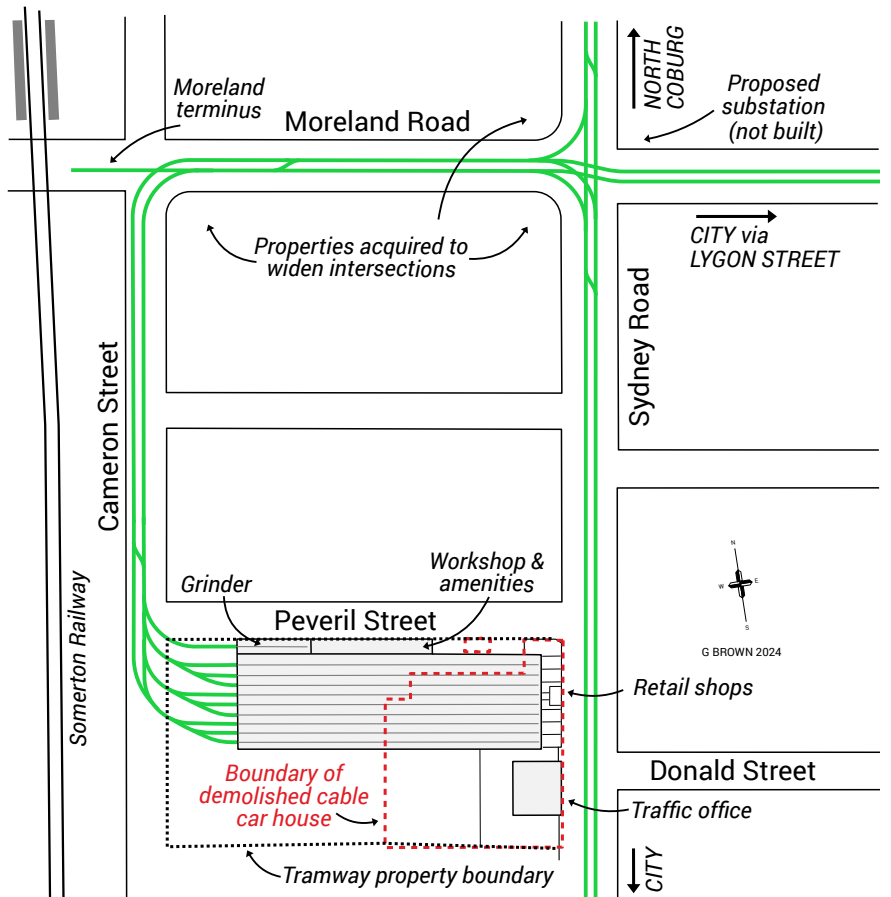
The new Brunswick car shed prior to the opening of the electric line (late 1935). Note the many cable tram bogie cars awaiting disposal before delivery of the new W5 class electric trams.

Photograph by Wal Jack, in the collection of the Melbourne Tram Museum.



Tenders were let in May 1935 and the contract awarded to B.F. Vorweg, a regular contractor to the M&MTB. Vorweg's work included extensions to Malvern Depot (1929), Camberwell Depot (1930), the signal box at the Franklin Street junction and buildings at Preston Workshops – all works designed by Monsborough.

Brunswick Depot & loop line
end of April 1936



Plan of Brunswick Depot and new 'loop line' (1936). Note the placement of part of the depot fan in the public street. Illustration by Geoff Brown based on M&MTB drawings and written records.



Brunswick Depot car shed showing approximately 30 new W5 class trams on Roads 1, 2, 3 and 5, and several single truck cars on Road 9 (late 1930s).

Photograph by Wal Jack, in the collection of the Melbourne Tram Museum.

The undeveloped space at the rear of the cable car house had been used as a storage site for track building materials. Preparatory construction works began here in September 1935. Soon part of the car house was dismantled while the cable trams continued to operate. Board minutes from 14 November 1935 noted that cable tram staff were being temporarily accommodated in offices in the new shed.

Traffic office and shops

Monsborough's traffic office drawings, which proposed a 15 foot (4.5 metre) setback from the Sydney Road property boundary, were accepted by the Board in August 1935. A later change relocated it to the property line. Tenders were let in November with B.F. Vorwerg again being the successful tenderer. Construction commenced after the full closure of the cable line on 11 January 1936 and the demolition of the remaining section of the car house.

The traffic office design included a distinctive brick and cement rendered facade facing Sydney Road – a feature unique to Brunswick Depot. The ground floor accommodated the revenue and other offices while the mess room and lockers for traffic staff were on the upper floor. Pedestrian entrances for staff and the public were located on Sydney Road.

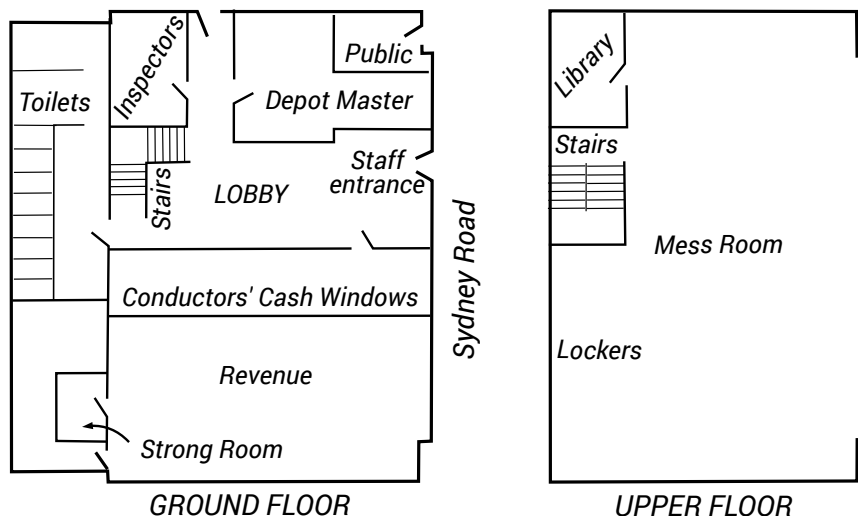
Adjacent to the traffic office and abutting the rear of the tram shed, Monsborough's design included seven retail shops that would be a source of rental income and harmonise with the rows of shop fronts along Sydney Road. Retail premises were also a feature of the Kew Depot, designed by architect [Leonard Flannagan](#) two decades earlier for the Prahran and Malvern Tramways Trust. Construction commenced in January 1936.

Loop line

Integral to the new depot were the 'loop line' and the track junction at the Sydney Road and Moreland Road intersection. A late addition was the terminus shunt at the nearby railway gates. Strickland's engineering staff were responsible for designing these works.



Brunswick traffic office and internal layout, c1936. Official M&MTB photograph. Plans drawn by Geoff Brown based on M&MTB drawings and written records.



First, authorisation was required from the Governor-in-Council to construct a tramway along roads that previously had none. Then consent was required from local municipalities for the necessary roadworks and properties purchased for road widening at two intersections.

During these negotiations, the loop line and track junction drawings were prepared. The junction would consist of a double-track crossing with a single-track curve from west to north and double-track curves from west to south. Crossovers would be located north, south and west of the junction.

The contract for these works was awarded to E.H. Carr as part of his overall tender to convert the North Melbourne and Brunswick cable lines. Construction of the tracks along Cameron Street and Moreland Road commenced in September 1935. However, installation of the junction was delayed until late March 1936 and coincided with the completion of track construction in Sydney Road.

The junction was assembled at Hanna Street Depot (renamed South Melbourne Depot in 1960) and installed in sections over successive Sunday mornings. In the months before its installation, a temporary single track was built across Sydney Road to connect the tracks in Moreland Road and enable rolling stock transfers to the new depot.

A tramway substation was proposed for the northeast corner of the junction but was not constructed. Instead a substation built at the rear of the Brunswick Road cable car engine house in 1925 was reassigned to provide power to sections of the new Sydney Road line. Since 1925 it had powered the West Coburg line, being replaced by the new West Brunswick substation in 1936.

W5 class 762 at the Moreland Road junction bound for North Coburg (c1965). Note the widened corner and curved tracks used by trams running-in and out of Brunswick Depot.

Photograph from the David Featherstone collection, Tramway Museum Society of Victoria.



Ongoing congestion

Traffic congestion had been a regular feature of Sydney Road, Brunswick for many years due to the increasing number of private and commercial vehicles and cable trams. This was exacerbated in early 1936 by the tramway conversion works.

Once completed, however, two long standing causes of congestion near Moreland Road had been removed. The cable trams no longer ran-in to the car house or queued south of Moreland Road, and the St Kilda Beach trams no longer rounded the narrow corner to and from North Coburg but terminated in Moreland Road at the railway gates (route 15).

Unfortunately two new tram movements became causes of congestion. One was the regular termination of every third tram at Moreland Road. These cars then used the crossover north of the junction to return to the city. The resulting noise, traffic congestion and delays to Coburg-bound trams became a major complaint of local business owners and the Coburg City Council. Automatic traffic signals did not operate at this intersection until at least the mid-1940s.

For several years, this timetable pattern operated both at peak and inter-peak times. The scheduled peak-hour frequency from the city to Moreland Road (route 18) was less than two minutes, to Bell Street (route 20) approximately three minutes and to North Coburg (route 19) five minutes. Inter-peak frequencies were twice as long.

The other cause of congestion was the running-in of trams to the depot from a northern terminus. The absence of a north to west curve meant these trams used the track crossover south of the junction. Trams reversed into oncoming traffic while moving to the northbound track, then delayed traffic while rounding the curve into Moreland Road. The longest delays occurred in the evening peak. This working continued until a second north to west curve was added in 1982.

Poster displayed inside electric trams and on temporary bus services announcing the imminent opening of the new electric line and the changes to tram routes and numbers.

From the collection of the Melbourne Tram Museum.

Melbourne & Metropolitan Tramways Board

NOTICE TO PASSENGERS

BRUNSWICK CONVERSION

Re-Routing of NTH. COBURG SERVICE

On SUNDAY, 26th APRIL 1936, the temporary bus service between Park Street, and Moreland Road, will be withdrawn, and the North Coburg Electric Service will be routed direct to Flinders St., via Sydney Rd., and Elizabeth St.

On the same date, the Lygon Street-Moreland Road, section of the present North Coburg service, will terminate at the East Side of the Moreland Road Railway Level Crossing. This service will run to St. Kilda Beach via Moreland Rd., Lygon St., Elgin St., Swanston St., and the City

ROUTE NUMBERS WILL BE

MORELAND AND ST. KILDA BEACH	-	-	15
ST. KILDA BEACH AND CITY	-	-	16
BRUNSWICK AND CITY	(via Elizabeth St.)		18
NORTH COBURG AND CITY	"	"	19
COBURG AND CITY	"	"	20

Transfers will be available to passengers changing to or from the Moreland Road, and North Coburg cars at the intersection of Moreland and Sydney Roads.

Workmen's Fares will not be available on the Brunswick Electric Cars.

20th April, 1936

A. D. MURDOCH, Manager

Intersection of Cameron Street and Moreland Road looking west at the closed railway gates (c1960). From April 1936, Moreland to St Kilda Beach (route 15) trams terminated on the single spur in front of the gates and used the crossover located behind the camera to cross to the inbound track.

In 1957 the terminus was relocated to Cameron Street with this spur remaining disused then removed many years later.

Photograph courtesy Public Records Office Victoria.



W5 class trams

Cameron's initial announcement in June 1934 included the decision to construct 40 new tramcars to operate the line. The Board's W class trams, designed by chief engineer T. P. Strickland, had proven successful. The first had entered service in 1923, and over 400 had been constructed by 1930. With the onset of the economic depression in that year, tramcar production slowed but tramcar development continued.

During the early 1930s, the mixed timber and steel frame of the earlier W through to W2 classes was replaced by an all-steel frame in the subsequent W3, W4 and CW5 classes. This was lighter in weight, cheaper to construct and the trams consumed less electrical power. But these classes also used recycled components from scrapped tramcars with poor results. The subsequent W5 class brought improvements, as Russell Jones explained:

The W5 car was a synthesis of the best features of the W3, W4 and CW5 designs, producing a highly successful type that would eventually number 125 tramcars [with the conversion of the five CW5 class cars in 1956]. It also formed the basis of the follow-on SW5, SW6, W6 and W7 class trams, which continued to be built until 1956.

[from [T.P. Strickland: designer of the W Class tram](#)]

Strickland submitted the W5 class drawings to the Board in August 1934 and early work commenced at Preston Workshops by the end of that year. The number of workshop staff was increased by 150 and by mid-1935, new trams were leaving the workshop at the rate of one per week.

The W5 class tramcar then became the mainstay of the North Coburg and Essendon lines operating along Elizabeth Street. Depot allocation cards from the following decades show that over 80 of the 125 W5s were allocated to Brunswick and Essendon Depots. As many were fitted with controllers built by Clyde Engineering NSW, traffic staff dubbed them 'Clydes'.

As at	Depot	Total cars	W2	W3	W5	SW6	Older bogie cars	Single truck cars
June 1938	Brunswick	71	–	–	58	–	5	8
	Coburg	37	35	–	–	–	–	2
July 1952	Brunswick	81	2	4	40	19	1	15
	Coburg	38	21	4	4	9	–	–
January 1953	Brunswick	98	21	8	44	21	–	4
	Coburg	7	–	–	–	7	–	–

Number of cars allocated to Brunswick and Coburg Depots in 1938, 1952 and 1953. Until the end of 1952, Coburg Depot operated the East Coburg and Moreland lines jointly with Hanna Street Depot. From that date, Coburg operations were transferred to Brunswick Depot as reflected in the car allocations.

Source: Don Storey's depot allocation sheets.

Alexander Cameron (1864-1940), solicitor and councillor of the City of Malvern, sole Chairman of the Prahran and Malvern Tramways Trust (1908-1919) and founding Chairman of the Melbourne and Metropolitan Tramways Board (1919-1935).

Photograph from the collection of the Melbourne Tram Museum.



End of an era

Chairman Alexander Cameron was a guiding hand in the Sydney Road conversion and the construction of Brunswick Depot. He reasoned that the Brunswick cable line's high patronage would transfer to the new electric line and ensure its financial viability. History vindicated his judgement with the North Coburg line becoming the busiest on the Melbourne electric tram network for many decades.

However, Cameron did not oversee the completion of the project. In December 1935, the State Cabinet surprised him by announcing his retirement. After being appointed for a five-year term in 1919, he had been reappointed annually since 1924. Cameron later said he learnt of the decision from *The Herald* in early December. The newspaper also named other Board members who would be retired and noted the government's policy of wanting 'young men' in government and semi-government executive positions.

After 16 years as M&MTB Chairman and 11 years as Chairman of the Prahran and Malvern Tramways Trust prior to that, Cameron was replaced by fellow Board member [Hector H. Bell](#). Cameron's retirement and the retirement of three other members marked a generational change for the seven-member Board, as all four were foundation members.

The political context was that Victoria had experienced eight changes of minority government and seven premiers over the previous 11 years. In April 1935, Premier Albert Dunstan (1882-1950) established a minority Country Party government with the support of the Labor Party. As Victoria moved out of the depression years, Dunstan made some welcomed early reforms such as the 1936 'Recovery Budget'. But in the longer term, he was focussed on staying in government and the needs of his party's rural base. Apart from five days in 1943, he was premier for the next ten and a half years.

Cameron was aged 71 at the time of his forced retirement. He lived another four years and was survived by his wife Mary.

	Cost
New depot	£57,520
Permanent way	£176,746
Overhead	£14,500
Sub station	£18,000
New trams	£124,600
Total	£391,366

W5 class 801 on the grinder road at Brunswick Depot (1954). Brunswick cars regularly displayed 'Brunswick' when running-in to the depot from Coburg or North Coburg. This may explain the incorrect route number. The original 1936 destination rolls included 'Brunswick Depot' but this was omitted from later versions.

Photograph by Noel Reed, in the collection of Randall Wilson.

Final figures

In May 1936 as the conversion project neared completion, the Board provided a financial summary of its costs (at left). When works were completed two months later, the final figure was reported as approximately £400,000. The conversions employed 800 workers, playing a part in stimulating Melbourne's depressed economy.

Cameron Street, Brunswick

Given Alexander Cameron's major role in the development of Melbourne's electric tram network, some have wondered if Cameron Street, Brunswick at the rear of the depot was named in his honour.

This is not the case. Cameron Street was named several decades earlier in recognition of a notable early settler. By a quirk of history, he shared the same name as the M&MTB's first chairman.

Alexander Cameron (1810-1881) lived in Moreland Hall, a large bluestone house west of today's Moreland Railway Station. Cameron Street, Brunswick then appeared on real estate plans and in the Sands and McDougall Melbourne and Suburban Directory from 1890.





The rear of the Brunswick Depot car shed at the corner of Peveril and Cameron Streets (September 2020). Note the equipment permanently located in front of the decommissioned grinder shed, the security fence and gates and the relocated yellow and black number '2' on the shed above the tracks. Road '1' was removed in 2005.

Photograph by Mal Rowe.

Depot modifications

Since its construction, Brunswick Depot has undergone several modifications, with further upgrades planned.

- With the employment of conductresses across the network from 1941, female amenities and a canteen were added to the traffic office.
- In late 1952, Coburg Depot traffic operations were transferred to Brunswick Depot, requiring further alteration to staff amenities, the canteen and library. An extra road was added outside the southern wall of the car shed to accommodate extra trams.
- A car wash was added in 1958.
- In 1988, an unsuccessful proposal to convert the Upfield railway line to light rail also proposed changes to Brunswick Depot. The light rail proposal was abandoned, as explained in [Upfield Light Rail: A Flawed Proposal](#) in the December 2020 edition of *The Bellcord*.
- The removal of conductors from trams by 1998 made the revenue office redundant, permitting internal renovations.
- In 2005, new maintenance equipment was added and one internal road removed. The grinder machinery was decommissioned, the track fan renewed and a second outdoor road added south of the shed. Tram wash equipment was installed then subsequently removed.
- In 2022, [plans for a future depot upgrade](#) were published for comment with the project expected to be completed by 2026. The proposal includes extensions to the depot's administration and maintenance facilities, an additional siding in Cameron Street for a new terminus and an accessible tram stop.
- Also included in these latest plans is the relocation of the staff car park to the former railway reserve. This will permit an increase in tram stabling capacity from 49 to 64 cars and a new run-out track from the depot directly into Sydney Road. The latter was a feature of the cable car house until 1936, abandoned in favour of a 'loop line' to the depot's rear entrance.



W5 class 799 on Sydney Road outside the Brunswick Depot (July 1969). The damaged road surface reveals the wooden blocks that formed part of the run-out track from the cable car house until 1936.

Photograph by Mal Rowe.

As the suburb of Brunswick remains a popular place to live and recreate, it appears that the future of Sydney Road's electric tramway is assured – and that its tram fleet will continue to be stabled on the depot site purchased by the cable tram company nearly 140 years ago.

Geoff Brown

Acknowledgements

My thanks for the valuable advice and assistance from Warren Doubleday, Robert Green, Noelle Jones, Mal Rowe, Kevin Taig and Brian Weedon.

Thanks also to the resources available at Australian Dictionary of Biography, Merri-bek City Council, National Library of Australia (Trove), Public Record Office Victoria, State Library Victoria and the Melbourne Tram Museum.



Why W?

A common question that visitors to our museum ask is 'why are Melbourne's celebrated trams called W class?'

The reason predates the formation of the Melbourne & Metropolitan Tramways Board (M&MTB) over the period from 1919 to 1922, when eight separate tramway operators – two cable operators and six electric – were combined into a single entity.

The fleet established by Melbourne's original cable tram operator – the Melbourne Tramway and Omnibus Company (MTOC) – was highly standardised, with just two types of dummies (or grips) and three types of trailers. These were built by the company, based on the design of its first twenty trams which had been imported from the United States.

The single cable tram line that had been operated by the Northcote City Council largely used the same vehicle types, either built to order or purchased second-hand from MTOC.

By 1924-25, the M&MTB cable tram fleet comprised 592 dummies and over 600 trailers.

Having a large and highly standardised fleet of cable trams had substantial advantages, such as interchangeability of spare parts and operational flexibility, allowing transfer of trams between depots to meet changing traffic patterns without requiring staff retraining.

This was definitely not the situation for the electric trams of the M&MTB.

The various municipal tramway trusts had acquired electric trams based on immediate needs, focusing on small batches of vehicles from several manufacturers to a variety of different designs, using different motors and braking systems. By the end of 1922 the M&MTB had 21 different electric tram types in service, comprising 216 vehicles in total.

Above: W Class trams 274 and 386 at St Kilda Junction during the 1925-26 works to convert the St Kilda Road cable tram routes to electric traction.

Photograph from the collection of the Melbourne Tram Museum.



The class letters on the side of Sydney P class No 1497 at Sydney Tramway Museum. The classification of Sydney trams using a letter or combinations of letters started in 1905. Unlike the Sydney tramways, the M&MTB never marked its trams with the class letter.

Photograph by Dale Budd.

The class letters on the side of Sydney LP Class No 154 at Sydney Tramway Museum. The LP class originated from the rebuilding of the Sydney L class to a body style resembling the new Sydney P class between 1918 and 1930.

Photograph by Dale Budd.



This proliferation of tramcar types was problematic, as the prime driver behind the formation of the M&MTB was to expand the reach of Melbourne's electric tramways, and to convert the ageing cable tramways to electric traction. To achieve this in a cost-effective and timely manner would require the mass production of standard trams, to achieve the benefits of economies of scale.

Nevertheless the M&MTB needed a simple classification system to denote each tramcar type. This system would help to allocate trams to depots and routes, simplify training of traffic staff and provide a reliable method for managing technical drawings and spare parts.

Fortunately, the Chief Engineer of the M&MTB – [T.P. Strickland](#) – had experience of such a system, bringing 19 years of prior experience with the Sydney tramways before joining the M&MTB in October 1921.

The Sydney tramways introduced classification of tram types by letter codes in 1905. Steam tram rolling stock used 'A' and 'B', while classification of electric trams began with the letter 'C'. The class of electric trams was painted on sides of the Sydney tramcars below the number, clearly indicating the tram class for staff and the public. Sydney electric trams also had cast plates displaying the letter code for the tram's allocated depot.

In 1923, the M&MTB introduced classification of electric trams by letter code, beginning with 'A' and ending with 'V'. The letter 'I' was skipped, presumably to avoid confusion with the number '1'.

The electric tram system at this time was managed in two divisions. Trams allocated to the Eastern Division were numbered from 1 to 150, while trams allocated to the Northern Division were numbered from 151 to 216.

When the first two prototypes of the M&MTB's new standard drop centre bogie trams entered service in December 1923 the next letter in the class sequence was 'W' – thus the W class was born. A total of 200 trams would be built to this initial design.

Subsequently the M&MTB started building variations on the basic W class design, each denoted by suffixing the class with a number: W1, W2, W3 and so on, until the final W7 class tram – number 1040 – rolled out of Preston Workshops in 1956.

This practice of classifying a total of 752 trams as simple variations of a single design enabled them to be known collectively as 'W class' – a vital ingredient in becoming the symbol of Melbourne.

Regarding the trams that came before the W class, the initial classifications were found to be too complex and difficult to remember. Thus in 1928 these classes were reduced from twenty-one to eight, grouping the trams together according to their basic body design.

Russell Jones



Trolley wheel alignment level – note the spirit level inset in the sight hole. From the collection of the Melbourne Tram Museum. Photographs by Warren Doubleday.

A mystery tool

The Melbourne Tram Museum recently received an unusual looking item, which appears to have seen a lot of use in its time. It is about 250mm in length, and consists of a large metal disk attached to a wooden handle. But what was its purpose?

The tool is a trolley wheel alignment level, which was used to check that the trolley wheel on an electric tramcar was truly vertical or plumb when fitted and attached to the trolley pole base. The trolley wheel housing, or harp, was secured to the pole itself.

To test that the wheel was vertical, the tool was slid alongside the wheel. Its spirit level bubble – contained in a small diameter glass tube – was then checked to see if it was within the marks on the glass tube. The glass tube has a slight upward curve, so that the bubble naturally rests in the centre, the highest point when held vertically. At slight inclinations the bubble travels away from the marked centre position. Unfortunately the glass tube in the museum's example has been damaged – the bubble has disappeared, together with the fluid, which was generally an alcohol.

If the side of the trolley wheel harp was not vertical, the wheel would tend to wear unevenly. In such a case it would not track properly through 'frog pans' (metal guides fitted to the overhead which ensure the trolley pole moves onto the correct wire when the tram is travelling over points) and would have a tendency to dewire (come off the overhead).

The three Victorian Provincial tramways – Ballarat, Bendigo and Geelong – also used trolley wheels for their operations. Ballarat Tramway Museum still uses trolley poles, although on some trams they have been replaced by trolley pole skids that use a graphite insert held in place by a specially made shoe or holder.



