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SYDNEY LIGHT RAIL OPENS WITH A BANG!

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AUSTRALIA'S TRAMWAY MUSEUM
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*An inbound tram arriving at the Haymarket stop in the
mall area outside Market City. The Entertainment
Centre monorail station can be seen at left.*

Bob Merchant

Front Cover:

*Sydney Light Rail's 2105 bursts through the wall in a shower of fireworks and polystyrene blocks as balloons
commence their skyward flight from behind the wall.*

Howard Clark

Back Page:

*Top: The Sydney Tramway Museum's C class 29 passes over Eddy Avenue to make a misty early morning arrival
at 'the Railway' on 31 August 1997.*

Howard Clark

*Bottom: Melbourne's restaurant trams at Southbank Depot. At left is car 939 in the newer, lighter colour, with cars
937 and 442 at right and in the background in the earlier darker shade and with lining.*

Keith Kings

SYDNEY LIGHT RAIL OPENS WITH A BANG!

Sydney's new light rail line was officially opened on Sunday, 31 August 1997. The opening celebrations were preceded by a 20-day shake-down period during which 40,000 passengers were carried in the first week.

C Car 29 on Display

The Sydney Tramway Museum's C class car 29 of 1898 was brought into a foggy city and arrived at the Railway Colonnade at 8:00am. The Museum was given permission to have a photo display and sales stand on

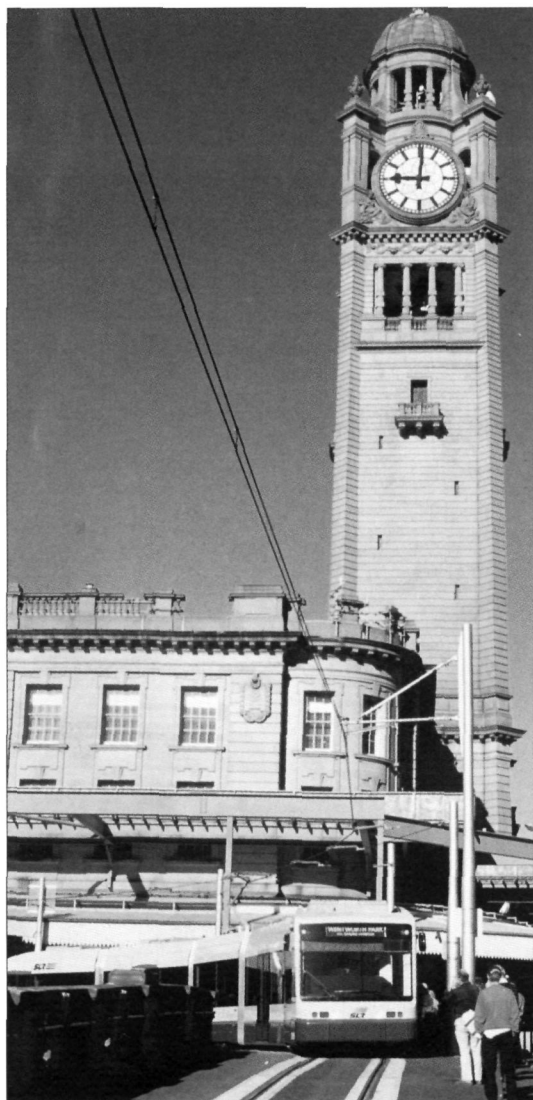
the colonnade and invited by the operators, TNT Transit Systems, who sponsored the move, to display the C class car as part of the light rail opening celebrations. C class cars inaugurated service on the tramway through the colonnade when the new railway terminal opened in 1906.

Car 29 had been loaded onto Portaslip's boat-moving trailer, fitted with a special 'rail' section and accompanying ramp constructed by Portaslip, at Loftus the previous morning and parked overnight in the museum grounds. The use of the ramp and special section enabled the car to be loaded and moved without using cranes. It is intended to reuse the ramp on future occasions when the Museum's scrubber car D class 134s returns to SLR trackage for scrubbing duties.

The restored car attracted much attention at 'the Railway' during the day and was returned to Loftus after the close of services for the day.

Two views of car 2105 departing the Railway Colonnade at 9:01am on 11 August 1997, the first day of the 20-day shakedown period.

Below: David Cooke; left: Bob Merchant





Early passers-by inspect the photographic display mounted by the Sydney Tramway Museum on the colonnade at Sydney Station before the free service started and the crowds gathered.

Howard Clark

Sydney Light Rail's LRV 2101 of 1997 shares the Railway Colonnade at Sydney Terminal Station with the Sydney Tramway Museum's C class 29 of 1898 on the opening day of the new tramway, Sunday, 31 August 1997.

Bob Merchant





Car 2105 stands behind the 'wall' across Hay Street. Red, white and blue balloons can be seen under nets beside the tram. Across the wall at the Haymarket stop, car 2106 prepares to move up to the Railway where it will be held until required to transport VIP guests after the launching ceremony. At left a monorail train in overall Casino advertising livery is arriving at Entertainment Centre station.

Bob Merchant

The Lead-Up

The opening ceremony took place in Hay Street on a pleasant Sydney winter's day in the open space between the Market City (Paddy's Markets) building on the southern side and the Sydney Entertainment Centre to the north. The light rail Haymarket stop is located in this area and seating for 350 guests was set up facing a stage in the open area to the north of the Haymarket stop.

Light rail vehicles 2107, 2103 and 2106 had been brought from the depot and parked in Hay Street, where they remained for some time before moving. Behind them, a polystyrene block and plywood wall was constructed across Hay Street, painted white and

emblazoned with a large red and blue SLR logo. Behind this construction, car 2105 with driver-trainer Dodie Buxton at the controls, was brought to a stand ready for its role in the opening ceremony. About 10:30am, cars 2107, 2103 and 2106 moved out of Hay Street bound for the Railway Colonnade. They did not stop at this location but were brought down to wait behind the Capitol Theatre until required.

The gathering crowd was entertained by roving entertainers, face painters and street performers, and by radio station 2WS, which was relaying the event live from its outside broadcasting van.

Members of Sydney's Chinese community played a role when, at 10:35am, two Chinese lions accompanied by musicians, pranced out from nearby Dixon Street in Chinatown and along the tramline, finishing opposite the VIP enclosure to bless the tracks and wish the new enterprise good luck and prosperity. Their finale was a long cannonade of very loud fireworks which produced a large cloud of smoke and applause from the assembled crowd. It brought back memories of the large penny bangers of childhood, now no longer sold to the public.

Invited guests met at the Sydney Light Rail's registration desk in the Quay Street Pavilion on the western side of Market City. At 11:00am the NSW Premier, Bob Carr and Transport Minister, Brian Langton were met by Rob Schwarzer, General Manager of the Sydney Light Rail Company, and introduced to members of the light rail consortium.

The Launch

At 11:20am the VIP guests were escorted to the VIP area to view the official proceedings.

Sydney's Town Crier, Graham Keating rang his bell to bring the crowd to attention at 11:28am and began his address, reminiscing of the tramway days of old and setting the scene for the launch of the new tramway.

Master of Ceremonies, Steve Blanda of radio 2WS introduced the speakers in turn: SLRC General Manager, Rob Schwarzer; Sydney Lord Mayor, Frank Sartor; Transport Minister, Brian Langton, and the Premier, Bob Carr. The Premier spoke enthusiastically of Sydney's new environmentally friendly transport system and the extensions which will follow. Steve Blanda thanked the speakers and asked the Premier to stay on stage to start the celebrations.



At 11:45am, the Town Crier walked up and down the tram stop ringing his bell to attract the attention of the crowd. It also signalled the arrival from Capitol Square of four rollerbladers (in-line skaters) in silver-grey outfits wearing LRV-style head-dress. The leading rollerblader carried a lever which was inserted in a specially prepared slot in a railway point lever-like apparatus positioned near the stage.

Cars 2107, 2103 and 2106 parked in Hay Street. At 10:30am these cars were moved to the Railway Colonnade, then brought down to behind the Capitol Theatre until needed to transport invited guests to their luncheon appointment after the launching ceremony.

Rob Schwarzer, General Manager of the Sydney Light Rail Company, addresses the crowd during the launch of the light rail system on 31 August 1997.

Both: Bob Merchant





Fireworks flare a mere second before 2105 bursts through the 'wall' to mark the opening of the light rail line.
Bill Parkinson



Car 2105 (above) bursts through the 'wall' in a cloud of smoke and scattering blocks to mark the opening of the light rail service. It happened very quickly and with little warning. Many photographers were not prepared or in the right position (below), and at least one cameraman, covering the event for New Zealand TV, missed this vital shot.

Above, John Burgess; below, Bob Merchant



On cue from the MC, the Premier pulled the lever and declared the light rail line open. This signalled the dropping each in turn of six banners bearing the SLR logo down the wall of the Market City building. As the last banner dropped, fireworks flared each side of the 'wall' across the rails in Hay Street, balloons rose into the sky and car 2105 burst through in a cascade of polystyrene blocks and clouds of smoke to draw up at the Haymarket stop.

Meanwhile, cars 2107, 2103 and 2106, which had been brought down from behind the Capitol Theatre, were each drawn forward at five minute intervals to the Haymarket stop to pick up the guests invited to attend the launch luncheon at the Sydney Convention Centre.

Car 2107 took VIP guests with white name tags directly to the Convention stop, while cars 2103 and 2106 took their VIP guests with red and blue coded name tags via Wentworth Park before returning to Convention.

By 12:30pm, car 2105 had moved forward and continued eastwards to the Railway to return ready for taking the first load of passengers to Wentworth Park. Free travel for the rest of the day until service ceased at 5:00pm had been offered and large numbers were expecting to ride. Car 2107, returning from its guest role, passed without stopping at Haymarket and continued to Railway Colonnade to commence moving the growing crowd gathering at that location.

The Launch Lunch

The lunch was hosted by TNT Transit Systems in the Harbourside Room of the Sydney Convention & Exhibition Centre. Guests were escorted to the pre-function area for pre-lunch drinks. They were entertained by a barbershop quartet before entering the Harbourside Room and being seated at reserved tables. Ron Ward, TNT Transit Systems general manager was host and master of ceremonies at the reception.

Guests enjoyed an entree of semi crusted coral trout and salmon with rocket and apple salsa. The main course was butterfly roasted spring chicken with tapenade, garlic and tomato fondue, followed by dessert of cheese and fruit platters, coffee, tea and chocolates.

Bill Pavletich, the Chairman of the SLRC, welcomed the Minister, guests and other officials.



Rob Schwarzer, General Manager of the SLRC thanked the guests for helping the SLRC celebrate such an historic occasion. He said it was a very proud day for the Company and its consortium and, most importantly, it was the start of a new era in public transport in Sydney.

Tony Harwood of AIDC Australia Project & Specialised Finance, who arranged the financial package for the consortium, said the consortium was proud to have planned, designed and built Sydney's

Car 2105, with two polystyrene blocks on the roof, waits for instructions at the Haymarket stop. Car 2107 has been brought forward from behind the Capitol Theatre and prepares to take VIP guests to their lunch venue at Convention.

Bob Merchant

Crowds wait to board a Railway-bound tram at Haymarket after the launching ceremony.

Bob Merchant





A crowded 2106 crosses Darling Drive on its way to Wentworth Park.

Bob Merchant

most modern urban passenger system which is on a par with the best in the world. Mr Harwood introduced the Minister for Transport, Brian Langton.

Brian Langton delivered the keynote address, in which he praised the consortium for its efforts in building the new system, and indicated the Government's support for the planned extensions. Mr Langton also foresaw a healthy extension of light rail to other parts of Sydney and welcomed the return of the trams to Sydney.

Bill Fitzgerald, Business Development Director of ABB, thanked the Minister and highlighted why the SLR is state of the art. He mentioned the features of the new vehicles, such as quietness, efficiency, accessibility and no emissions. In addition, they are made in Australia with 70% local content.

Tom Pinzone, Principal of GHD Transmark, wrapped up the proceedings by again thanking guests for helping to celebrate the return of trams to Sydney. He stated the consortium looks forward to continued

growth as people become more familiar with the destinations serviced by the SLR and as the Pyrmont peninsula continues to grow. He indicated confidence in an extended network providing the transport solution for an increasingly congested city.

A 3.6km Party

It was billed as a 3.6km party and at each of the ten stops on the line, entertainment was provided for intending passengers by bands and / or roving entertainers. Discount vouchers for local shops and tourist attractions were being handed out at many stops.

The large crowd, estimated at over 2,000, attending the opening took up the offer of free travel until services ceased at 5:00pm, and queued at the two Haymarket stops to join trams for travel in both directions. Trams were despatched with full seated loads to enable other intending passengers to join at other stops. Long queues were by this time assembling at the Railway Colonnade. At this latter point it was taking up to an hour to obtain a ride and all trams up to 3:15pm departed carrying full standing loads, having already picked up a full seated load at Haymarket. After this time, full seated loads only were carried from the Railway to enable passengers wishing to ride from other stops to at least be able to board and stand.

Arrival and departure times from the Railway Colonnade for the two hours from 1:30pm were:

Tram No.	Arrive	Depart
2107	1:34pm	1:37pm
2102	1:38	1:40
2103	1:41	1:42:30
2106	1:44	1:46:30
2101	1:49	1:52
2104	2:08	2:12
2105	2:40	2:43
2107	2:44:30	2:45:30
2102	2:49:30	2:53
2103	2:54	2:57:30
2106	3:10:30	3:16
2101	3:16:30	3:19
2104	3:27	3:32:30

The longest delays between departing cars were around 2:00pm when gaps in the service rose to 30 minutes. Queues were generally orderly and remarkably patient although TNT Transit staff at the city stops were forced to allow entry only by the front doors to prevent queue jumping and people being hurt in the rush to get aboard. Crush loads were experienced on all trams until the cessation of services at 5:00pm.

Crews were understandably very cautious when driving through the massed crowds at Haymarket, an area which requires caution on even the quietest day as



Tram 2106 swings onto Hay Street from the Railway ramp and approaches Pitt Street on its journey to Wentworth Park.
David Cooke

At street level and later in the day, car 2106 gets the 'T' light and takes the same curve onto Hay Street before crossing Pitt Street bound for Wentworth Park.
Bob Merchant





An LRV approaches the Pymont Bay stop from the tunnel under the Casino. This location will be completely enclosed by the Gateway building development taking place on this site. Bob Merchant

people wander out of Chinatown, Market City and Paddy's Markets. However, the running on the reserved track is also slow but this may improve as tram drivers gain operating experience.

According to the press, a 'second ticket machine' had to be installed at Railway Colonnade to cope with the demand. It was and continues (early October) to be a table manned at weekends by ticket sellers using a portable ticket validating machine. Answering intending passenger inquiries is also an important part of their duty at this major location.

Maintenance Contract

The contract to maintain the overhead wiring and track for the new light rail system has been won by the Metropolitan Infrastructure Maintenance division of the Railway Services Authority of NSW. The contract also includes a 24-hour emergency response plan for the system.

Maintenance over the 7.2 track kilometres will be carried out by the Central District field group based at

Eveleigh and Redfern with support from their engineering team at Homebush.

The maintenance contract continues the Railway Services Authority's involvement in the light rail project which began with the reconstruction of the ballasted track section of the line by their Mechanised Track Services group during the line's construction phase.

CBD and Inner West Extensions

Momentum is gathering for the extension of the system into the central business district via Pitt Street to Circular Quay and return via Castlereagh Street, and the extension west along the former goods railway from Wentworth Park to Catherine Street, Lilyfield.

The Government has given in-principle approval to the concept of the extensions and approved the commencement of the necessary planning approval process by the Department of Transport, including preparation of an Environmental Impact Statement (EIS). The Department of Transport has appointed Manidis Roberts Consultants to prepare the EIS.

The EIS will, amongst other things, state the objectives of the project, and consider the need and justification of the Central Sydney and Inner West light rail extensions, alternative modes and routes, the

environmental impact, social and economic impacts and suggest ways to mitigate negative impacts.

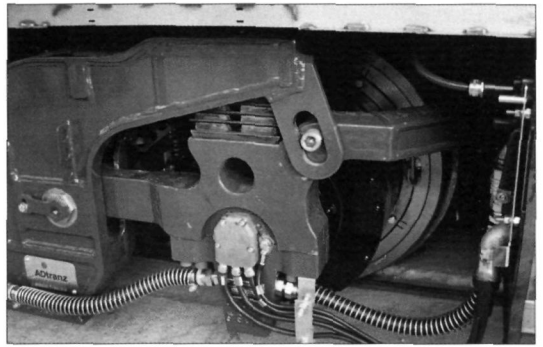
The first round of public meetings were held on Tuesday, 5 August, at Leichhardt Town Hall and on Thursday, 7 August, at the Wesley Mission Conference Centre in Pitt Street.

Extension Blueprint

It was announced on 1 October that a blueprint for a light rail network has been developed to serve Sydney's northern beaches, western suburbs and Sutherland shire, and to take modern trams to the tourist towns of Byron Bay and Casino on the NSW north coast, and to Shellharbour, south of Wollongong.

It is the first attempt of its type to assess the potential of light rail and a State Government-backed committee has short-listed 13 routes for investigation. The move comes after the environmental assessment of light rail extensions to Circular Quay and Lilyfield is due to be released for public consultation. Parramatta and the Sydney CBD are the hubs of the 70-kilometre network extending west to Penrith, north to Avalon and south to Sutherland and Miranda.

The draft strategy was prepared by the Public Transport Advisory Council (PTAC), the consumer



A wheel and hub motor on a Sydney light rail vehicle.

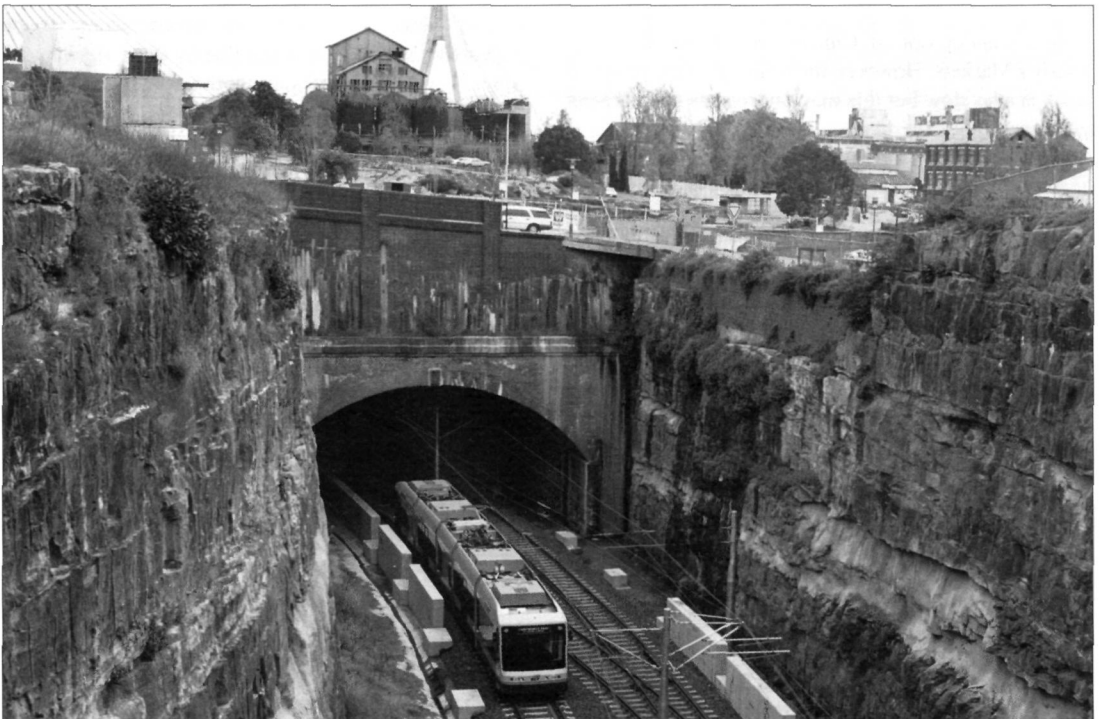
David Cooke

Opposite Page: Wentworth Park bound car 2102 is seen on the right-of-way beside the Powerhouse Museum. The building behind the wall in the background is the former Ultimo tram depot, now the Museum's workshop and store.

Bob Merchant

Below: An LRV approaches John Street Square along the former goods railway. These cuttings will eventually be covered over as redevelopment of the Pyrmont peninsula proceeds.

Bob Merchant





body established by the Minister for Transport, Mr Brian Langton, under the legislation which split the State Rail Authority of NSW into four separate authorities. The strategy was needed if public transport was to compete with the road lobby and is an attempt to put light rail on an equal footing for future planning.

The PTAC's final report is due to be completed by the end of November and would identify the routes which should be given funding priority, a time frame for development and how best to use the land.

The report supports light rail corridors around regional centres where there are missing links in public transport and spare capacity to serve areas where residential development is less compact.

Corridors with the greatest potential include:

- Parramatta to Blacktown via Winston Hills;
- Parramatta to North Ryde via Carlingford;
- Parramatta to Miranda via Homebush Bay, Wiley Park, Beverly Hills and Hurstville;
- Central Parramatta loop;
- Blacktown to Penrith via Plumpton and the former Australian Defence Industries site at St Marys, due for redevelopment;
- Sydney to Avalon via The Spit and Dee Why;
- Sydney to the University of NSW at Kensington;
- Bondi Junction to Pagewood via Randwick.

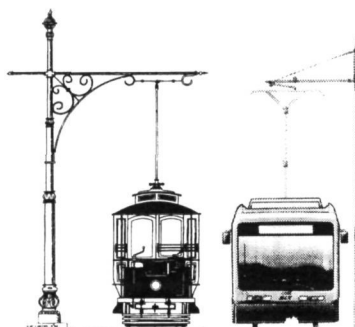
Other suburban corridors under consideration are:

- Parramatta to Hoxton Park;
- Parramatta to Sutherland via Bankstown;
- Bankstown to Wetherill Park via Fairfield;
- Burwood to Pagewood via Rockdale.

Ten regional plans were considered. Three warranted investigation, including links between:

- Shellharbour and Wollongong;
- Belmont and Newcastle University;
- Casino and Coolangatta via Lismore and Byron Bay.

It is assumed that this last proposal would utilise the existing railway between Casino and Murwillumbah in a 'joint use' situation.



VALE BALLARAT POWERHOUSE

By Alan Bradley and Richard Gilbert

The former tramway powerhouse on the corner of Wendouree Parade and Ripon Street, Ballarat was demolished in 1994. Its use as a powerhouse dates back to 1905, and it was used before that as a flour mill. The following article is a brief history of an industrial site that played an important role in Ballarat's development, as well as a tribute to a much neglected feature of tramway history - the local powerhouse.

Use as a Flour Mill

In April 1856 a Ballarat storekeeper, Hassell and his partner Monckton (who both operated the London Hotel in Ballarat) commenced the erection of a flour mill on land purchased on the south-east corner of Lake Wendouree, then known as Yuilles Swamp, along what would become known as Wendouree Parade. The site was close to what later became known as View Point. This was less than five years after the first Ballarat goldrush, and over 31 years before horse trams began running in the city. The lake was then still being used for Ballarat's water supply.

The mill chimney blew down in a gale during 1859, so a new chimney was built 98 feet high, then the tallest in the district, with 75,000 bricks and a base of bluestone blocks. At the same time a new bluestone building was erected for grain storage. The mill worked night and day, averaging 40 tons of flour per week. In 1864, Monckton and Hassell sold the mill to James Fry & Co., an owner of several flour mills in the Ballarat district and the Wimmera area of Victoria. The mill became known as Fry's Mill.

During the late 19th century, Wendouree Parade (the road that circled Lake Wendouree) was virtually an industrial area. As well as Fry's Mill, another flour mill was located opposite View Point, where Mill Street is now. There were several gold mines in the area, including one that mined under the lake. There were 13 hotels in Wendouree Parade (of which only one, the Lake View, is still trading today). Along the lake foreshore were seven boat builders, plus the boat sheds housing the paddle steamers that carried passengers on the lake. There were two quarries, one at View Point, the other further west where St Patrick's boat shed is now. On the north side of the lake was the horse tram depot. Wendouree Parade had more paddocks than

houses, and the Botanical Gardens Reserve had gates and fencing at both ends to keep out wandering livestock.

By 1892 Fry's Mill was owned by the Victorian Farmers' Loan & Agency Co. It was up for sale again in 1898, and was idle for the next few years. It was bought by W.C. Thomas in 1902, by which time the machinery was idle.

W.C. Thomas owned several Victorian flour mills, and had only recently purchased the City Roller Flour Mill in Armstrong Street, the only flour mill in Ballarat at the time. Thomas removed the machinery from the Wendouree Parade mill and closed it down, which was his usual tactic of eliminating competition. By 1904 the site had been sold to the Electric Supply Company of Victoria (ESCO).⁽¹⁾

Conversion to Powerhouse

The ESCo was a British company based in Liverpool (originally known as the British Insulated Wire Company) which set up its operations in Ballarat and Bendigo after 1899. The company purchased the Ballarat Tramway Co. Ltd, which operated the horse tram system, and the Ballarat Electric Supply Co., which had operated a small powerhouse in Dana Street since 1895. By the early years of the 20th century the 100 horsepower capacity of the Dana Street powerhouse was clearly inadequate to meet the city's needs.

The ESCo purchased the flour mill site, which was conveniently located next to the lake and the tramway line to the Botanical Gardens. Rebuilding work on the site commenced in June 1904. Quartz gravel from mining operations, along with other material was used to level the site. Parts of the bluestone wall from the mill were used in the new buildings.

On 23 August 1904, Ballarat Mayor, Councillor Pearse used an inscribed silver trowel to officially lay a foundation plaque at the site. Such was the perceived importance of the occasion that it was attended by members of the three local councils, (Ballarat (spelt with double 'a'), Ballarat East and Sebastopol), and VIPs from the Mining Exchange, Ballarat Water Commission and School of Mines. After the ceremony



The Wendouree Parade flour mill prior to its conversion for use as the ESCo powerhouse. The pin marks and captioning are typical of older museum display techniques.

Ballarat Gold Museum Collection

the guests retired to the Ballarat Town Hall for refreshments and a further round of speeches. Some impressive statistics were given: 450,000 bricks were to be used in the new structure, and the chimney would be Ballarat's tallest at 150 feet in height. The height of chimneys was obviously an important status symbol in those days.

Official Opening

Erection of buildings and fitting of machinery at the powerhouse was complete by mid-1905. On 18 August 1905, 250 official guests gathered at the powerhouse. The politically neutral opening ceremony was performed in triplicate, with new Ballarat Mayor Councillor Barker, Ballarat East Mayor Councillor Ellsworth, and the Minister for Mines Mr McLeod each turning on an engine. The guests then boarded horse trams and were taken around the lake to the tram depot. There they boarded decorated electric trams for a journey around the system, then to the customary round of toasts and speeches at the Ballarat Town Hall.

With the new powerhouse operational, the Dana Street powerhouse was no longer needed and was closed in 1906.

The speeches made at the official banquet predicted that trams would run every three minutes in Sturt Street, and that electric power would be supplied in bulk to the mines as happened in Britain. However, Ballarat's gold mining industry declined after 1906, and the city's last gold mine closed in 1918. Ballarat's population dropped by 10,000 over 20 years, so tramway patronage was not as high as expected, and initially few people used electricity in their homes. In 1912, seven years after opening, the ESCo's tramway and lighting departments in Ballarat and Bendigo made a combined loss of £3312.⁽²⁾

The powerhouse plant as first installed consisted of three direct current (DC) generating sets, driven by three Stirling boilers. The three generators, each of 450 horsepower, could generate 300 kilowatts, for a total capacity of 900 kilowatts. The engines worked at two pressures, 600 volts DC for the trams and 450 volts DC for lighting.

As well as the generating equipment and substation, the powerhouse site included the office building for the ESCo's headquarters of its 'colonial' operations in Ballarat and Bendigo where the company's General Managers, accountants and clerical staff were based.



There was a stable where several draught horses were maintained to pull the overhead tower wagon (which was wound up by hand to assist maintenance of the tramway overhead) and drays for tram track maintenance.

The Wendouree tram depot on the north side of the lake, which was converted from the former horse tram depot, was considered unsatisfactory. In 1910, plans were prepared for the building of an eight road depot at the powerhouse, but the proposal never made it beyond the drawing board. Probably the idea was vetoed by the English board of directors of the ESCo, which ruled its colonial operations from distant Liverpool.⁽³⁾ As a result the Wendouree depot continued in use for a further six decades.

It is interesting to note that the Melbourne Electric Supply Company constructed a combined powerhouse and tram depot at Geelong, while the ESCo's powerhouse at Bendigo was adjacent to the tram depot. In contrast to Ballarat, the depot and powerhouse at Bendigo were built at the same time in a brick construction of similar style, which gave the

Electric Supply Company car No.2 passing the powerhouse. The date is after 1912/13 as car 2 is fitted with windscreens and is thought to be circa 1920.

Harris House of Photography / BTMS Archives

appearance of one overall well-designed conglomerate of buildings.

Powerhouse Siding

In 1906 the ESCo purchased a sprinkler tram from the Brush Electric Company (UK), which was fitted with a water tank of approximately 2,000 gallons capacity to keep down the dust on the unsealed roads. The ESCo was reprimanded by the Ballarat Water Commission for taking water from fire plugs in the streets to fill the sprinkler's tanks, and told that it must take water from the metered pipe on the premises. Later in December 1906, the Commission allowed free use of water from the plugs, thus saving the Company £20 per year. The Ballarat Courier wondered why the company should be allowed "an unlimited quantity on

such liberal terms". In the meantime, a siding had been built from the tram track into the powerhouse yard, to enable the sprinkler to be filled from its water shaft.⁽⁴⁾ When Ballarat's streets were bitumen sealed during the 1910s, the sprinkler fell into disuse and was scrapped in 1925.

Much of the tramway maintenance and stores work, such as manufacture of cast iron brake blocks, turning of wheels on the lathe and motor repairs, was carried out at the powerhouse workshop. The finished product was loaded onto a flat trailer (built on a horse tram underframe) and towed to the Wendouree depot on the first available tram.

The last tram from the city every night ran via Macarthur Street into the powerhouse siding and was stored there overnight. The cash takings for the day

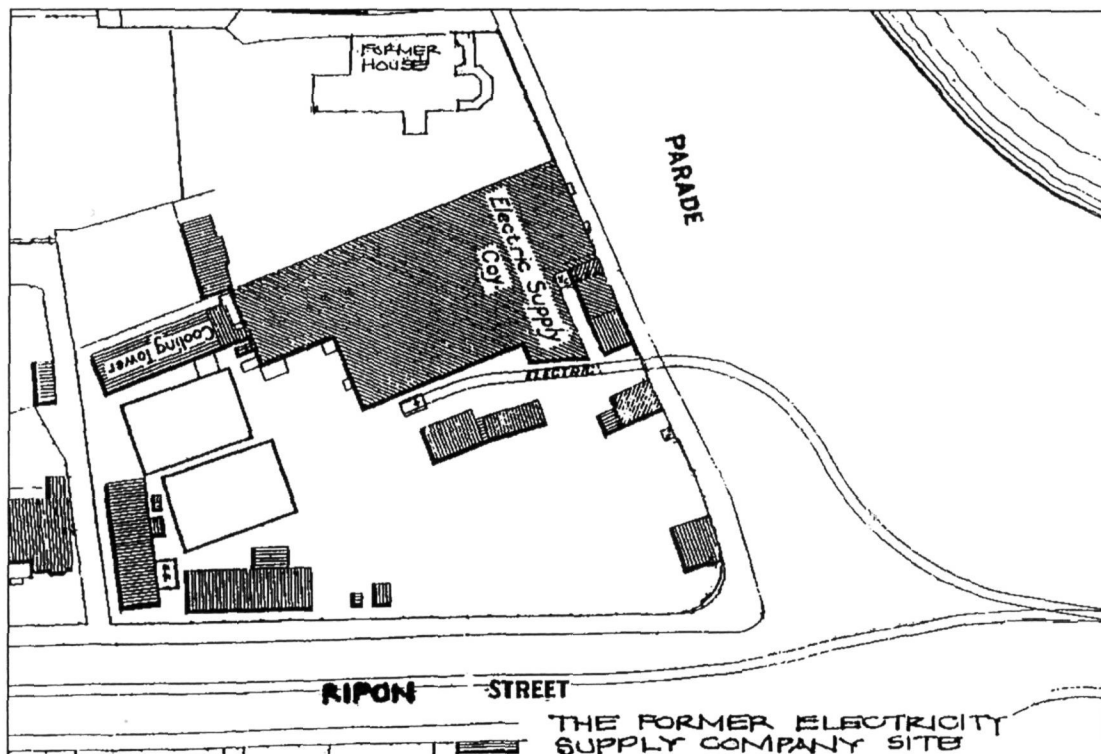
(which were paid into the traffic office in the large shelter at the bottom of Sturt Street) were taken on this tram and deposited in the safe at the ESCo office. The police expressed concern at this practice and its potential to attract armed hold-up. One night in July 1932, spikes were left on the track near the corner of Macarthur and Drummond Streets, apparently in an attempt to derail the tram and grab the money, but fortunately the motorman saw the spikes and stopped the tram safely.⁽⁵⁾

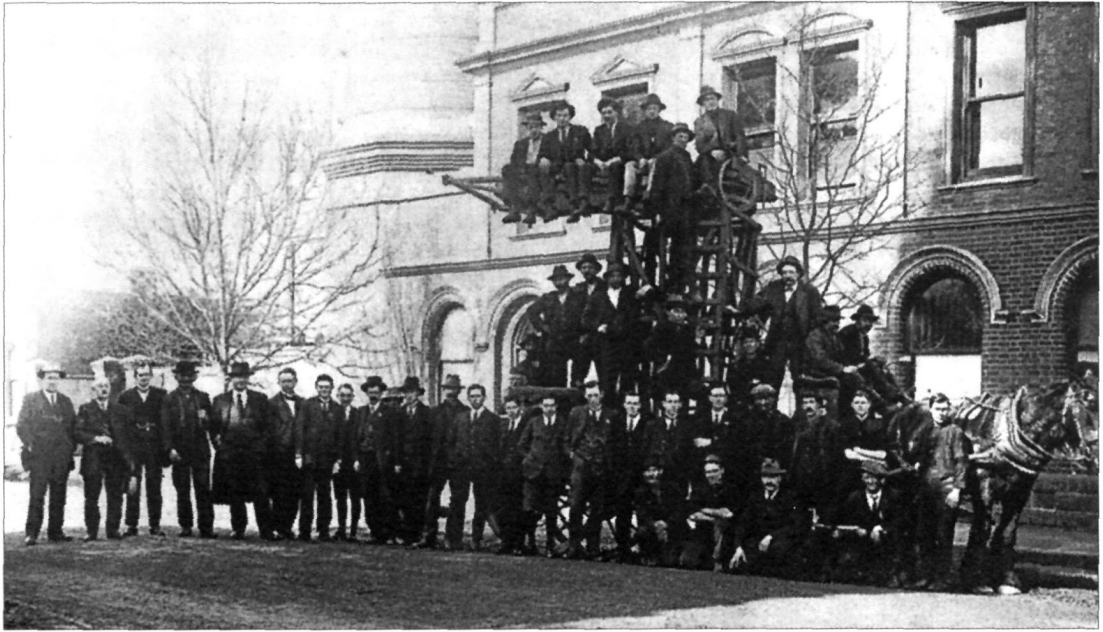
Upgrading to AC

In 1913, the year that electric trams and street lighting reached neighbouring Sebastopol, the original DC generators at the powerhouse had their capacity expanded from 900 kilowatts to 1200 kilowatts. However, by the early 1920s they could not cope with the increased demand for electric power. The DC mains could not carry the power over long distances, so effectively the system was confined to Ballarat and suburbs, and street lights were dimmed during periods of high load. Former powerhouse employee Alan Guye recalled:

"The DC current used to build up and get overheated, and the fuses became too hot. When

A site plan of the powerhouse in the ESCo days. The tramway 'main line' can be seen in Ripon Street and Wendouree Parade, along with the powerhouse siding. Lake Wendouree is visible in the top right-hand corner. The building marked "Electric Supply Coy" is the generator house, while along the street were the office building and chimney. The gatehouse is the small building below the tramway siding.





The Electric Supply Company's powerhouse crew with the overhead maintenance crew in front of the powerhouse in Wendouree Parade, circa 1906.

Alan Bradley Collection

the trams were all on, on a Friday night, which was shopping night, with the lights on as well, the lines couldn't carry the load. So the fuses became overheated, and a man used to have to stand by with a fan, a hand fan, and fan the fuses to keep them cool. Or otherwise they would have had to stop one or two trams to keep the rest going, because it was impossible to keep the load with the machinery they had."⁽⁶⁾

The solution was to install alternating current (AC) generators. Initially the ESCo was reluctant to do so, as its franchise expired in 1931, but by 1923 it was obvious the change had to be made. The newly-formed State Electricity Commission (SEC) offered to build transmission lines to Ballarat and Bendigo and sell LaTrobe Valley electricity to the ESCo, but the offer was refused.

Instead AC plant was purchased, in the form of two Brush Ljungstrom turbo-generators for Ballarat, and two for Bendigo. These generated 3300 kilowatts, compared to 1200 kilowatts with the old generators. These came into full operation in January 1925. Work then proceeded to change over the mains network to the AC system, a process that took many years.

The SEC Era

The SEC was formed in 1918 to generate electric power for a State-wide power scheme using brown coal deposits in the LaTrobe Valley, and to take over the operations of Victoria's private power companies. The ESCo's franchises in Ballarat and Bendigo expired in 1931, but the ESCo continued its operations under SEC supervision until 30 June 1934. The SEC took over formally from 1 July 1934 and began a major rebuilding of the tramway assets in both cities.

The powerhouse continued in operation but the SEC made some important changes. A money chute was installed at the SEC offices in Sturt Street (eliminating the need to carry money by tram to the powerhouse), and the workshops at the tram depot were upgraded. This allowed the powerhouse siding to be removed during the track relay of the mid 1930s. Buildings were erected on the Ripon Street frontage to house workshops, a storage room and garage for road vehicles; a brick fence was built on the perimeter; new cooling towers were built; and the administration offices were remodelled.

The horse-drawn overhead wagon continued in use until shortly after World War 2, but eventually its functions were taken over by road vehicles and the stables were closed. The road vehicles used for overhead maintenance (both power lines and tramway overhead) were stored at the powerhouse.

The SEC originally intended to connect Ballarat to the State scheme by 1931, but this was delayed by the depression, so power continued to be produced at the powerhouse. Bendigo was connected to the State scheme in 1935. The Bendigo powerhouse was closed in 1937 and the generators were transferred to Ballarat. In 1941 a guncotton factory (which made the explosive propellant for bullets and shells) was built near the stockyards to help the war effort, and the load was expected to overload the powerhouse's capacity. To ensure adequate power for the new factory, a 66,000 volt transmission line was built from Melbourne to connect Ballarat to the State scheme.

The powerhouse continued to operate in parallel with the supply of electricity from the transmission

line. The demand for electric power increased, but there were severe power restrictions in Victoria in the early 1950s. Ballarat 'B', a 'packaged power station' unit built in the USA - one of three such units installed in Victoria by the SEC to ease power restrictions - was installed and opened in 1953 at the corner of Creswick Road and Norman Street, Ballarat North. This newer and higher output power station allowed the ageing Wendouree Parade powerhouse (now known as Ballarat 'A') to be closed as a generating plant.

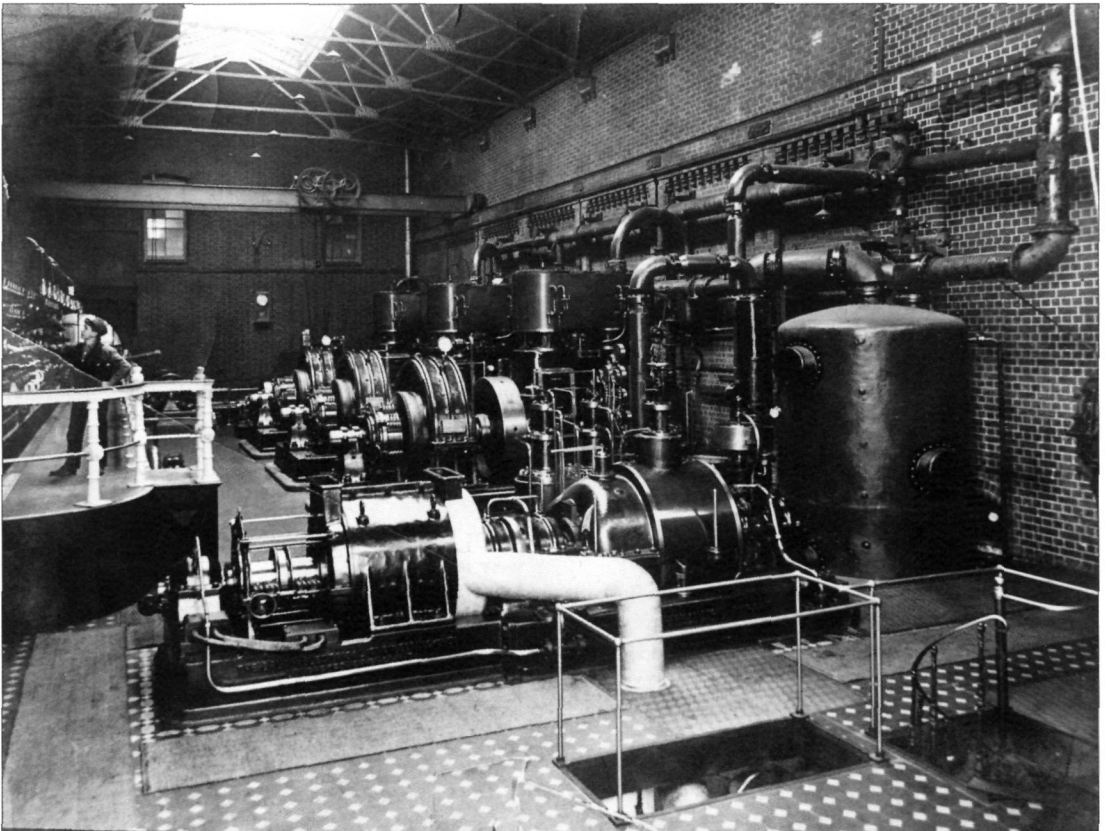
The tramway rotary converters were located at Ballarat 'A' powerhouse, and the entire infrastructure was kept in place to supply the tramway and run the town's DC plant after its closure as a generating plant. The tramway wiring was interlaced with the decommissioned generator wiring, so it was easier to 'let it be' until the tramways closed.

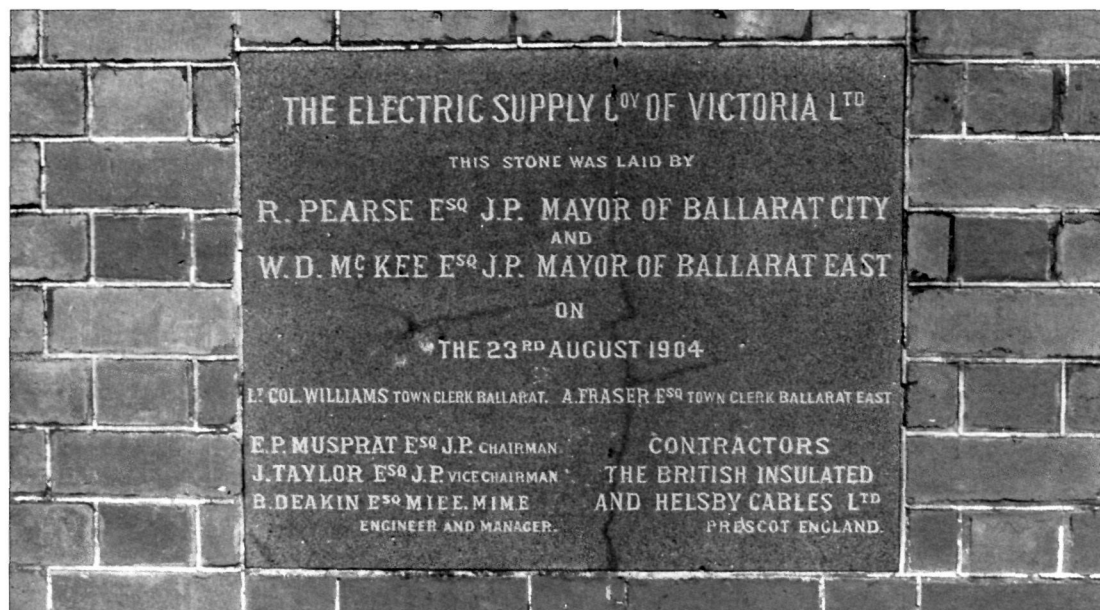
Increased Use of Electricity

In the early days of the EScO, the main daytime load came from the electric tramways, and the night load came from street lighting. Premiums were paid to the canvasser and meter reader for every new household

The interior of the generator house showing the DC generating equipment used prior to 1925. The machine in the foreground is a Brush DC generator.

Ballarat Gold Museum Collection





connected. There were many fears and prejudices to be overcome with this new form of energy, such as a commonly-held belief that electric light harmed eyesight, and some consumers insisted on leaving gas on in at least one room 'just in case'. The company obtained supporting statements from opticians, but 'word of mouth' from satisfied customers finally helped overcome the fears.⁽⁷⁾

During the ESCo era, the number of private consumers increased from 80 in 1905 to 6600 in 1934. By 1939 many households used electrical appliances, and the gauges and charts of the powerhouse showed that the peak demand for each week came when housewives were busy ironing a day's washing. If Monday (traditionally 'washing day') was fine then washing and ironing could be completed in one day, but if it was a poor drying day then the ironing was done on Tuesday instead. Dull weather increased the day-time calls for use of artificial lighting in shops and offices, and cold weather increased use of electric radiators and heating.⁽⁸⁾

Electric street lighting was first used in Ballarat during the 1890s, but in the early 1930s half of the city's street lighting was still gas. In 1932 the Ballarat City Council and the SEC negotiated the conversion of the remaining street lighting to electricity, a task which was completed in 1938.

Part of the SEC's brief was to bring electric power to rural communities. In 1931 the electric mains only

The 1904 foundation stone on the front wall of the powerhouse office building in November 1993.

Alan Bradley

extended to Sebastopol (at the end of one of the Ballarat electric tram routes), but ten years later another 17 townships had been connected, including Skipton, Daylesford, Clunes and Ballan. The task of bringing power to rural communities continued into the 1950s.

Working at the Powerhouse

The powerhouse was managed by the Resident Engineer, then a Foreman Electrical / Distribution and a Foreman Mechanical. Below them were switchboard attendants, firemen, engine drivers and trimmers, along with meter testing and repairs.

The boilers were manned 24 hours per day. They were initially fired by black coal, and later brown coal briquettes (taken by wagon from the Ballarat Railway Station). The steam that had been used in the generators went through cooling towers to be condensed back into hot water, which was then cooled to allow its re-use in the boilers.

Alan Guye worked on the boilers at the powerhouse in 1934, during the period when the SEC took over from the ESCo. He recalled that the work was hard,

shovelling briquettes from horse carts into the powerhouse, and then shovelling again into the stationary grates in the boilers (later replaced by automatic grates) - all done with wheelbarrow and shovel. Meanwhile, the water in the boilers was adjusted, and the ashman was busy removing the ashes. By 1950 the process had been further mechanised - motor trucks loaded the briquettes into a hopper, from where a conveyor belt took them to the furnaces.⁽⁹⁾

Tom Pringle, son of a former ESCo General Manager, worked at the powerhouse in the early 1930s, by which time the power need was lowest after dark. He recalled that the boilers were shut down at night as required and the generators worked on a lower power. Later the SEC introduced night water heating, which boosted power usage to overcome the problem of low night time loads.⁽¹⁰⁾

Alan Guye recalled an occasion when one of the ESCo's Board members from Liverpool visited the

powerhouse, while the men were on their lunch break. He was amazed to see "working men eating cake", which was apparently an uncommon sight in Britain - an illustration of the cultural divide between the 'absentee landlords' and their colonial workforce.⁽¹¹⁾

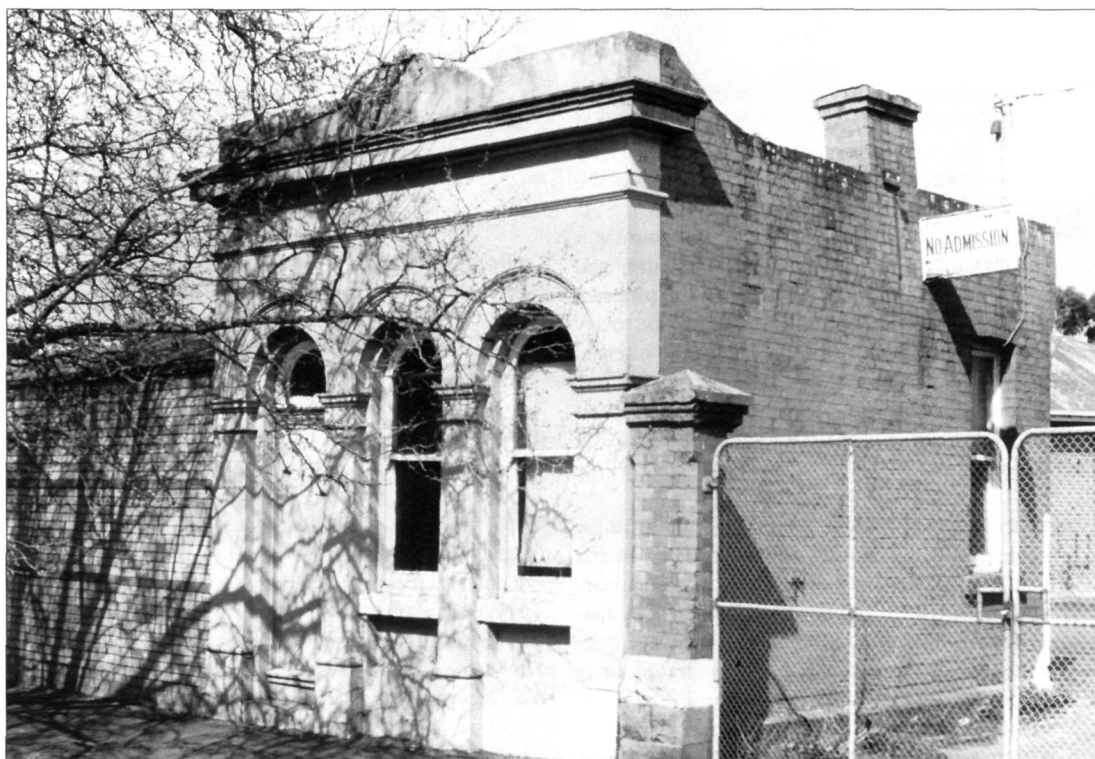
During the SEC era, several tram drivers who were caught driving trams while intoxicated were removed from tram driving and redeployed to 'other duties', usually at the powerhouse. This 'exile' in fact was regarded by the men more as a promotion than a demotion, as the powerhouse (with its views of the lake) was regarded a great place to work at, certainly preferable to working on the trams in all types of weather.

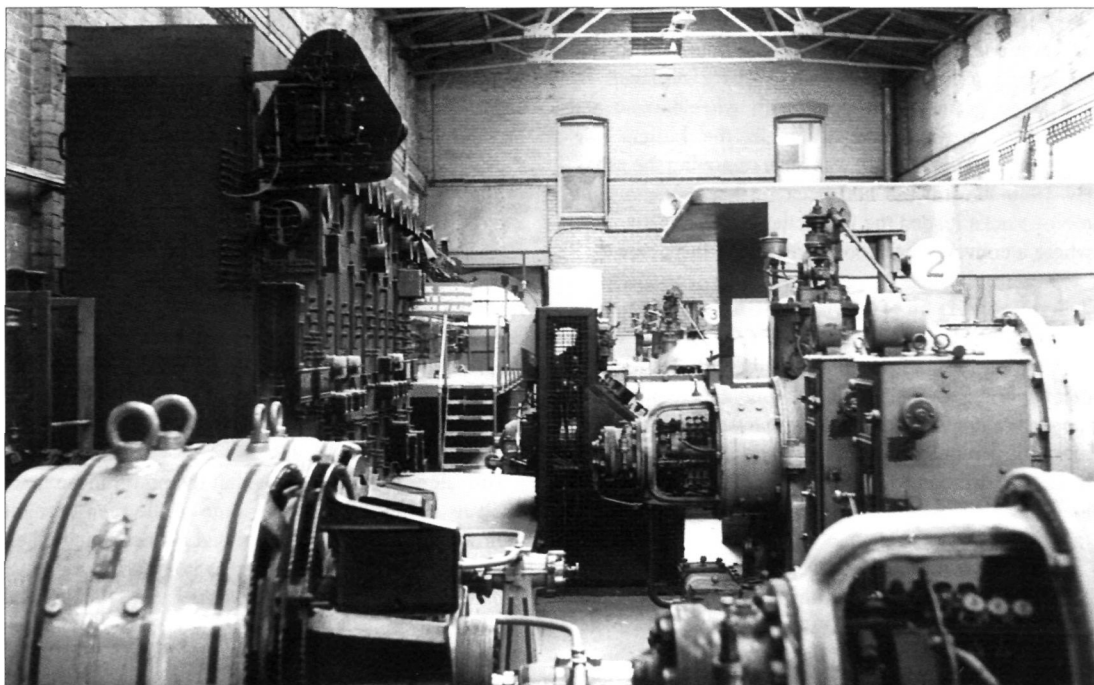
Bill Llewellyn, who worked at the powerhouse from 1950 to 1986, recalled that some of the men brought their lunch to work in small metal boxes, which when empty were just the right size to hold two briquettes! This was in the era when briquettes were widely used for home heating and cooking.⁽¹²⁾

Decline and Closure

Over the years Wendouree Parade had become a residential area for the wealthy, known locally as the

The gatehouse building at the powerhouse, November 1993. During the ESCo days the tramway siding entered the site through this gateway. Alan Bradley





'Toorak of Ballarat'. By the 1960s most of the old industry had gone, and the powerhouse was now out of place in such a neighbourhood. The large powerhouse chimney was demolished in 1964 'to improve the appearance of the residential area'.

Prior to the tramway closure in September 1971, the newly-formed Ballarat Tramway Preservation Society (BTPS) had received permission from the Ballarat City Council for a three-month trial tram service over the whole of the Wendouree Parade track, subject to SEC approval. But the SEC refused permission because it had planned to decommission the powerhouse, and wanted also to sell the tram depot site. The proposal for a three month trial lapsed and the generators, rotary converters, switchboard and other internal infrastructure of the powerhouse were sold. Part of the main distribution board was acquired by the BTPS and used in the construction of the distribution board at their depot.

After the tramway closure, the office building at the powerhouse still functioned as the SEC's District administrative offices, and the garage, store facilities and meters and testing workshop remained in use. During the late 1980s the SEC offices in Sturt Street, which previously housed the tramway office, were shifted to the office building on the Ballarat 'A' powerhouse site. In 1993 the Ballarat 'A' powerhouse site was closed and the SEC offices shifted to the land

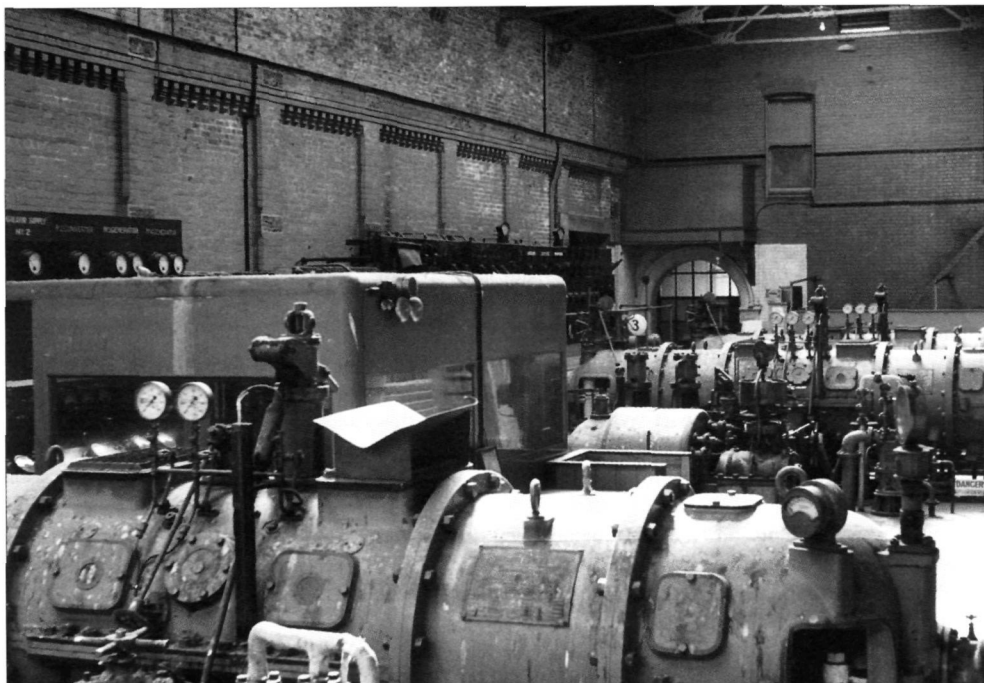
A 1971 view of the general clutter caused by the positioning of newer equipment inside a powerhouse designed in 1900. The tramway rotary converters are in the immediate foreground and some of the steam driven AC generators can be seen, numbered 2 and 3. The Shift Foreman's cabin is in the middle of the floor and the power distribution board is on the left.

Richard Gilbert

adjacent to the former Ballarat 'B' powerhouse. Effectively, this meant that consumers with queries about their power bill, who could once go to the city office, were gradually forced to travel further for service.

Demolition

In line with government policy on the sale of surplus land, the SEC decided to sell the Ballarat 'A' powerhouse site. A 1991 environmental assessment found that significant heavy metal contamination existed across the site. Mercury, lead and arsenic contamination was found, partly due to leakage from mercury batteries and paint spillage, and partly to the contaminated landfill previously used in gold mining activity. The basement of the now-empty generating house was found to be full of water. The report stated

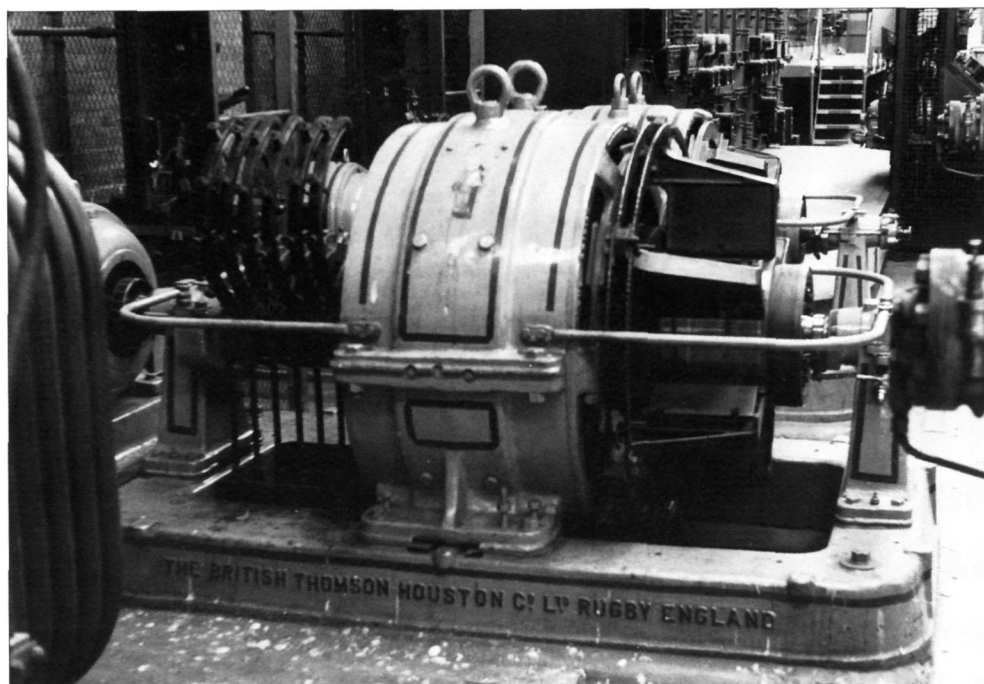


A view of the steam driven generators that once supplied the AC power for Ballarat. These machines had lain idle for many years after the opening of the Ballarat 'B' powerhouse. Nothing was dismantled as the tramway wiring was interlaced with the decommissioned generator wiring and was left 'as is' until the tramways closed.

Richard Gilbert

One of the British Thomson Houston tramway rotary converters in the Ballarat 'A' powerhouse.

Richard Gilbert



that to rezone the land for industrial or commercial use only a minor cleanup would be required, but to rezone to residential required an extensive cleanup costing at least \$400,000.⁽¹³⁾

The buildings on site were a hotchpotch resulting from years of additions and modifications, and none were subject to preservation orders or registered under the Historic Buildings Act 1981. The City of Ballarat's Heritage Advisory Service reported that the site and early buildings had a 'very high level of local/regional significance and possibly state significance' due to their connection with the city's electrification, and that their protection was 'highly desirable'. Recommended for preservation in whole or part were the generator house, office building, gate house, cast iron fence to the west, and brick fence along Ripon Street.⁽¹⁴⁾

However, everything on site was demolished in 1994. The old filling was dug up and new filling put in its place. The demolition did not lead to public protest, as the buildings and fencing were not attractive or significant enough to attract much interest. The BTPS requested that the 1904 foundation stone, which formed part of the front wall of the office building, be preserved in some way, and the SEC indicated that it was likely to be replaced on site as part of the redevelopment.

Houses have been built on the site, but there is no sign of the foundation stone. The SEC has been broken up and privatised, and naturally its local successor, Powercor, has no real interest in the former powerhouse site. Like the former tram depot site on the north side of the lake, there is no clue anywhere as to its former use.

There are a few mementoes of the early power supply era in Ballarat. In Webster Street the insulators and brackets used to carry the feeder cables from the 'A' powerhouse to the Drummond Street north tramline are still there on top of the poles. A junction box can still be seen in Sturt Street with the name of the Electric Supply Company on it. But the best memorial to the former Ballarat 'A' powerhouse is the substation at the Ballarat Tramway museum's depot.

The main distribution board for both the town power supply and the tramway supply in 1971. Most of this board was decommissioned when generation of the town supply ceased, but the entire apparatus was retained because the tramway supply was still operated through it. The tramway section is at the right hand end where the last four of the row of ammeters can be seen. This part of the board has been incorporated into the distribution board at the Ballarat Tramway Museum's depot.

Richard Gilbert





Demolition work at the powerhouse site in March 1994.
Alan Bradley

Using parts of the old distribution board, the substation still performs its task of distributing electrical energy, helping to keep the era of electric trams alive on the remaining section of the Ballarat tramway system.

REFERENCES

- (1) Lewis and Peggy Jones, *The Flour Mills of Victoria 1840-1990, an historical record*. Melbourne, Flour Millers' Council of Victoria, 1990.
- (2) *Ballarat Courier*, 18 October 1912
- (3) *Ibid*, 5 October 1910. An undated blueprint showing the proposed depot fan is held in the Public Record office, Ballarat.
- (4) *Ibid*, 7 March 1906, 20 October 1906, 29 December 1906.
- (5) *Sun News Pictorial*, 30 July 1932
- (6) Interview by Alan Bradley with Alan Guye, 29 June 1988.
- (7) Arthur Walker, "When electricity and trams come to Ballarat" in *SEC News*, February-April 1951, p.33.
- (8) *Ballarat Courier*, 6 June 1939.
- (9) Interview by Alan Bradley with Alan Guye, 29 June 1988.

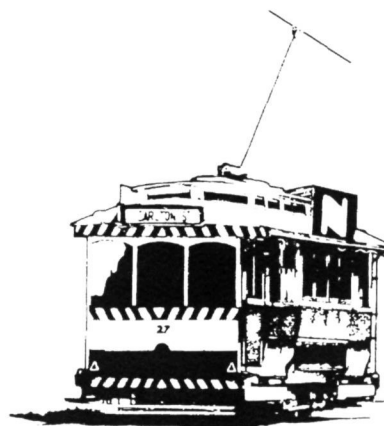
(10) Interview by Warren Doubleday with Tom Pringle, 5 November 1994.

(11) Interview by Alan Bradley with Alan Guye, 29 June 1988.

(12) Interview by Alan Bradley with Bill Llewelyn 26 and 30 May 1997.

(13) SEC Environmental management unit, report EMU/91/18 October 1991. *Preliminary site environmental assessment, Wendouree Parade premises, Ballarat*.

(14) Heritage Advisory Service, City of Ballarat. *The former Electricity Supply Co. site corner Wendouree Parade and Ripon Street North, conservation constraints and opportunities*.



HERE AND THERE

NEWS ITEMS OF INTEREST FROM ALL OVER

Melbourne News

The former South Melbourne Tram Depot site has been purchased by property developer Renak Holdings for \$18.8 million. The property was offered for sale by the Victorian government through agent Colliers Jardine. More than 100 expressions of interest in the property were received and 50 tender documents lodged. The company plans to redevelop the 2.8 hectare site for mixed use residential, commercial and retail. The pointwork leading from Kingsway into the former depot was removed over the weekend 11 and 12 October 1997.

The Public Transport Corporation opened Hawthorn Depot to the public on 31 August 1997. Billed as 'Trams in Hiding', Hawthorn is home to many of Melbourne's historic tramcar fleet and group tours of

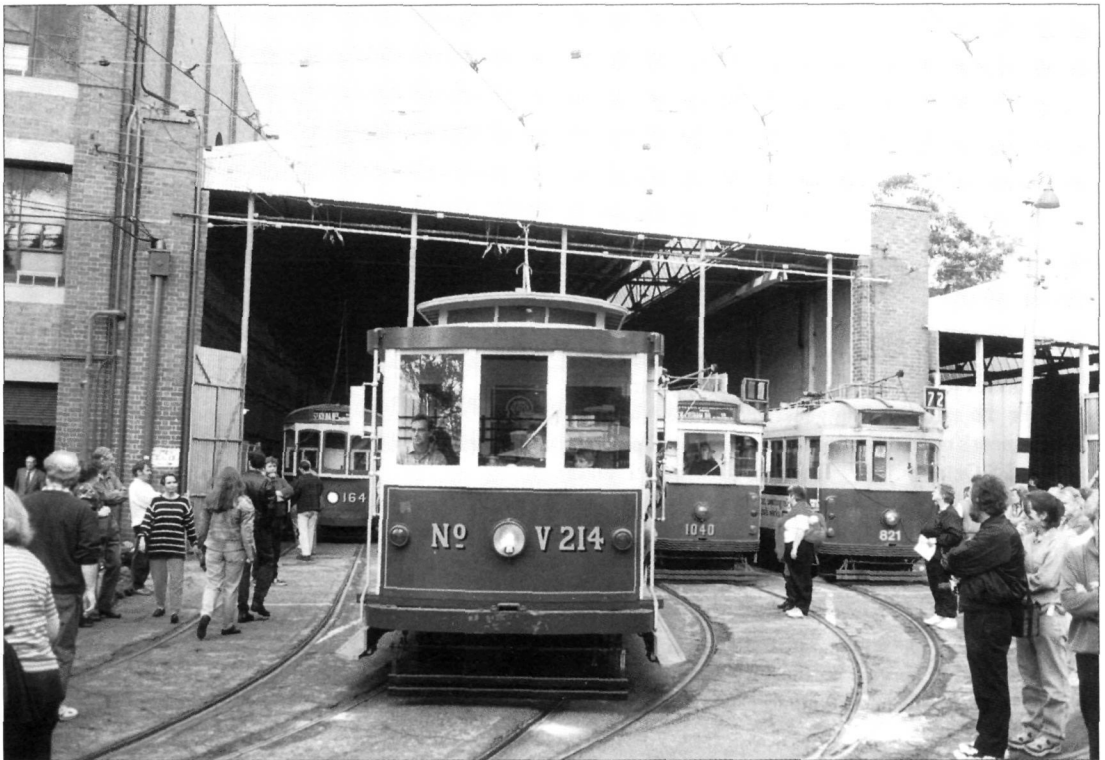
the depot at \$5.00 per head were conducted by members of the National Trust of Victoria. L class 106, recently refurbished at Preston Workshops, was transferred to Hawthorn for the day for display with the stored cars. A shuttle service was operated between the depot and Swan Street using single truck cars HTT 8 and V214, and bogie Y class 469 and W5 class 774.

Y1 class 613 operated the Elizabeth Street to Zoo service on several Sundays in August and September.

Melbourne heritage car Y1 class 613 in Elizabeth Street operating the Zoo service on 31 August 1997.

Ray Marsh





A view of Hawthorn Depot during the open day sponsored by the National Trust of Victoria on 31 August 1997. V 214 was one of four cars operating shuttle trips along Swan Street during the day

Ray Marsh

The pointwork leading into the former South Melbourne Depot, which can be seen at left, was removed from Kingsway over the weekend 11 and 12 October 1997.

Ray Marsh



Work has commenced on the refurbishment of the former Port Melbourne station building and the extension of the light rail line towards Station Pier.

The three restaurant trams have been painted in a lighter shade of red and feature an impressive coat of arms featuring native fauna and a W2 class tram!

The former cable car depot in Beach Street, Port Melbourne was demolished during September and October 1997.

Eight cars from the heritage fleet performed City Circle duties to supplement the regular eight trams to cater for the extra loading generated by the Victorian Government's open day of public building and projects on 4 and 5 October 1997. The cars used were L class 104 and 106, W class 380, W1 class 431, W2 class 510, W5 class 774, Y class 469 and Y1 class 613. The heritage cars were housed at Southbank depot overnight.

Commencing 13 October, advertising car W7 class 1011 returned to service on the City Circle in an all-over advertising scheme to promote Workcover.



Melbourne's restaurant cars now carry an impressive logo featuring food, a kangaroo and emu, and a W2 tramcar! This one is on car 442.

Dale Budd

The present light rail terminus at Port Melbourne is to be extended towards Station Pier, berth for the cross-strait service to Tasmania. The former railway station building is undergoing refurbishment in this view taken in August 1997.

Ray Marsh





The former cable car house in Beach Street, Port Melbourne on 27 September 1997.

Ray Marsh

L class 106 from Melbourne's heritage fleet is seen operating a City Circle service in Spring Street in September.

Greg Sutherland





Melbourne Z3 class 'QF 217' sports its latest Qantas all-over red and white livery in Victoria Parade during August 1997.

Ray Marsh

Thai Airways also advertises on Melbourne's trams. Z3 class 175 is seen in Gisborne Street in August 1997 in its attractive Thai livery.

Ray Marsh





Melbourne's tram network split up

The Victorian Transport Minister, Mr Robin Cooper, announced on 9 October 1997 the splitting up of Melbourne's tram network.

The new entities, Swanston Trams and Yarra Trams, will become independent operating businesses within the PTC over the next three months. Yarra Trams will operate all the north-east and south-west tram lines, while Swanston Trams will include north-west and south-east tram lines.

Both businesses will have their own separate structures with Swanston Trams managing Brunswick, Essendon, Glenhuntly and Malvern depots, while Yarra Trams will manage Camberwell, East Preston, Kew and Southbank depots.

Timetables and multi-modal tickets will not be changed because of the restructuring nor will uniforms and livery be changed unless it is part of a scheduled program.

The new businesses will have their own management structures, operations, infrastructure and financial responsibilities, and will become fully integrated and self-supporting. Employees will remain employed by the PTC on the same terms until privatisation occurs, scheduled to take place by December 1998.

Melbourne's suburban rail network is also being split up, the new rail businesses being Bayside Trains, encompassing lines running through South Yarra and North Melbourne, and Hillside Trains, covering lines through Clifton Hill and Burnley.

The former managing directors of Met Trams, Met Trains and Met Bus have each been allocated a business, as has the former Public Transport Corporation finance and planning director. Details of

B class 2068 is wearing a light blue livery for Melbourne Water. It is seen passing the refurbished State Parliament building in Spring Street.

Ray Marsh

personnel, depot and route allocations for the two new tram businesses are as follows.

PERSONNEL	YARRA TRAMS	SWANSTON TRAMS
Mng Director	John Wilson	Russell Nathan
Financial Controller	Joe Kwan	Rick Merrigan
Mgr Operations	Greg Dower	Allan East
Mgr Infrastructure	Don Paterson	Phil Purdy
Mgr Tram Fleet		
Maintenance	Rod Beet	Russell Brooks
Mgr Personnel	Des Davies	Steve Vosti
Mgr Commercial	Paul Matthews	Charles Spani

Depots and Routes

YARRA TRAMS

Camberwell	70	Wattle Park-Batman Avenue
	75	East Burwood-Spencer Street
East Preston	11	West Preston-Collins Street
	24	North Balwyn-Spencer Street
	34	Hoddle Street-Spencer Street
	86	Bundoora RMIT-Bourke Street
Kew	23	Mont Albert-Spencer Street
	42	Mont Albert-Collins Street
	48	North Balwyn-Spencer Street
	109	Mont Albert-Port Melbourne
Southbank	12	Sth Melbourne & St Kilda Beach-Victoria Parade
	30	Bourke Street Shuttle
	31	Collins Street Shuttle
	35	City Circle
	94	St Kilda Beach-Exhibition
	95	Exhibition-Bourke Street

SWANSTON TRAMS

Brunswick	1	East Coburg-South Melbourne
	19	North Coburg-Elizabeth Street
	22	Moreland-Arts Centre
	25	Moreland-Domain Road
Essendon	55/56	West Coburg-Domain Road
	57	West Maribyrnong-Elizabeth St
	59	Airport West-Elizabeth Street
	68	Elizabeth Street-Zoo (Sundays and public holidays only)
	82	Moonee Ponds-Footscray

Glenhuntly	3	East Malvern-Melbourne Uni
	64	East Brighton-Melbourne Uni
	67	Carnegie-Melbourne University
	78/79	St Kilda Beach-North Richmond
Malvern	5	Malvern-Melbourne University
	6	Glen Iris-Melbourne University
	8	Toorak-Melbourne University
	16	St Kilda Beach-Melbourne Uni
	69	St Kilda Beach-Kew
	72	Camberwell-Melbourne Uni

COTMA

Council of Tramway Museums of Australia

Executive Officer, 5 Felecia Street, Mordialloc, Victoria 3195

From Bruce Dale

Conference 98 - The Way ahead

The combined conference of the Council of Tramway Museums of Australasia (COTMA) and the National Federation of Rail Societies Inc (of New Zealand) will be held in Christchurch, New Zealand over the dates 29 May to 3 June 1998.

With the date for this event rapidly approaching, details of the programme for the Conference are now being finalised. Registration forms will be supplied to interested organisations shortly but further information on the Conference can be obtained by writing to the Conference Convenor, PO Box 1126, Christchurch, New Zealand.

As a prelude to the conference, a 5-day pre-conference tour of the South island is available; costing and details provided on request. Assembly and registration for the combined conference will take place on the evening of Friday 29 May.

A comprehensive programme involving both groups will be held on the following day (Saturday) including the official opening, sessions, practical and classroom workshops covering a wide range of topics relevant to both groups, plus some travel by museum and street trams. A highlight will be the introduction to service of former Christchurch tram No.1 at Ferrymead. The conference dinner will also be held that evening. The speaker following the Conference dinner will be

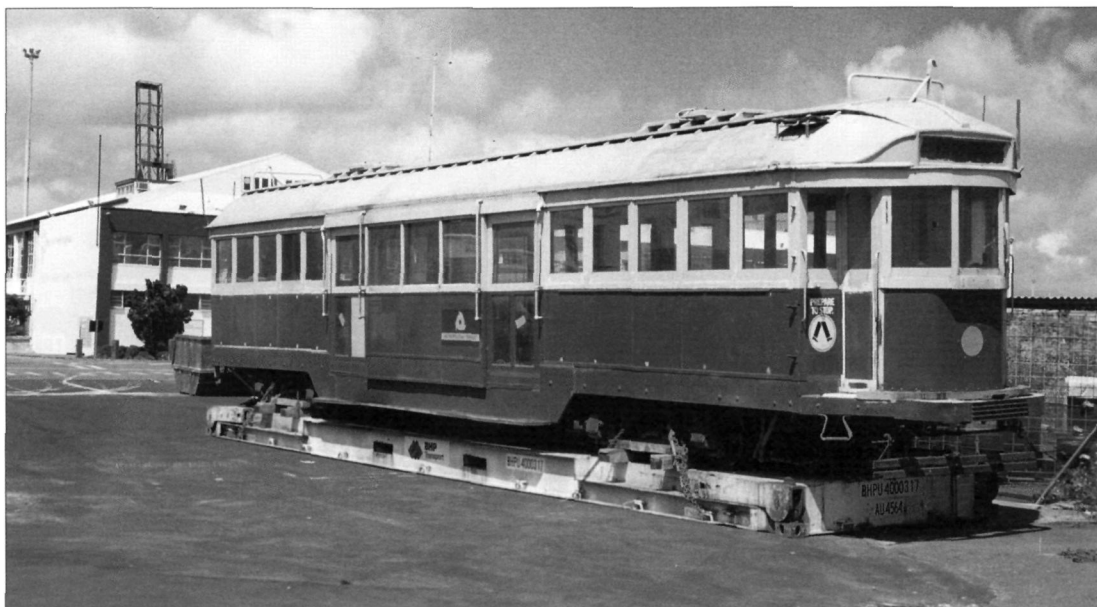
Phil A'Vard, Vice President of the Puffing Billy Preservation Society, Melbourne; a very entertaining person indeed and not to be missed.

The Sunday programme, again involving both groups will be devoted to a steam train excursion to Arthurs Pass and onwards behind diesel to Otira.

Monday's programme provides for the Rail societies to conduct their own AGM and sessions prior to disbanding while COTMA will have sessions and then travel north for a steam train ride on the Weka Pass Railway before dining at Woodend. Delegates of the Rail Societies are welcome to extend their stay and join these events at additional cost which can be obtained on request.

The Tuesday programme for COTMA will include the AGM / CGM followed by a visit to a vintage brewery and reports from the various museums. Wednesday morning will be spent at the Ferrymead Museum with lunch and an afternoon by the steam tug on Lyttelton Harbour. The evening meal will be held at the Papanui Station Restaurant and the conference concludes following breakfast next day.

For people with an interest in restored trams and / or trains, this is an event not to be missed. Start planning and saving now so you can be at Conference '98 - the Way ahead.



This ex-Melbourne SW2, class leader 436 and privately owned, passed through Wellington, New Zealand, earlier this year. Its arrival and placement on Aotea Quay adjacent to the main road out of Wellington just about caused the demise of a number of

local enthusiasts, who performed entertaining traffic manoeuvres when they saw it. It was reported in the local press that the owner had moved from Melbourne to Masterton and the tram had yet to be located in its new home when photographed.

Peter Rendall

LOFTUS

South Pacific Electric Railway Co-op Society
PO Box 103, Sutherland, NSW 2232

From David Cooke and Howard Clark

Site Report

Overhead wire was erected over road 4 in the display hall during July.

Tom Tramby managed to secure a quantity of industrial shelving for storage purposes. Also included in the deal was a set of stairs. These have been placed in the workshop building and will lead to a pattern store which will be located above the toilets and shower rooms in the north-eastern corner of the building.

Cleaning up the site continues and a large truckload of scrap steel was recently disposed of. Space has now

been created south of the Railway Square waiting shed and our single slip, formerly used at the old site, is being laid out in preparation for its reassembly and installation.

The scissors crossover in Tramway Avenue has seen further concreting work taking place with concrete pours on Friday, 5 and Saturday, 27 September.

Off Site Report

The two ex-Newcastle museum cars located on the Honeysuckle Development Corporation wharf



Sorting rails and piecing together the Museum's single slip which last saw use on the old National Park site. It will eventually be installed in this area of the Museum.

Bob Merchant

C class cars 290 and 29 on the traverser. Car 290 is nearing completion and only requires the fitting of some brake parts. Differences between the two cars reflect their different builders, Bignall & Morrison and Hudson Bros respectively.

Bob Merchant





Preparing for more of the Tramway Street trackage to be encased in concrete. This section was concreted on 27 September.

Bob Merchant

SW2 class 432 is lifted from the road trailer at Maitland on 27 August 1997. This car is painted in a Sydney style green and cream livery.

Howard Clark





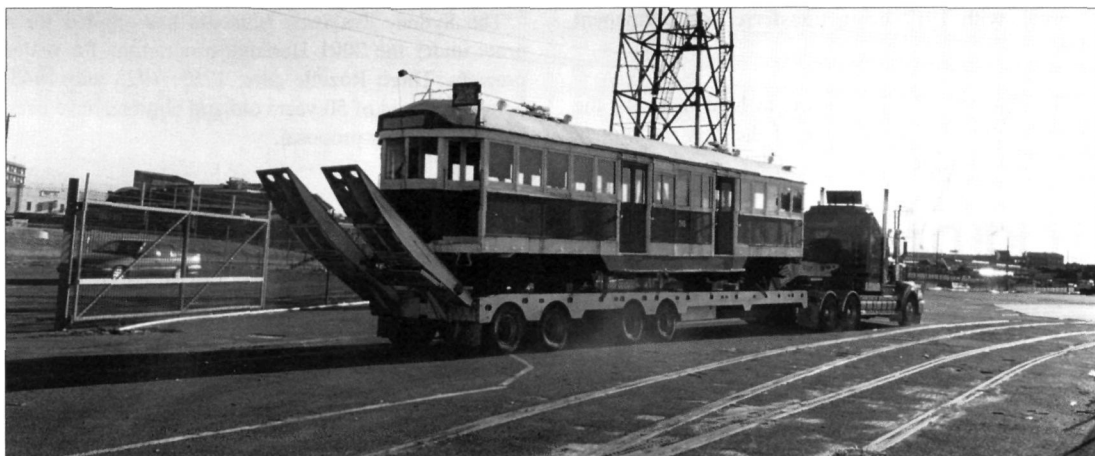
Ex-Newcastle Museum W2 class 245 is lifted from its temporary resting place within the wharf redevelopment precinct at Newcastle. Car 245 wears a reddish brown and white livery and was used as a 'café' car whilst in Newcastle Museum ownership.

Howard Clark

Ex-Newcastle Museum SW2 car 432 en route from Newcastle to Maitland on 27 August 1997.

Howard Clark





W2 class 245 is loaded and ready for transporting to safer quarters at Maitland. The wharf area is being redeveloped by the Honeysuckle Development Corporation.
Howard Clark

redevelopment precinct at Newcastle, W2 class 245 and SW2 class 432, were moved to Hunter Valley Training Company, Maitland, for storage on 27 August 1997. The cars had been left in situ since their acquisition in September 1995 at the request of Newcastle City Council and Honeysuckle

Development Corporation whilst proposals for a tourist tramway were considered and subsequently dropped.

The remaining ex-Newcastle museum cars at Rutherford (except W5 class 762 and R class 1892) were moved to secure storage at Cessnock during a sixteen hour move on Friday, 17 October 1997. The cars involved were W2 class 471, W3 class 668, L/P class 257, N class 718 and O class 824. They had been badly vandalised and stripped by scrap merchants of recoverable brass and aluminium parts. Even the rails on which they stood, had been removed.

ROZELLE

Citytram Association

PO Box A530, Sydney South, NSW 2000

From Chris O'Sullivan

Rozelle Accommodation

Alternative accommodation for our trams stored at the former Rozelle Tram Depot is being sought as the site is to be redeveloped by the Harness Racing Authority (HRA). Despite articles in the Sydney press in May of this year indicating that the HRA was trying to off-load the trams at Rozelle because "no one owned them", this matter has now been addressed and clarified. The General Manager of the Sydney Light Rail Company, Mr Rob Schwarzer, is tackling the issue of alternative housing for the trams and his efforts in this regard are greatly appreciated.

Agreements and Conclusions

During the year, an agreement was reached with the Sydney City Council, Sydney Tramway Museum and the Sydney Light Rail company relating to the collection of corridor (R and R1 class) car bodies stored at Rozelle and Penrith. The cars involved are R class 1753 and 1923, R1 class 1943, 1993 and 1995 at Rozelle, and R class 1741, 1749 and 1917 at Penrith.

Ownership of all except 1917 was transferred to the Sydney Tramway Museum from the Sydney City

Council, with 1917 being transferred on permanent loan.

The objective of all parties is to hold them for the possible ultimate use of some of the cars on Sydney Light Rail trackage.

The Sydney Tramway Museum has applied for a grant under the 2001 Heritage programme for major projects. Three Rozelle cars, 1753, 1923 and 1943, being in excess of 50 years old and eligible, have been included in their proposal.

ST KILDA

Australian Electric Transport Museum

GPO Box 2012, Adelaide, South Australia 5001

From Colin Seymour

Vale Mac Alexander

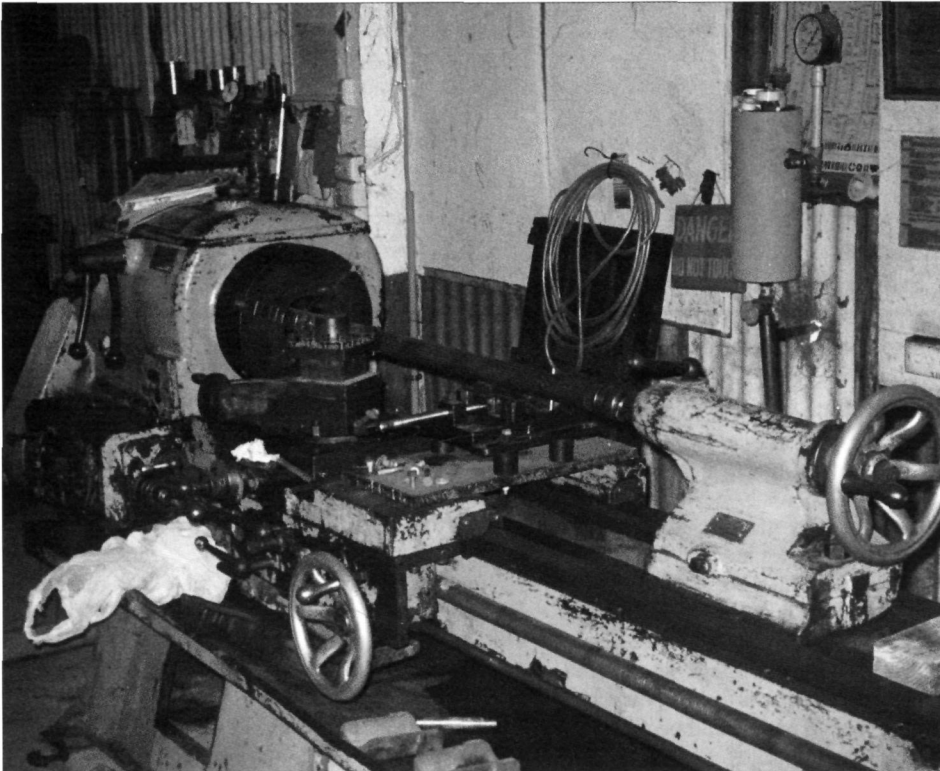
The AETM lost Mac Alexander, member No.2, on 14 July 1997 after a long illness.

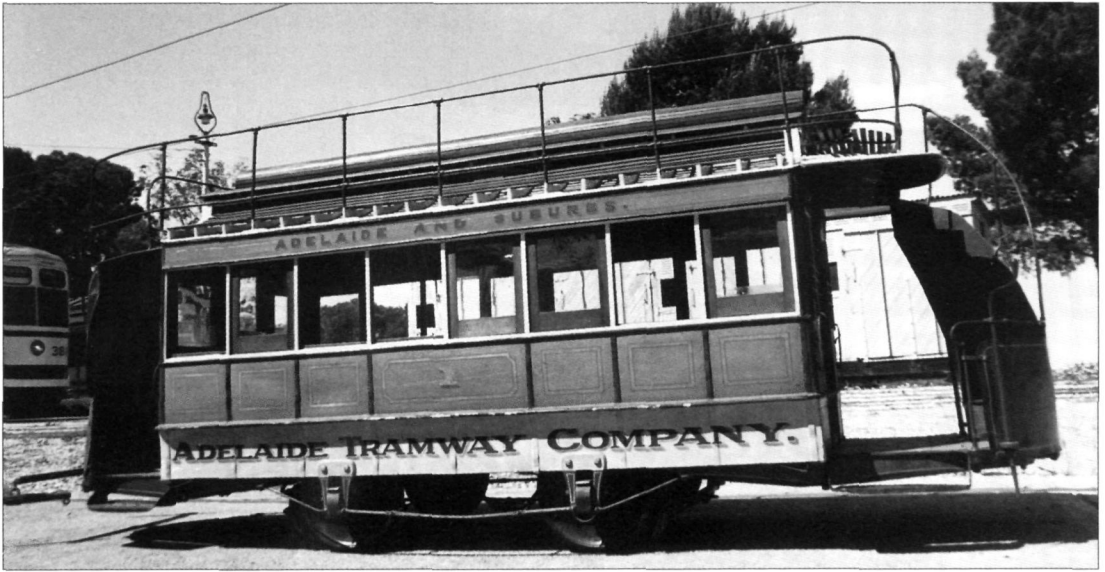
Mac first became involved with the local tramway enthusiasts when the South Australian branch of the AETA was established in 1954.

It was out of the AETA that Mac Alexander with other members of the Association became involved

with the establishment of the AETM in South Australia. It was through Mac's contact with a work colleague at the then Weapons Research Establishment, local councillor Dan McCluskey from the then District Council of Salisbury, that the

The Wilson lathe with the vice clamped to the saddle top for the journal bearing boring. Ian Seymour





St Kilda's new horse tram exhibit seen on the depot fan on arrival day.

John Radcliffe

suggestion was made that the Museum obtain a lease on the present location.

Mac also played a key role in the negotiations with the MTT to obtain the first five trams. Being a little older than the other founding members, Mac provided the credibility and maturity that was needed in these negotiations.

Although Mac was not able to be actively involved with the museum for many years due to working and living in Canberra, he continued to maintain an interest in the evolution of the museum. It was unfortunate that ill health prevented Mac from having an active interest in the museum upon his return to Adelaide. However, the fact that the Museum was able to obtain a location to establish itself will always be a memorial to his interests in public transport in South Australia, for which the Museum will always be thankful.

Horse Tram Arrives

A new exhibit recently arrived at St Kilda and is now on display. It is a 2.2 metre-long model in very fine and exacting detail of a double-ended double-deck 'Stephenson' pattern horse tram. The side windows drop down behind the seats, the saloon doors slide, bells are fitted under each canopy, the ceiling windows

are hinged, and the axle-boxes are sprung. The tram is normally housed in its own display case.

This beautifully proportioned but relatively little known model is understood to date from the late 19th century. It was borrowed from its then private owner for showing at a social function during the 1956 AETA Adelaide convention, but in more recent years has been only rarely exhibited. The title of it has now passed to the History Trust of South Australia. The model has been stored for some years by TransAdelaide in the running shed at Glengowrie depot. The History Trust has placed the model on loan to the AETM for display in the Museum's interpretive gallery at St Kilda.

Tram Maintenance

External paintwork is continuing on W2 class 294. Thanks to Keith Kings from the TMSV and Brian Carter, foreman at Preston Workshops, for providing details on paintwork and colour combinations.

Considerable work has been carried out on H car 362 to make it trafficable. To eliminate air leaks, the brake valve seats have been ground flat and new gaskets fitted. New gaskets are on the door motors, puller valves, rotary valves and electro-pneumatic valves. New gaskets have been fitted to the door motor air supply lines. The body has been lifted and the truck side bearers greased. The gears have been greased and the journal box bearings checked. The brake cylinder has been cleaned out and a new piston cup used. The emergency valve has been cleaned out and new gaskets fitted.



The air tanks have been modified to the standard AETM practice. The drain now empties horizontally rather than vertically to eliminate dust clouds when emptying. Horizontal extension to the drains allows settling of the water in the galvanised pipe rather than settling in the tank and allows easy access from the tram sides.

Track and Overhead

For some time the AETM has been contemplating replacing some corroded overhead poles and an October 1997 date was set. However, the job was brought forward to September 1997 when the top third of pole 6 broke off under one of the collars! Temporary repairs involving attachment of an extra long bracket arm to the remaining two thirds of the pole were effected while hole drilling crane arrangements were made for six poles.

Poles 2, 6, 7 and 12 were replaced and two additional poles (poles G and 11A) were erected. The additional poles were erected to reduce the strain on other poles in the vicinity. For the replacement poles, new holes were dug near the existing poles. Poles were then craned into position and the bases concreted. The old poles were then oxy cut and removed. The job was

Although dwarfed by the full-size trams, this photograph of the horse tram model, taken before it was reinstalled in its display case, shows in intricate detail the design and construction of a John Stephenson pattern car.

John Radcliffe

carried out over two separate work days, three poles being erected on each occasion.

Resleepering of the long timbers around the points to the loop has continued.

Disaster Exercise

The AETM participated in a theoretical Disaster Exercise at the Salisbury Police Station on 28 August 1997. Other participants included Police, Fire, Ambulance, State Emergency, Royal Adelaide Hospital Trauma Unit, Lyell McEwan Hospital, Red Cross and Family Community Services.



Melbourne W2 class 294 outside the body shop during the repainting programme.

Ian Seymour

'Exercise Trolley Car' assumed that a bus loaded with overseas tourists crashed into car 381 at the Mangrove Street level crossing. "Three people on the bus and two on the tram are killed and several others injured!" The exercise proved beneficial for all parties and especially useful to the AETM as it develops its Safety management Plan.

Machinery

A 9-inch piston cup has been ordered for the wheel press and piston cups have been ordered for the wheel lathe tool post pneumatic clamps.

A traction motor tester and a compressor tester have been purchased from the Department of Transport workshops at Regency Park (formerly the TransAdelaide Workshops). Both items are ex Hackney Workshops. The motor tester has separate sources of current for the armature and field coils. It also supplies current for the compressor tester.

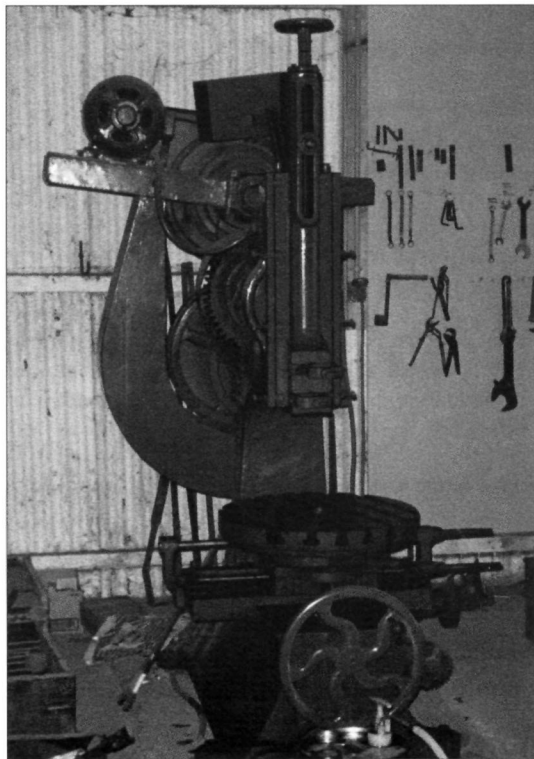
Other News

Following the theft of trolley wire and other items described in the last Trolley Wire, a major security upgrade has taken place. All locks have been replaced by stronger locks. We knew we had a lot of sheds with a number of doors and a few gates, in fact 42 locks were required at a cost of \$3,300! At the same time, the tram line overhead wire has now been included in the Museum's monitored alarm system.

An appeal has been made to members, seeking financial assistance to enable A type car No. 1, Adelaide's first electric tram to be returned to service. Car 1 has not been used for some time due to a defective motor. Pinions need to be manufactured for both motors, worn gears replaced, armature bearings renewed and axle bearings remetalled. The motor requires the armature to be rewound by a specialist business.

The AETM is starting to become a machinery museum. Here is the slotting machine. The tools on the wall are actually hanging up where they should be!

Ian Seymour



BALLARAT

Ballarat Tramway Museum
PO Box 632, Ballarat, Victoria 3353

From Dave Macartney

Wendouree Parade Work

In the last issue of Trolley Wire it was proudly reported that some 200 metres of Wendouree Parade had been resurfaced, and was looking good for many more years of trouble-free service. We spoke too soon. During the repaving process, the track was knocked slightly out of gauge by one of the road vehicles, resulting in tram No.27 becoming derailed on Monday, 7 July, during the school holidays. In the short term, cars 18 and 33 ran the service as their slightly different wheel profiles could deal with the track, which was wide to gauge over a three metre distance. A few days later a new section of check rail was welded along the offending length by Miller Bros. Engineering. The new asphalt is certainly well and truly initiated, with a nice set of wheel grooves chopped into it - it was nice and soft, too! It would be very unfair and cruel of me to reveal the identity of the driver in charge of No.27 at the time of the incident; besides, I have nothing against Bill Kingsley.

Workshop Floor Sealed

On the subject of asphalt, the long awaited sealing of the floor of the workshop area took place during August. In the weeks prior, all the workbenches and associated clutter were temporarily removed and the floor surface levelled off. On the day, all the trams were removed from the shed, which involved quite a bit of preparation as the work on No.28 had to be completed so that it could be lowered from the jacks, and it and No.13 removed to another part of the shed. The asphalted area runs the full length of the shed between the two pit roads, and has certainly made a big difference to the working conditions. There still remains the small area at the end of 2 and 3 roads to be done in the short term, with the 6 and 7 road area at some distant time.

Cars 28 and 13

As mentioned, No.28 is back on its truck, with the new section of body framing giving proper support to the corner post for the first time in many decades. The body is not quite straight, as it has been running with a twist in it for all those years. However, it is hoped that

it will settle down when it returns to running. It is certainly a novelty to be able to close the saloon doors fully for the first time in memory. Before it was removed from the jacks, No.28 had a motor removed to be utilised in No.13. Once the floor asphaltting was complete, No.13 was jacked up, its offending motor removed and the good one from No.28 placed in its truck. Some minor adjustments need to be made in relation to bearings, and then No.13 should be back in service after an absence of over two years. The money is in hand for the repairs to the defective motor, thanks to the Ballarat City Council grant, and when this motor is repaired it will be used in No.28. The body overhaul and repaint of this car will keep the team occupied over the summer months.

Current Projects

The current project is a general spruce up of No.26, which is showing signs of ten years hard running. This car should be back in running once the warmer weather finally arrives. Some attention to the varnish on No.27 is also due to take place soon.

Out in Wendouree Parade, two new bracket arms were installed at the northern end of the line to replace two that were badly corroded. Perhaps refurbished bracket arms would be a better description - they were new in 1905!

Miscellaneous

Passenger figures for 1996 / 97 show a patronage of just under 17,000, a little down on last year. Meanwhile the Annual General Meeting looms; at the close of nominations it appears that the existing Board of Management would continue on for another year.

On the weekend of the Australian Football League's grand final, Richard Gilbert decided that a car should be decorated in football club colours. Being a non-football person, Richard decided to support the Adelaide team. He then had to find out what their colours were and order the appropriate ribbons, blissfully unaware that Ballarat is a recruiting zone for rival team St Kilda. As a result, the driver of No.33 was booed and heckled by all and sundry, and yes, it was the same driver that had been involved in car 27's derailment in July!

WHITEMAN PARK

Perth Electric Tramway Society

PO Box 257, Mount Lawley, Western Australia 6050

From Michael Stukely

Annual General Meeting

The 16th annual General Meeting of the Perth Electric Tramway Society was held on Saturday, 20 September in the Whiteman Park Administration building. The following Officers and councillors were elected: President, Michael Stukely; Vice-President, Kevin Clarke; Secretary, Robert Pearce; Treasurer, Martin Grant; Membership Secretary, Geoff Morrison; Councillors, David Brown, Dudley Dell, Trevor Dennhardt, Lindsay Richardson, John Shaw.

The Annual Report recorded the year's achievement and the following results:

Almost 7,900 hours of voluntary work were given in all areas of the Museum's activities by 46 members during 1996-97. Total financial membership at 30 June was 76, which is slightly above the previous year's level.

Gross traffic revenue of the year was below the record total achieved in 1995-96, but was above the 1994-95 level. A total of 33,684 passengers was carried (this figure does not include special occasions and charters when passenger numbers could not be recorded because 'free' rides were provided).

The trams travelled over 13,139km, which is 6.6% lower than the record 1995-96 total. Eight running days were lost due to power restrictions, storm damage or fire bans. Total distances travelled by our trams for the year are given on page 45.

Roadbase is levelled on the recent extension of the bogie storage siding on 3 September. The Pennenburg Workshop is at right.

Lindsay Richardson





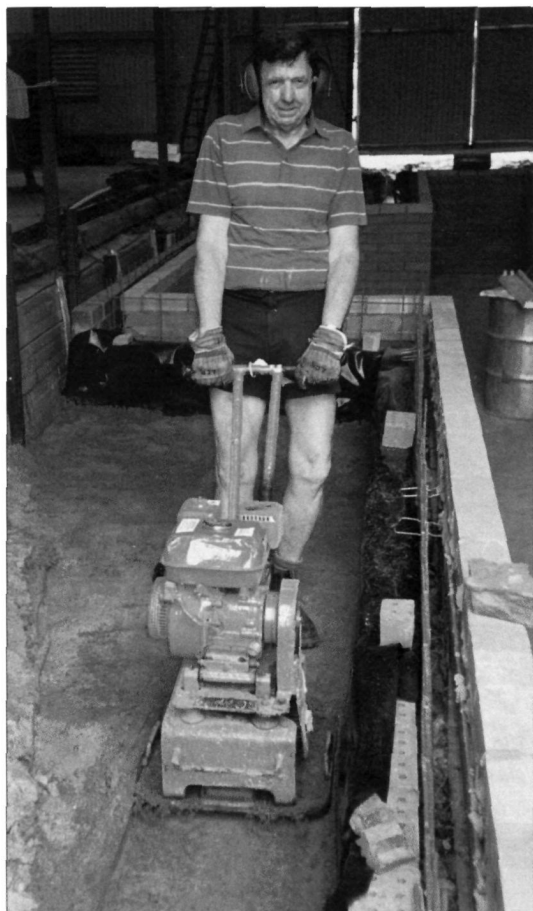
The newly laid concrete base pad for the maintenance pit, looking west, on 15 April 1997.

Lindsay Richardson

Following the composition of the bricklaying on the walls, Noel Blackmore reviews plans for the pit on 17 September. This view is looking east.

Lindsay Richardson





Backfilling of sand around the pit walls has progressed on 1 October as Lindsay Richardson operates the compactor unit outside the south wall.

Supplied by Lindsay Richardson

W2 class 329	1,816 km
W2 class 368	0 km
W2 class 393	3,505 km
SW2 class 426	3,671 km
W4 class 674	3,233 km
FMT 29	915 km
Ballarat 31	0 km

Special Projects

The galvanised steel lintels for the building of the cavities for the lighting boxes in the walls of the

maintenance pit were delivered at the end of July after a long delay. The bricklayer resumed work on the side walls on 4 August and completed his part of the job on 6 August. This was followed by a major clean-up of the general area in front of the engineering shed to remove leftover sand and bluemetal, hardened cement run-off and rubble from around the whole of the outside wall of the pit, by Lindsay Richardson, Trevor Dennhardt and John Stone. Black plastic sheeting was then installed over the full outer pit walls to minimise damp penetration, and backfilling with sand was started by Lindsay, Trevor, John, Kevin Clarke and Dave McCormack.

On 3 September, a large bobcat was hired and used to return stored sand alongside the southern pit wall; a large heap of sand was also stockpiled at the entrance to the pit road to be progressively moved by hand and consolidated to backfill the north side along the carbarn wall.

A stack of grooved rail acquired about eight years ago was sorted through to find good quality rail to be tested for use along the length of the pit.

Materials for the erection of two bays of shelving in the spare parts storage shed have been delivered.

On 3 September, 26 tonnes of roadbase were delivered and spread over the newly constructed sections of track on the bogie storage siding. The rear yard now looks very neat and tidy in this area. The bobcat was also used to extend the perway materials hardstand area at each end.

To improve our ability to keep the essential areas of our site free of weed growth, the Oketon Geddes Trust Fund has purchased a 'Hardi' mobile spraying unit with 30 litre tank capacity and powered by a rechargeable 12V battery. This unit has given good results and is much more efficient than the previous hand-pump method.

The Riverlands School has negotiated a five-year lease, with the WA Planning Commission, of an area at the Lord Street entrance where they will install transportable classrooms in time for the start of the 1998 school year. For safety reasons, the 'inner' tram road in the entrance terminal is to be lifted and the area paved level. Some span poles on the north side need to be removed, and the opportunity will be taken to tidy up the pole layout in the area, replacing wooden poles with steel. The Entrance tram stop has seen little use in recent years, with trams only venturing there to provide the special spring swap-meet services, and a



Bill Gilbert repairing the lifeguard of W4 class 674 on 27 August.

Lindsay Richardson

Ric Francis progressing the front-end refit of WAGT G class 35 on 17 September.

Lindsay Richardson





Lindsay Richardson uses the new battery-powered weed spray unit (purchased from the O. Geddes Trust Fund) around the cherry-picker in the rear compound on 17 September. Supplied by Lindsay Richardson

Repainting of the floors of W4 class 674, W2 class 329 and the end platforms of Fremantle 29 has been done by Martin Grant.

The no.2 end manual brake gear box on W2 class 368 was found to be jamming. Investigation showed that the cause was a broken ratchet gear tooth. A unit reclaimed from 6W was serviced for use while a new gear is manufactured.

single road will be adequate for our foreseeable requirements.

General

The trams were very well patronised during the July school holidays, with motormen Brent Luscombe, Mike Fielder and Geoff Morrison assisting in addition to the regular midweek crews to provide services seven days per week. Swap-meets are again being held at the Lord Street entrance on several Sundays during spring, and on these days, two cars operate the full 'triangular' service from the Entrance.

Noel Blackmore reports that work is progressing on the truck overhaul on W2 class 368. A motor and wheel set from a no.1 truck is also being overhauled ready for exchange on the second truck of car 368.

Following problems of severe water leakage in the roof of W2 class 393, the pole mounts and roof platforms have been removed, the roof has been sealed, and painting was progressing early in October.

The restoration team working on WAGT (Perth) E class 67 has successfully removed the eastern end sub-floor transverse beam of the saloon. It is in poor condition as a result of dry rot and old accident damage. New timber has been delivered for the replacement of this beam at each end as well as the end-platform bearers. Ric Francis, working on WAGT G class 35, has replaced the two main bows of the no.1 motorman's platform roof, and re-roofing with new boards has started.

Ray Blackmore's team has transferred the overhead on the Bennett Brook curve to the newly-installed concrete poles.

Track maintenance work has been carried out at the Entrance, at Whiteman Village Junction, and on Horse Swamp Curve and Straight by Trevor Dennhardt's team. Bonds were checked and replaced as necessary between Stockmans Crossing and Entrance.

Vic Sweetlove's team are progressing with cleaning and painting the chassis of the Albion truck.



a sper magazine