

Working Paper No. 1.1

**Melbourne's Trams and Tramways
STATEMENT OF HERITAGE
SIGNIFICANCE**

**Melbourne
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*This report is confidential and intended solely for the use and
information of the Department of Infrastructure.*

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A. A Brief History of Melbourne's Trams and Tramways

At an international level, light rail transit has a number of guises, which range from the street tramway form in which it largely exists in Melbourne, through the 'premetro' or 'Stadtbahn' transitional form (involving mixed rights of way) which is now common in new light rail startups in the US and UK, and European system upgradings. This technological spectrum extends to networks that utilise light rail technology in what otherwise are heavy metro configurations. Melbourne's evolution through this spectrum is a key consideration in examining its heritage.

1.3 Development of Melbourne's Tramways

The history of Melbourne's tramway system commences effectively with the introduction of cable trams in 1885. The tramway network has since grown continuously and the tramways have played a key, but changing, role in Melbourne's development. The present day Melbourne is a very different city than that of the late nineteenth century, and the survival of its tramway system in that context is quite remarkable.

Melbourne's tramway network is the world's ninth largest, in terms of route length. It is the only major street tramway system anywhere in the world to be retained in what is now a primarily car-based city. Equivalent systems in the UK, the USA, Canada and elsewhere in Australia were closed down between the 1920s and the 1960s, to be replaced by buses or to see transit service downgraded.

The Cable Cars

The Melbourne system began as a series of cable tram routes built between 1885 and 1891, servicing large sections of the inner city and suburbs within the area confined by the major waterways. This network served nearly three quarters of Melbourne's population of some half million, and complemented the steam railway network which went beyond it. There were some horse tram lines also built in this period; but the economic depression of the 1890s halted tramway development for fifteen years.

The technology of the cable tram was well suited to development of shopping strips and to inner urban travel. Frequent stops, easy boarding and disembarkation made the cars a convenient conveyance for short trips, and a number of Melbourne's characteristic strip shopping precincts can be tracked to the cable car lines.

The Electric Lines

The first electric tram operated between Box Hill and Doncaster from 1889 to 1896. Following this the Victorian Railways established an electric line in 1906 as a feeder to its St Kilda railway, in order to serve the fairly dense bayside population. On the other side of the city the North Melbourne Tramway and Electric Lighting Company Ltd opened two electric lines, also as feeders to railway stations. Also penetrating

beyond the established steam railway and cable car network were a number of municipal tramway trusts and, by 1918, the new electric lines grafted on to the cable car network had created a large part of the current network. For the most part the development of the tramway network reflected suburban development, but in some cases it anticipated or actively promoted it.

This period is important in two respects:

- it represents the last period where tramway and metropolitan growth were clearly interdependent
- it was a period of substantial development of the trams themselves, with a considerable variety of cars, liveries and configurations

In the meantime major changes had been recommended by a 1910 Royal Commission, including electrification of the cable lines and formation of a single entity to run the various tramways. It was after World War 1 (in 1919) that the Melbourne and Metropolitan Tramways Board was formed. This transferred the tramways from municipal to state ownership (through a statutory authority). In the first decade of its existence, the M&MTB undertook four major tasks:

- conversion of much of the cable network to electric traction;
- extension of the network;
- creation of what was to become the mainstay of the Melbourne tram fleet, the W classes;
- establishment of a major workshop at Preston.

By the late 1940s, the Melbourne network reached 210 kilometres of route and carried over 280 million passengers per annum. By 1956 the network included almost 800 trams and twenty-five routes. It serviced half the population of Melbourne and included an infrastructure of track, characteristic street furniture of silver poles carrying the overhead, shelters, control booths, conveniences, depots, substations, administration buildings, the Preston Workshops and Wattle Park.

2. ELEMENTS OF SIGNIFICANCE

Melbourne maintained its extensive tramway network when every other Australian city closed its network between the mid 1950s and the mid 1960s, echoing the position in North America and the UK. As a result, Melbourne is in the unusual situation of having a major example of a continuously evolving light rail transit network that forms an intrinsic part of its urban fabric. The significance of its contribution, and hence heritage value, is examined in three parts:

- The tramway system as an evolving entity
- Social and cultural influences
- Technology.

2.1 The Tramway system as an entity

Over time Melbourne's tramway system has grown first in direct association with the development of the city, and latterly as a form of transport competing for its share of a much more competitive demand for mobility. The significance of the system in this context arises from its continuous history, its capacity to evolve to retain relevance and its scale.

The factors that have governed this evolution are not confined to technology, although this is important in its own right. There are institutional matters, labour considerations, wars and economic changes that have had impacts. Not the least is the development of competing modes. Broadly the key epochs in urban transport relevant to the heritage we are examining have been:

- 1850 - 1900: Development of urban rail networks, improving accessibility along rail corridors and in inner urban areas
- 1900 - 1950: Consolidation of the transit based city and emergence of motor bus competition, commencement of in-fill and sprawl
- 1950 - 2000: Growth of car dominated cities, and major losses of transit mode share.

In Melbourne the last of these epochs has two quite distinct elements that are of primary importance. Prior to about 1980, Melbourne was characterised by a major struggle to retain its tramways against the pressures of the private car explosion. The enthusiasm of Australians for private motor vehicle ownership presented the tram system (particularly in the post World War II years) with the greatest threats to its continued existence. Indeed, it has been suggested that the MMTB survived largely due to the leadership of Major General Risson - an inspired conservative bureaucrat - who withstood attacks on the system from the automobile lobby to a sceptical Premier Bolte.

Since then, there has been an era of recommitment or even renaissance, involving substantial re-investment in the system and growing patronage. This period has seen re-equipment of the fleet, extension of the network and initiatives to improve its operational and commercial performance. There has been a general recognition of the role of the tramway as a relevant part of Melbourne's transport as a result. The re-involvement of the private sector, and the next phase of investment are further evidence of the evolutionary nature of tramway heritage.

Much of Melbourne's development in the latter half of the nineteenth century depended on the tram's effectiveness in serving dense inner urban settlement and meeting new housing without the cost of expensive land purchase. The short stopping pattern of the tram system developed in the cable car era complemented the longer-stop train for commuting and city shopping. On the other hand, the stopping pattern with its low commercial speed limited the competitiveness of the tram for longer trips, and this was a factor as population growth took the urban area beyond the extent of Edwardian Melbourne.

The history of the system tells us the way in which the trams influenced and supported urban growth, and the consequences of changes in the market for travel and competition in these markets. Evolutionary survival of the species – light rail in this case – is therefore paramount in the continuous heritage that is Melbourne's tramway system.

2.2 Social and Cultural Influences

Images of Melbourne Almost every attempt to depict Melbourne, whether in photographs, novels or films has the trams either at centre stage or as highly visible extras. Melbourne's trams have come to be seen as a distinctive icon for the city, both among Melburnians and in photographic images - from posters and postcards to tourist promotions.

Artists and writers have understood the special place of the Melbourne tram and have reinforced its place in the culture. Trams are celebrated in George Johnston's novels *My Brother Jack* and *Clean Straw for Nothing*. They are pivotal to the comedy in the film *Malcolm*, and in skits by Barry Humphries and countless other Melbourne comedians. The 'painted trams' and, more recently, the use of trams as the centrepiece of the Moomba parade, are notable recognitions of the intersection between the tram's utility and its cultural significance. Similarly, the City Circle and Restaurant trams take advantage of the specially 'Melbourne' nature of the tram for tourists.

Role in the streetscape. The great streets of Melbourne are all tram streets; not least because a tram's frequent stopping and low emissions suits strip shopping better than other forms of mass transport. Trams are central to the appearance and the functioning of Collins St and Bourke St in the city, and the boulevards - St Kilda Rd, Royal Parade, Flemington Road and Victoria Parade. The important shopping,

streets of inner-city Melbourne - Brunswick St, Smith St, Bridge Rd, Chapel St, High St, Sydney Rd, Nicholson St - are all tram streets. All have a remarkable level of intimacy, unparalleled elsewhere in Australia, generated by the silver tramlines and tracery of overhead wires.

In these environments, trams have a sense of immediate public accessibility - they are street vehicles in streetscape settings. The tram provides both views *out to* the street and contributes to views *from* the street. This is a role they share with other great tram cities such as Vienna, Prague and Amsterdam, and with London with its red buses and black cabs.

Personal Associations Many Melburnians think of their tram system in terms of: commuter travel, the journey to school, trips to recreational destinations; and, visiting the city for shopping, social engagement and cinema or theatre going. The tram routes leading to St Kilda have a long heritage of servicing day-trippers and holidaymakers visiting Luna Park, the beach, Fitzroy St and Acland St. One of these, the no.69 Glenferrie Rd tram, also serviced a remarkable number of private schools, and has been celebrated by Janet McCalman in her book *Journeyings*, a study of the Melbourne middle class.

Trams have seeped into the self-esteem of the city, its sense of uniqueness and its particular urban character. Previous generations of Melburnians grew up with the trams as a daily part of their lives. They knew the quirks of the system, the personalities and habits of the conductors, and recognised the place of the trams on the streets. The association is one that has developed over many years. It is, however, transient, and it is the role of heritage conservation to capture this as well as the physical attributes of the evolution of the tramways.

The tramways have had a key role in the workplace. The occupations that they offered (and continue to offer) encompass a range of skills from the relatively modest to important crafts such as coach building and the finer points of painting (such as graining). They now have entered the information age, with intelligent transport technology and computer systems requiring a new skill set that is every bit as important to the evolving system as the others that preceded it. The tramways acted as an entry point for many Victorians entering the workforce, along with newly arrived migrants who became an important part of that workforce from the early 1950's.

Trams were regarded by many as cleaner, safer and friendlier than trains. Using the same streets as pedestrians and cars, they carried people through a familiar world, providing a vantage over city and suburban streetscapes. The sound of the tram on the track, the occasional flash of blue from the overhead wiring and the 'ding, ding' of the warning bell have about them an almost lyrical quality for Melbournians who can, at times, be both proud and passionately cynical about their city's most distinctive feature.

2.3 Technological Development

A little over 100 years have seen light rail transit technology move from the horse era to today's electric powered computer managed system. On the way, cable and battery cars have come and gone.

Tram Design Much of the early tram design grew from horse coach practice, and the vehicles – particularly the cable cars - reflected this in lightweight, manoeuvrable vehicles. The cable cars were of their own distinctive configuration, comprising a grip car and dummy (trailer). The grip provided space for the operator, standing in the centre of the vehicle, and passengers in a tenuous seating arrangement facing the street – a design that would not even approach today's safety requirements. The dummy was more akin to the horse car origins.

Melbourne's designs differed from the distinctive San Francisco cars, which are of two types, both combining the grip and dummy. The San Francisco Powell Street cars, however, have had a major influence on electric car design, including Australia. The California Combination configuration was used by a number of Australian operators around the turn of the century, including the early cars of the Trusts that preceded the M&MTB.

Electric car design can be tracked from the drop end configuration that allowed a reduced step height to ease boarding for hobble-skirted ladies, and less agile passengers, to the drop centre configuration that was the key design point of the omnipotent W classes of the M&MTB. Dropping the centre was a function of moving from the single truck configuration of the California Combination and other early cars to the double truck cars that lasted right through to the present with the later A class cars of the recent era.

This design evolution will be a key factor in the heritage conservation into the future. The issue of what to do with the wheels, trucks and axles while maintaining low floor height in a street vehicle continues to drive design of the modern light rail vehicle, now typically with multiple sections in an articulated configuration with the floor and entrances close to street level.

Production Tram production for Melbourne was based principally on imported technology. Its adaptation to Melbourne reflected both the international development of the technology and a number of features that were characteristic of Australian tramway practice. Melbourne's early electric cars were built by Duncan and Fraser in Adelaide; however with the formation of the M&MTB production of (particularly W-Class style) trams by the Victorian Railways Newport Workshops (1917 - 1923) and later the MMTB at Preston (1924 - 1955) represented a major manufacturing and engineering enterprise for Victoria.

The Preston Works was the principal maintenance and manufacturing facility for the vast network. It was built between 1924 and 1929 and its 500 strong workforce constructed W class trams after 1927 and subsequent designs until the MMTB was subsumed by the Met in the 1980s. In 1929-30 the output of Preston was in excess of one tram per week.

Style Each of the operators from the early private sector enterprises, through the trusts and the M&MTB to today's franchise owners have had distinctive corporate design styles. The cream and green colors ultimately adopted by the M&MTB, is the most well known and best associated with the Melbourne trams largely due to its longevity. The MMTB developed distinctive corporate design styles applied throughout the system, - from tickets and uniforms to buildings - which reflected its own sense of significance. Buildings displayed a range of architectural styles, from the Romanesque of the Tramway Trust's buildings to the Art Deco and Arts and Crafts styles of the MMTB era. The cream and green of the trams, the shelters and the distinctive landscaping became a familiar part of suburban Melbourne.

Conservation Due to the pressures on capital investment in Melbourne after World War II and the reluctance of regional systems to invest at all in new rolling stock, Victoria has a history of utilising trams that may, in other circumstances, have been made redundant. This has resulted in a surprisingly good survival rate of examples of tram types used in Victoria. Salvage and restoration efforts of groups such as the Tram Museum Society, the Ballarat Tramway Preservation Society and the Bendigo Trust have created an internationally outstanding collection documenting the design and technical development of all forms of tram traction.

3. STATEMENT OF SIGNIFICANCE

Melbourne's tram system is of national and international significance as an evolving system, for its social and cultural influence, and for its technology.

The tramway system as an evolving entity

- The Melbourne system is integral to the history and growth of the city, and continues to evolve and respond to the changing demands of its market, competition and environment.
- It is significant in its scale Melbourne has the only intact fully operational tramway system in Australia, and is the only major system left in the English-speaking world.
- It differs from most other modern light rail developments in North America and in the UK that are largely new starts after earlier system were abandoned.
- It differs from many European systems that have placed more emphasis in segregating the rights of way as the primary developmental path.

Social and cultural influences

- Trams are an intrinsic part of the images of Melbourne – an icon – that gives the city a distinctive and recognisable character.
- Trams have a key role in the Melbourne shopping strip, city and inner suburban streetscape, and have play a key function in the intimacy and accessibility of these environments.
- Trams are a part of the personal history of a number of generations of Melburnians. For well over a century, individuals have used the tram system regularly for at least part of their lives - whether to get to school, for recreational outings, to go to the city to work or shop, or to visit friends or relatives.
- The tramways have a workplace history of a range of crafts, skill levels opportunities and work practices that are relevant to the evolution of the system and are significant in their own right.
- Melbourne and regional tramways have potential to educate, illustrate and provide further scientific investigation in relation to Victoria's cultural and

technological heritage, especially because they still can be experienced as part of everyday life

Technology.

- The Melbourne trams, though fundamentally of imported technology, nevertheless present a history of development of light rail transit in the Australian environment and the international development of the technology.
- Melbourne's production capability was established in the 1920's at Newport and at Preston, and became a significant contributor to the state.
- The private and public tram collections of Victoria provide an extraordinarily valuable base to educate and exhibiting the principal characteristics of the development of tram technology over the past one hundred and fifteen years.
- The long and impressive working life of the W class trams is significant. That they are still used publicly is a tangible link to Melbourne's historic past and is internationally unusual.
- The routes, rolling stock and other artefacts demonstrate Victoria's capacity for quality architecture, industrial and urban design, and transport innovation.

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INTRODUCTION.

Metropolitan Melbourne's tramway system is Australia's largest remaining tram network. It includes an intricate web of inner suburban lines that originally put everyday transport within the reach of all social classes. Workers and shoppers could ride by tram to their destinations, enlarging the circumference of their travel beyond walking distance.

The inner suburban network was a product of the economic boom of the 1880s, and its predominant mode was cable trams. The electrified system was a product of the early twentieth century. Beginning as several separately owned electric systems, they and the cable system were welded into one under a statutory body, the Melbourne and Metropolitan Tramways Board (MMTB). The trams were given a green and cream colour scheme, seen mainly on a tram type that became emblematic of Melbourne. Known generally as "W" type trams, those trams held centre stage in Melbourne's pre- and postwar road transport for fifty years.

THE PRE-ELECTRIC TRAM SYSTEM.

Melbourne's cable tram system began as a private sector initiative, resulting from the collaboration of an American, Francis Boardman Clapp (1833-1920) and a New Zealander, George Duncan (1852-1930). Clapp was the organizing force and had been a mail contractor who operated in conjunction with Cobb and Co. He introduced horse omnibuses in Melbourne in 1869 and eight years later reconstituted his firm as the Melbourne Tramway and Omnibus company (M T & O C).

Duncan was a member of the engineering firm that built a cable tramway in Dunedin in 1881, and in 1883 he teamed with Clapp for a cable-tram venture in Melbourne.

Between the formation of the M T & O C (1877) and Duncan's joining the company in 1883 there were several attempts to bring a horse tram network to Melbourne. They failed because of municipal non-cooperation and the government's refusal to countenance a transport network that might compete with its suburban railways. Nevertheless, the coming future Premier, Duncan Gillies, member for Rodney, introduced a private Bill for the Melbourne Tramway and Omnibus Company's Act. The Bill was criticized on the ground of granting a monopoly and was the subject of a committee inquiry. Before the process was completed there was an election which brought Gillies the premiership. Opposition petered out and the Bill passed into law in October, 1883.¹

The Act provided that the municipalities through which the routes would pass could enter into an agreement with the M T & O C to form a Melbourne Tramways Trust. That occurred in 1884. The agreement, which was set out in the Act's fourth schedule, provided that the Trust would borrow

funds to build the tramways (cables, tracks, engine houses etc.) and lease them to the company for thirty years.ⁱⁱ The Councils numbered twelve, and were-

Melbourne
Fitzroy
Collingwood
Brunswick
Richmond
Hawthorn
Kew
Prahran
St. Kilda
South Melbourne
Sandridge (Port Melbourne)
Hotham (North Melbourne)

The rolling stock and car sheds were the M T & O C's responsibility, as was the maintenance of the tramway and the roadway between and immediately adjacent to the tracks. The company erected a grand head office at 669 Bourke Street, and the structure is on the Victorian Heritage Register. It also built a large workshop in Nicholson Street, now the site of a bus depot.

The first routes (1885-87) from the city were north and east, traversing Fitzroy, Brunswick, Carlton, Collingwood and Richmond. The second set was south-east, traversing Prahran and St. Kilda (1888-89). Lastly, during 1890, routes through South Melbourne, Port Melbourne, West Melbourne and North Melbourne were opened. In 1890 a new firm, the Clifton Hill to Northcote and Preston Tramway Company, opened a separate line northwards from Clifton Hill, along High Street to Dundas Street, which was the northern boundary of Northcote. The opening dates and lengths of the cable-tram routes were-

1885	11 November	Richmond (Bridge Road)	5.8 km.
1886	2 October	North Fitzroy	5.9 km.
	22 November	Victoria Street (Abbotsford/Richmond)	5.8 km.
1887	10 August	Clifton Hill	6.1 km.
	30 August	Nicholson Street (Carlton)	5.4 km.
	1 October	Brunswick	7.2 km.
	21 December	Elgin Street/Johnston Street	5.4 km.

1888	11 October	Brighton Road	8.1 km.
	26 October	Prahran	7.7 km.
1889	9 February	North Carlton	4.6 km.
	15 February	Toorak	8.0 km.
1890	18 February	Northcote	3.6 km.
	3 March	North Melbourne	4.7 km.
	18 April	West Melbourne	3.3 km.
	17 June	South Melbourne	5.8 km.
	20 June	Port Melbourne	5.7 km.
1891	27 October	Windsor-Esplanade	3.1 km.
			97.2 km. ⁱⁱⁱ

Map A describes these cable tram routes. A cable tram and dummy are depicted in Illustrations 1 & 2.

During the late 1880s there were a few additions to the tram network. Three of them were horse trams, and two of those had routes that would later be electrified. These were (1) from the Victoria Street bridge to the Kew cemetery (1887) and (2) from Bridge Road to Auburn Road via Riversdale Road, Hawthorn (1889). There were also horse tram routes in the Caulfield area, part of the route going along Glenhuntly Road (1889).

The economic depression of the 1890s stopped growth of the tram network, and in any case metropolitan Melbourne experienced a net loss of population during that period.

There was a remarkable cable tram network, stopping only at major waterway crossings. The network was augmented by government steam railways which went beyond the waterways (Yarra River, Merri Creek, Moonee Ponds Creek).

The suburban railway network mostly predated the trams, and was laid down when land was readily available or could be acquired at an acceptable cost. In the main, that could not be done in the densely inhabited inner suburbs. Until 1901, Collingwood, Fitzroy, Carlton and North Melbourne had only the inner circle railway line which ran westwards along Park Street (the southern boundary of Brunswick) and looped southwards to the North Melbourne railway yards. In effect, that left all of

those inner suburbs unserved by public transport, and over half the cable tram network filled that void. (The railway connection to Melbourne from Clifton Hill, parallel to Punt Road, was made in 1901, mainly as a convenience to residents of Ivanhoe and Heidelberg.)

The railway lines east, south-east and south of Melbourne were more numerous than those in the northern suburbs, but there were gaps left for the cable trams to fill. The whole cable tram network served nearly three quarters of Greater Melbourne's population of 490,896 in 1891. (The four local government areas of North Melbourne, Fitzroy, Collingwood and Richmond, along with Melbourne, held 41% of Greater Melbourne's population.^{iv}) The cable tram routes had a marked impact on the formation of inner Melbourne's major shopping strips. Frequent stops and easy boarding and disembarking made trams a convenient conveyance along shopping streets. Notable examples are Smith Street, Brunswick Street, Bridge Road, Victoria Street and Chapel Street. The closure of the cable tram along Johnson Street in 1939 probably doomed those shops until the end of the century, when refurbishment began to appear. Rathdowne Street, Carlton, suffered a similar fate until North Carlton's gentrification in the 1970s.

ELECTRIC EXTENSIONS

In 1906 the Victorian Railways (V. R) opened an electric tramway from the St. Kilda Railway Station to Brighton Beach, through Elwood and along St. Kilda Street and the Esplanade. This was probably overdue, as the population density of the bayside area was about double that of Northcote.^v Construction of the V R tramline was assisted by the draining of Elwood swamplands and the persistent advocacy of Thomas Bent, M.P., a notorious "booster" and promoter of earlier railway lines. On the other side of town the North Melbourne Electric Tramway and Lighting Company Ltd. opened two lines, from Flemington Bridge (Moonee Ponds Creek) through Essendon to Keilor Road and from the Bridge in a looping westerly route to the Maribyrnong River. Both began in 1906. Map B describes these lines along with the earlier cable tram routes. Essendon's population density was about the same as Northcote's.^{vi}

During the first two decades of the twentieth century urban expansion was particularly vigorous eastwards and south-eastwards from Melbourne, in Kew, Hawthorn, Caulfield, Malvern and Camberwell. Two municipal trusts were formed to build electric tramways that ran beyond the existing cable and horse tram lines. The Prahran and Malvern Tramways Trust (P M T T) opened in 1910. By 1919 the Trust had 97 trams running over 57 kilometres of route. Routes went as far east as Mont Albert and southwards to Point Ormond.

The Hawthorn Tramways Trust (H T T) opened a line from Princes Bridge, along Swan Street and then along the Riversdale Road horse tram route in 1916, taking it as far as Warrigal Road and the

famed Wattle Park. With entrepreneurial flair the Trust had purchased from a local owner the land on which Wattle Park was laid out. (Wattle Park was in Nunawading Shire, and part of the shire was severed to form Box Hill borough in 1925. Wattle Park was at the borough's western extremity.) The Trust's other line ran off Riversdale Road and went along Camberwell Road and Toorak Road, also as far as Warrigal Road, where a few shops and a hose pipe looked eastwards towards orchards and Ballyshanassy village.

In the same year that the H T T began operation, the Melbourne, Brunswick and Coburg Tramways Trust (M B C T T) began a service northwards along Swanston and Lygon Streets, ultimately to Bakers Road, Coburg. The Trust also had a short northerly line along Nicholson Street. Two other Trusts were formed and undertook initial track work. The Fitzroy, Northcote and Preston Tramways Trust constructed lines to East and West Preston and the Footscray Tramways Trust built three routes from the Footscray railway station to Ballarat Road, west along Barkly Street, and south-west to Yarraville. The operation of tram services on these routes did not occur until the formation of the M M T B.

Map C shows the cable tram network (operated by M T & O C), the various electric tram networks operated by the Trusts (or intended to be operated by the trusts) and the Victorian Railways, before the formation of the M M T B. There were nine bodies running Melbourne's trams. Appendix 1 diagrammatically shows the networks and their sequences of ownership. (Some lines are described in the Appendix, but are not mentioned elsewhere in this document. They are included for the sake of completeness.)

ROYAL COMMISSION INTO TRAINS AND TRAMS

In 1910, when Melbourne had the cable tram network, three electric tram systems and some horse tram services, the Government appointed a Royal Commission to inquire into metropolitan train and tram services. With regard to trams, the Commission's terms of reference included the questions of the desirability of single ownership and how that might be achieved. It was also asked to investigate measures to better meet the present and future needs of Greater Melbourne's travelling public.

The Commission reported that a single tram organization was needed, but not as an adjunct of the railways. (At least two of the Railways commissioners supported this view.) A Greater Melbourne Council was recommended to run trams. With regard to improvements to the system, electrification was recommended. The cable system was slow (average 15 kph), was slow for shunting, could not carry more tramcars without extra power houses, and was costlier to construct than an electric system. (The deep conduit to carry the cable and associated machinery cost more than overhead wires.) It was also recommended that trams have a low step at one end for women and the elderly, a

recognition that a low boarding point was desirable. In a few years this evolved into drop-centre trams, a feature of “W” type trams later built by the M M T B.^{vii}

This matter of convenience was taken up again in 1913 in an inquiry into the V. R. St. Kilda to Brighton tramline. Among the inquiry’s findings there was a recommendation that “modern and commodious” trams be built, which came in an answer to complaints about tight-skirted ladies having difficulty boarding trams.^{viii}

THE ELECTRIC ROLLING STOCK

The first electric trams were single truck (i.e. one set of wheels), positioned centrally below the body. At one or both ends there would be a step to a floor level lower than the saloon. The lower floor area was known as drop-end.

The decision to use two trucks (described as bogie) led to a design which put the lowered floor and boarding area in the middle of the tram, between the two sets of wheels. It was known as drop-centre. (Some early models also had drop ends for boarding.) The drop-centre arrangement was to become the dominant design feature of “W” type trams.

The bogie, drop-centre tram design was first used in Melbourne by the P M T T and soon after by the H T T. All the tram cars were built by Duncan and Fraser (Adelaide), under contract to the Trusts. There were four models, later expressed as classes that were defined by letters of the alphabet when the fleets were taken over by the Melbourne Metropolitan Tramways Board. The details of the drop centre and end combination trams are as follows:

<u>M M T B Class</u>	<u>No. built</u>	<u>Year first built</u>	<u>Description</u>
C	11	1913	P M T T. Drop centre and end combination (Examples preserved at Ballarat (1) and Bendigo (1).)
E	10	1914	P M T T. Same as C class except for seating arrangement. (Examples preserved at Bendigo (2), Bylands (1) and Ballarat (2).)
N	10	1916	H T T. Slightly heavier than C class. (Examples preserved at Bendigo (4), Ballarat(1) and Sydney(1).)

H T T. Slightly longer drop centre section. (Examples preserved at Bendigo (2), Bylands (1) and South Australia(1).)^{ix}

In 1917 a completely new design was devised by V R, involving two trucks (or bogie), either side of a drop centre, which embodied all of the entry area (there was no drop end). Fundamentally, they were of a "W" type design. Sixteen of these trams were built at the V R Newport Workshops during 1917-23, and the first unit began service in 1918. Bodies of these trams are preserved at Bylands (1) and at Haddon, Victoria (1).

A SINGLE METROPOLITAN TRAM SYSTEM

The Royal Commission (1910-11) recommended the formation of a Greater Melbourne municipal tramways body to take over the cable system which was under lease to the M T & O C until 1916, along with the Northcote cable line and existing or emerging electric systems run by separate trusts. The Victorian parliament sidestepped the municipal concept and created the Tramways Board (1916) which took over the M T O C and M T T operations. It was superseded by the Melbourne and Metropolitan Tramways Board (M M T B), on 1 November 1919. The M M T B took over 1125 cable cars and dummies, 165 electric trams of about twenty designs, and 114 kilometres of tram routes. The handovers occurred between 1919 and August 1922, and V R kept the St. Kilda to Brighton line (which had been extended to Sandringham).

It was necessary to continue making cable cars and dummies, and the M M T B reported in 1920 and 1921 that units were being built at the Nicholson Street Repair Shops.^x During its first few years the M M T B was preparing a General Scheme for Future Tramways, as required by section 34 of its enabling Act. The Board reported in 1923 that the difficulty of its task was greatly increased by the fact that it was not aware of any other city that had attempted a tram scheme (including conversion of cable to electric traction) of such a magnitude as Melbourne's network.^{xi} There were thus two tasks to be accomplished: the extension of the tram route network during the 1920s, and the conversion of cable to electric traction. During 1923-29 the M M T B built 33.7 route kilometres of new tramlines, the largest being Chapel and Church Streets, Richmond (3.3 km) City to South Melbourne and St. Kilda (6.3 km) and City to West Coburg (10 km). Both these tasks required the manufacture of new electric trams.^{xii}

The manufacture of new trams prompted the M M T B to acquire a workshops site at St. Georges Road, Preston, occupying 6.9 hectares. A paint shop and a car erecting shop were the first two buildings erected.^{xiii}

THE W CLASS TRAMS

The designation "W" came about from the M M T B having allocated "A" to "V" to the varied fleet of trams that it had inherited.

The "W" class design was modeled on the bogie drop-centre trams that had been used by the P M T T and V R. The influence of P M T T further extended into the M M T B tram fleet when an order for six drop-centre trams was assigned to M M T B. Made in 1921, they had inwardly curving lower sides and were designated L class- see illustration 3.

Far more numerous were the first W class, totaling 200 trams which came into service during 1923-27. The requirement for new electric trams was so great that four coach-building workshops were used. The M M T B's workshop at Holden Street, Fitzroy North, assembled the trams during all five years of manufacture. James Moore, South Melbourne, and Holdens, Woodville, South Australia, had contracts for most of the manufacturing period and the new Preston workshops assembled them during the last year. W class trams were numbered 219 to 418.

There were three entrances each side in the tram's drop centre, leading to a centre aisle that continued into the saloons at either end. The seating layout, a side view and a photograph of the tram are in illustrations 4 and 5.

In 1925 an alternative design was adopted by changing the drop-centre compartment. The seats were installed longitudinally, with the seated occupants facing outwards. There was insufficient weather protection for the centre area - only canvas blinds - and the design was not popular. Prefixed W1, there were thirty trams of this design made by M M T B during 1925-28 (see illustration 6).

The next model, W2, signaled a return to the original W design. The chief difference was again in the layout of the drop-centre section. Whereas in the W design the seated occupants in the middle area faced the centre entrance, in the W2 design the seats were back to back. The centre entrance was also slightly narrower. There were 180 W2 trams made by James Moore and the Preston workshops during 1927-31, and all 200 W trams were converted to W2 design during 1928-33. Twenty six of the less popular W1 trams were also converted to W2 design during 1936-37. The W2 class thus became the most numerous tram type in Melbourne, many serving for nearly sixty years continuously. Sixteen of them were used for the first Transporting Art trams (hand painted by well

known Australian artists), and numerous examples are preserved in Australia and overseas. (see illustration 7).

The doorways were protected by retractable canvas blinds during inclement weather, or left open with only a safety barrier rail on the off the side when a breeze was preferred. They evoked notions of Australian hardiness, and the basic door design continued with the W3, W4 and W5 designs which were built until 1939.

The W3 trams (16) had all-steel framing, new trucks to reduce noise and improve riding, and were built at Preston during 1930-34. The W4 trams (4) had wider wheels which protruded into the floor. Seats had to be positioned transversely around the wheels, necessitating a wider body. It was with the last of the series, W5, that the M M T B perfected the design concept for the open-air drop-centre type. It is this class of tram that has survived in the greatest numbers, albeit subsequently modified by the fitting of sliding doors on two of the three entrances and the filling in of the third entrance. One-hundred and twenty W5 trams were made at Preston during 1935-39, and their side view and layout are shown in illustration 8.

Even while the last of the open-door W5 trams were being built, one of the W1 trams was experimentally fitted with sliding doors in 1938. Deemed a success, the last ten W5 trams were also converted to sliding doors in 1939. They were classified as SW2 and SW5 respectively. Further tram production by M M T B moved on to SW6 (1939-51), some having reversible 'tip-over' transverse saloon seats. One-hundred and twenty of the SW6 trams were made. They are shown in illustrations 9 and 10. The M M T B also converted numerous W5 trams to sliding doors during the postwar years, and made a second batch totaling 85 conversions in 1983-86. By then though the tram fleet had moved on to a radically different design, with the orange Z class which had folding doors at the entrances at the front and towards the back of the tram, and seated conductors.^{xiv}

TRAMS AND BUSES.

The M M T B introduced buses in 1925 to supplement its transport network, particularly where definite traffic routes had not been established and public demand was satisfied by a regular though infrequent service. In well settled urban areas, though, the board was unequivocal about the primacy of trams:

'...the electric tram is, par excellence, the vehicle for dense city transport...

The Board's policy is, however, to extend the use of the electric tram as far as is possible by using the profits of the central system to balance the losses on tramway extensions during their developmental period. This is

done in order that the residents of the outer suburbs may make the journey without changing vehicles, as they would have to do were each type of vehicle restricted to its own economic sphere'.^{xv}

DECOMMISSIONING OF CABLE-TRAM SYSTEM.

The M M T B took over 97 kilometres of cable-tram route when it was formed in 1919. The first conversion to electric traction occurred in 1925. Some routes were converted to Tramway buses and some were medium-term bus routes until new rails and overhead wires were installed. The withdrawal of cable trams was set out in contemporary M M T B annual reports and is as follows:

<u>Cable tram route</u>	<u>Converted to</u>	
	<u>Bus</u>	<u>Electric Tram</u>
Flemington Road (Abbotsford Street to Flemington Bridge)		1925
Windsor - Esplanade, St. Kilda		1925
City to St. Kilda, via St. Kilda Road		1926
Toorak Road		1927
Bridge Road, Richmond		1927
Victoria Street, Richmond		1929
Brunswick Street, St. Georges Road		1930
West Melbourne (Spencer Street)	1935	
North Melbourne		1935
Brunswick		1936
Rathdowne Street, North Carlton	1936	
Port Melbourne	1937	

South Melbourne		1937
Johnston Street, Collingwood	1939	
Northcote	1940	1955
Nicholson Street, North Fitzroy	1940	1956

Cable trams are preserved at Bylands, the Science Museum and in the State Heritage Fleet, the last-mentioned being lent by Bylands.

WHENCE THE DESIGN?

The precursors of the “W” class tram were the P M T T C, E and L class trams (1913-20), the H T T N and P class trams (1916-17) and the V R trams (1917). The Prahran and Malvern fleet therefore appears to be the earliest, and the Report of the Engineer and Manager appended to the P M T T’s annual report of 1913 states that the bogie car-body had been adopted as standard and ‘had been designed by a member of my staff.’ It is believed that the designer was Robert Lormer, the trust’s assistant engineer.^{xvi} Lormer joined the M M T B in 1919, following the path taken by the P M T T chairman, Alex Cameron, who was chairman of the M M T B from its inception until 1935. The bogie drop-centre tram design thus had two influential sponsors in the M M T B.

The origin of the drop-centre tram did not, however, lie with P M T T. The earliest design appears to have occurred in Christchurch, New Zealand. The Christchurch Tramway Board’s Engineer, Scott Symington, designed a bogie drop-centre tram bearing a remarkable resemblance to the M M T B’s W1 class with the open-air centre section, but with seats facing the ends rather than the sides. Six of the Christchurch trams were made by a local coach builder, Boon and Co., and entered service in April, 1906. Each car was 12.4 metres long, a metre or more shorter than the Melbourne drop-centre trams. A further twenty-two Boon and Co. drop-centre trams came into service in Christchurch during 1907-10. All of the Boon trams ran until 1952 when the first of them was withdrawn from service. By then the Christchurch trams had been modified, like the M M T B’s “W” type trams, by having sliding doors fitted to the centre section during 1929-32. Boon drop-centre trams were still running when the tram service was closed in 1954. A restored and running Boon tram is at the Ferrymead museum.^{xvii}

WHENCE THE COLOURS?

Throughout more than sixty years of operation of “W” type trams, their colours have been green and cream. It is probable that Melbourne’s best known symbol is a “green tram”, and probably at least one out of two postcards of Melbourne’s central activities area has included a green tram in the picture.

When the M M T B took over its disparate tram fleet in 1920 the colours chosen were chocolate and cream, the same as the P M T T trams. This continued until 1927. The change to green came from an unusual quarter, in that green and cream colours were chosen for the M M T B bus fleet, which began in 1925 along St. Kilda Road from the city to Elsternwick. After originally settling on the rather dashing combination of black with red wheels, the board decided on 29 August 1924 to paint the buses green. In 1927 the M M T B decided “as an experiment” to also paint a W class tram on the Toorak route green, finished with cream lines. The Argus (3 June, 1927) reported that the colour change possibly resulted in a slight saving in cost of painting. As each tram went into the workshops for periodic overhaul it would be repainted green. (Green and cream were also a popular domestic colour combination during the 1920s, replacing the more sombre chocolate or stone, with cream contrast.) The combination has endured well, and was revived as heritage colours (usually Brunswick green and cream) during the 1980s for domestic and public-space structures in Melbourne.

ASSESSMENT

Most of metropolitan Melbourne’s suburban train lines were first laid down as routes leading to rural trunk railways. The intricate web of urban train lines so familiar to twentieth century Melbournians was quite sparse in the 1880s. The expanding metropolitan population (288,160 (1881), 486,620 (1891)) needed transport, and the roads provided convenient arteries for trams. Costly land acquisitions were later needed for train thoroughfares.

The booming Victorian economy of the 1880s provided the wherewithal for a metropolitan tram-network, and cable was the most advanced means of traction. The dense urban spaces, barely catered for by trains, provided rich passenger catchments. A cable tram network extending to the beaches and the main urban waterways (Moonee Pond Creek, Merri Creek and Yarra River) was laid down during 1885-91.

The financial depression of the 1890s stopped further growth until 1906. By then electric traction was possible. (There had been the short-lived Box Hill to Doncaster electric tram during 1889-96.) Municipal electric trusts built lines feeding from cable tram terminuses. Most of them laid down

electric tram lines well in advance of urban expansion. Their vanguard role was possibly modelled on the Railways having previously run lines in all directions, stimulating land subdivisions.

Unification of the cable tram ways and the electric tram trusts came about when their assets were passed to the M M T B in 1919-20. The running stock comprised 1125 cable trams and dummies and 165 electric trams.^{xviii} The board's brief was to unify the system.

Among the inherited assets, the M M T B had some double truck (bogie) drop-centre trams. Originally of New Zealand origin, this type of tram was adopted as the standard for the M M T B fleet. Production of trams by the M M T B began in 1923. By the outbreak of the second world war in 1939 over 650 "W" type trams had been made,^{xix} and only the Northcote and North Fitzroy cable tram routes were left for electrification. Some cable tram routes (West Melbourne, Rathdowne Street, South Melbourne and Johnston Street) were converted to buses, but the others were electrified.

In 1927 the first of the W class trams were painted green and cream. The colours were adopted for all of the electric "W" type fleet. Within thirteen years wartime Melbourne had an electric network of 600 green and cream trams. They continued to be the standard in the postwar years, and the livery was uninterrupted until the orange Z class trams appeared in 1975. The green and cream livery had a continuous life of 48 years.

PRESTON WORKSHOPS

When the M M T B was formed in 1919 its main tasks were-

- (a) upgrading of the cable-tram network, which led to electrification;
- (b) continuation of the electric-tram network;
- (c) extensions to the electric-tram routes.

The cable-tram fleet dated from the late 1880s in some cases, and it served 97 kilometres of tram routes. There was a big job in the maintenance of the cable trams alone.

The changeover from cable to electric was to take twenty years. That process, together with the extensions to the electric tram system, involved the making of nearly 600 trams, a rate of over thirty-six trams a year during 1925-40.^{xx} After an initial production burst trams would be returned for maintenance, repainting, repair and (in most cases) conversions to sliding doors and other upgrading.

The M M T B had experience with contracting out to external manufacturers and with in-house workshops. It chose the latter for its massive programme.

In 1924 the board acquired 6.8 hectares of land in Preston, bordered by St. Georges Road and Miller Street. Both these thoroughfares had been serviced by electric trams since 1920. The diagram in Map D shows the ultimate development of the workshops, which began with the Paint and Car Building/Repairs buildings. Within a year the Paint shop was operating and by 1928 most of the buildings were completed.^{xxi} The foundry and blacksmiths shop were positioned so that prevailing westerly winds would carry air-borne particles away from the Paint shop. During 1927-28 seventy-two W class trams were completed, with fifty-four of the bodies being built at the Nicholson Street cable-car repair shops.^{xxii}

By 1929-30 the output of new tram cars at the Preston workshops was slightly more than one a week.^{xxiii} The Workshops were also building experimental trams. Ten XI class trams with a single truck and bi-fold doors were built during 1926-28 and a bogie tram with bi-fold doors (Yclass) was built. They were designed with driver-only operation in mind. The output for the standard W2 tram was 150 units, all built at Preston during 1927-31.

The financial depression that deepened during the early 1930s curtailed production, a situation that was to continue until the postwar years. During 1930-35 modified W type trams were made at Preston:

W3 (16 units), 1930-34; and
W4 (4 units) 1933-35.

Production rallied in 1935 when the W5 class began, and 125 of these trams were made during 1935-39 for the Brunswick cable-tram conversion.^{xxiv}

The M M T B had operated buses since the mid 1920s, and in 1935/36 the fleet was considerably enlarged. They were used in substitution for some cable-tram routes (eg. West Melbourne and Port Melbourne) and to service new suburbs. The Workshops began building bus bodies in 1936.^{xxv} Tram maintenance was ongoing, with over 1000 units being run through the Workshops annually for maintenance and repairs. Illustrations 12 to 15 depict various aspects of the Workshops.

WARTIME

The second world war placed much strain on the M M T B and its Workshops. Munitions and war-related factories in the (then) remote western suburbs worked round-the-clock and tram lines were extended to transport the factory workers. Tram cars had to be kept in acceptable running order for these extended services (both route miles and time tables). The new lines that were laid were:

Raleigh Road (Maribymong River to explosives factory)	1940
Extension of above line along Cordite Avenue	1941
Gordon Street, Footscray, north of Ballarat Road	1941 ^{xxvi}

As well as servicing war-production factories the M M T B devoted much of its Workshops' capacity to constructing military equipment for the Ministry of Munitions. The work was done on a no-profit basis. In 1941-42 there was enough spare capacity for nine sliding-door trams (SW6 class) to be built at Preston and for 1100 trams to be repaired or maintained at Preston. In 1943-44 only four SW6 trams were made and only 970 trams were repaired or maintained at Preston.^{xxvii} Several trams were painted with war-slogan messages (see illustration 16).

In 1945 the M M T B reported that whilst ten SW6 trams were built during 1944-45, an improvement on the construction rate of the past five years, progress on new-tram construction was behind schedule. Only forty-six new trams were built during 1940-46. Shortages of space and skilled staff were the main delaying factors.^{xxviii} On the other hand more buses were being maintained or altered at Preston.

The wear and tear on the tram fleet, both mechanically and on the seating and interior fittings, can be imagined from the war-time passenger figures:

Total M M T B passengers 1939-45 (millions)

<u>Year ended</u>	<u>Cable tram</u>	<u>Electric tram</u>	<u>Bus</u>	<u>Total</u>
<u>30 June</u>				
1939	20.8	161.3	11.9	194.0
1940	17.8	167.5	17.9	203.2
1941	6.0	187.4	39.7	233.1
1942	-	233.1	61.9	295.0
1943	-	265.9	70.9	336.8
1944	-	278.5	71.6	350.1
1945	-	284.2	70.6	354.8

(The year 1945 was the M M T B's peak year for passengers)

Source: M M T B Annual Report 1959, p.38

POSTWAR TRAM SYSTEM

With the return to peace the trams continued to serve metropolitan Melbourne's population in several important ways. Motor vehicles were relatively few and aged, and the Commonwealth Government continued to impose petrol rationing until defeated in the federal election in December, 1949.

Shortages in building materials ensured that few new retail shops were built, and the central-city and tramline strip-shopping centres were patronized by increasingly prosperous postwar wage-earners. Trams and trains carried shoppers to central Melbourne, and motor-car road congestion was still a problem for the future. The trams were noisy, especially when crossing other tram lines, and the ones with canvas blinds were draughty, but they offered the sole means of transport for many Melburnians.

In a few years tram patronage would undergo an onslaught from fast-growing motor car ownership. There would only be a few years in which the M M T B could upgrade its war-time fleet to compete with more comfortable and convenient private cars, but postwar tram building came nowhere near the production rates of the 1920s.

The SW6 tram continued to be built at the Preston Workshops. By 1945 there were fifty SW6 trams in operation, and the average annual output was ten trams until the last one was put in service in 1951. The SW6 tram was succeeded by the W6 class (1951-55), which had quieter running. There were thirty W6 trams, and they were put on the line from Bourke Street to Northcote in 1955, which had been serviced by buses since 1940 when the (last) cable-tram route had been closed.^{xxix} The next, and last, of the "W" type, were built in 1955-56. Prefixed W7, forty were built and put on the Northcote and North Fitzroy tram lines. They were soundproofed and all seats were upholstered. Construction of another thirty W7 trams was commenced but was stopped by the State Government.^{xxx}

CHAIRMAN RISSON

From its formation in 1919 until 1949, the M M T B had two chairmen: Alex Cameron, ex-P M T T (1919-35) and Hector Bell, ex-H T T (1936-49). Bell was succeeded by Major-General Robert Risson, (1901-92), ex-Assistant Manager of the Brisbane City Council's Tramways Department.

When Risson came to the M M T B, Victoria had 85.4 private cars per 1000 persons, only a few more than the 80.2 cars in 1939. By 1955 Victoria had 176.4 cars per 1000 persons, more than double the 1949 figure.^{xxxii} Risson could not have arrived at a more challenging time. Not only had car ownership shot up, but new housing estates were quickly extending Melbourne's metropolitan boundaries. Whereas the M M T B had put down tram routes in advance of the prewar urban sprawl, the postwar sprawl overtook them. The Government's cancellation of the building of thirty more W7 trams would have added to the M M T B's difficulties.

All Australian capital cities had electric tram systems in 1950. Sydney's was the largest with over 260 route kilometres, and Melbourne had 163 route kilometres. Geelong, Ballarat and Bendigo also had tramways. By 1961 the tramways in Adelaide, Hobart, Perth and Sydney had been replaced by buses, and Brisbane's system hung on until 1969. The postwar forces that pressed on trams were severe: patronage declined, traffic congestion was attributed to trams and there were accumulated financial losses. It was not a good time to be chairman at the M M T B.

The M M T B's annual reports during the 1950s disclosed that the Board was squeezed by rising wage costs, a reluctance to increase fares in step with inflation and a desire to maintain service levels. Whilst car ownership dealt an obvious blow to patronage, especially on Sundays, television dealt a blow to the patronage of late-night services. Parked and double-parked vehicles caused the irregular running of trams in peak periods. In off-peak periods when city-bound shoppers would patronize trams, there were declining passenger numbers as suburban shopping centres grew. (No new regional shopping centre was on a tram line until a former quarry and tip site was developed at Highpoint, Maribyrnong, in the early 1970s.)^{xxxiii} M M T B passenger numbers were more than halved during the twenty years after 1949-

<u>Passenger Type</u>	<u>1949</u>	<u>1954</u>	<u>1959</u>	<u>1964</u>	<u>1969</u>
Tram (millions)	266.4	204.7	183.8	160.5	119.0
Bus (millions)	<u>72.3</u> 338.7	<u>59.1</u> 263.8	<u>32.2</u> 216.0	<u>32.4</u> 192.9	<u>24.3</u> 143.3

Source: M M T B Annual Report, 1970, p.30

In the face of these dismaying statistics Robert Risson maintained a stout advocacy. In an interview in 1954 Risson confidently stated that trams were the most efficient vehicles, both financially and for moving people quickly, on Melbourne's most heavily trafficked routes. The Melbourne public had a

lot to thank trams for, but it “was astonishingly resistant to realistic fares”. Risson lived near the Burwood tram terminus and caught the Toorak Road tram to work.^{xxxiii}

Robert Risson’s military background with the Royal Australian Engineers dated back to 1933. He was invariably depicted with suit, matching waistcoat and polished black shoes. Sometimes he had a Homberg hat, completing the stiff upper lip image. He refused to yield on the importance of trams to Melbourne and it was reported that he “scoffs at the idea that trams hold up cars... cars hold up trams”.^{xxxiv}

Risson’s advocacy was probably the most important single contribution to Melbourne keeping its trams. Explanations of his motives vary from stubbornness, ruthless traffic and engineering logic and doggedness in keeping his job. The last-mentioned is inferred from the fact that in most capital cities trams were phased out on the recommendation of their controlling bodies, but only because the bodies took over the replacement bus services. In Melbourne a strong private bus sector would probably have taken most or all of the tram routes.^{xxxv} The explanation more likely lies in the first two motives.

Risson’s chairmanship of the M M T B ended in 1970. He had presided over no postwar tramline expansion (and had in fact seen the end of the V R trams in 1956-59). In retirement however, he saw tramline extensions to Keilor Road (1976, 1992), Preston (1983, 1987) and East Burwood (1978), and light rail lines to Port Melbourne and St. Kilda (1987). He also saw the orange “Z” type trams (1975-79) and the green and yellow Z3 trams in the 1980s. They were followed by the green and yellow A class (1984-87) and then the articulated “B” type trams in 1987, also painted in green and yellow. Map E shows the tram lines in the year 2000.

SENSE OF HERITAGE

When the “Z” type trams were built in 1975 they represented a major commitment by the State Government to retain and upgrade the tramway system. Departure from the green and cream livery was to signify front loading only, and the absence of a roving conductor. It also represented a break from the past years of neglect and the carping about “W” trams having square wheels. Within ten years, though, the modern “Z” trams had lost some of their appeal, particularly when they were crowded on hot days, with little flow of air and no air conditioning. The W trams were already being missed. The later improved (and air-conditioned) tram naturally fell back on a green and cream/yellow colour scheme.

A W2 tram was converted into a travelling restaurant in 1982, and two years before then the first of several W2s were exported to America. Someone else was exploiting Melbourne’s heritage. The

National Trust (Victoria) drew attention to the possible fate of “W” type trams in 1990, as they were replaced by the new trams. The Trust observed that the “W” trams were:

“closely identified with both Melbourne’s central city ‘metropolitan’ function and with its suburban image... Melbourne has the good fortune to possess a whole network of vintage style trams still serving the original commuter task for which they were built”^{xxxvi}.

Thirty or more years before the National Trust’s action, tram preservation groups began undertaking the rescue and restoration of heritage trams and associated items. The Tram Museum Society’s collection at Bylands (near Kilmore) is the most extensive (see the charts in Appendix 2). The State Government began the formation of a heritage fleet and some Bylands trams are on long-term loan to the fleet. Two more restaurant trams were commissioned in the 1990s and several “W” type trams were put on the City Circle in 1994.

ASSESSMENT

The M M T B’s most productive decade was its first ten years (1920-30) when “W” type trams were produced at the Preston Workshops. Employing over 600 workers, the Workshops did extensive fabrication, electrical work and body-making. The Workshops included an elaborate assembly hall and offices: all the building stock survives in remarkably good condition.

The network laid down by the pre-1920 Trusts was well in advance of Melbourne’s metropolitan growth. To some extent there was a speculative relationship with residential land subdivision, as evidenced by the many “tram estates”. Illustrations 17-19 show examples. In retrospect it was as well that the trusts had ventured so far afield, as the 1930s financial depression, the second world war and postwar material shortages did not permit much expansion apart from some lines to munitions factories. The construction of new rolling stock was also curtailed.

The Board became conscious of the unpopularity of tram noise and upgraded the trams’ riding qualities. Its endeavours to bring an American “silent” tram (the “PCC”) to Melbourne were frustrated by Commonwealth regulation, and only one set of equipment was landed after the war. Growing motor-car ownership supervened, and catching the tram to town for city shopping was displaced by the growth of drive-in shopping centres in the 1960-70s. The doughty Major-General Risson is Melbourne’s under-acknowledged tram saviour, contending not only with declining patronage, but with unhelpful criticism and difficult industrial relations.

The adverse state of affairs did not dissuade tram devotees from mounting rescue and restoration initiatives: they probably shared Risson's doughtiness. Fleet modernization began in 1975, leading to the retirement of old trams which by varied means came into the hands of preservation societies.

Further fleet modernisation, and the franchising of tram operations in the 1990s, threatened to put all the "W" type trams off the road. The National Trust intervened, and public sentiment swelled, particularly when conductors were withdrawn.

The retention of "W" type trams for everyday commuter use became a popular cause, providing a reminder of the stately progress of Melbourne's green and cream transport icon, whether travelling along the St. Kilda Road boulevard, facing the breeze on the Esplanade or bowling along Keilor Road to the aerodrome.

End note

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- ⁱ The Melbourne Tramway and Omnibus Company's Act 1863, No. 765.
- ⁱⁱ Clause 14, Fourth Schedule, Act No. 765.
- ⁱⁱⁱ Keating, p. 48.
- ^{iv} Victorian Year Book 1892, vol. 1, p. 96
- ^v See Map of Metropolitan Melbourne, vol. 1, Commonwealth Census 1911.
- ^{vi} *ibid.*
- ^{vii} The Royal Commission's Report is at p. 503, Victorian Parliamentary Papers 1911, vol. 2.
- ^{viii} L. Marshall-Wood, p. 11.
- ^{ix} Cross et al, p. 49-61, 91-101; Thomas.
- ^x M M T B Annual Report 1920, p. 22.
- ^{xi} M M T B Annual Report 1923, p. 11-12.
- ^{xii} Historic table, M M T B Annual Report 1946, p. 34.
- ^{xiii} M M T B Annual Report 1924, p. 22.
- ^{xiv} The information for this section is found in Cross et al.
- ^{xv} 'Melbourne and Metropolitan Tramways Board: Its Progress and Development 1919-1929', p. 17.
- ^{xvi} Research by Robert Green, tram historian.
- ^{xvii} 'A Lesson in Preservation: Return of a Boon', Trolley Wire vol. 23, No. 1, February, 1982, Sutherland, NSW.
- ^{xviii} M M T B Annual Report 1920, p. 3.
- ^{xix} K. S. Kings, '50 Years of the M M T B', p. 19.
- ^{xx} Cross et al, p. 23-38.
- ^{xxi} M M T B Annual Report 1925, p. 19.
- ^{xxii} M M T B Annual Report 1928, p. 11.
- ^{xxiii} M M T B Annual Report 1930, p. 14.
- ^{xxiv} Cross et al, p. 28-35.
- ^{xxv} M M T B Annual Report 1937, p. 16.
- ^{xxvi} M M T B Annual Reports 1941, p. 15; 1942, p. 17.
- ^{xxvii} M M T B Annual Reports 1942, p. 16; 1944, p. 15.
- ^{xxviii} M M T B Annual Reports 1945, p. 13; 1946, p. 12.
- ^{xxix} Cross et al, p. 40-43.

^{xxx} Cross et al, p. 44.

^{xxxi} Victorian Year Book, relevant years.

^{xxxii} MMTB Annual Report, 1957 to 1959, 1964 and 1969.

^{xxxiii} Herald, 8 November, 1954, p. 5 and 19 October 1963, p. 7.

^{xxxiv} Herald, 7 August, 1968, p. 21.

^{xxxv} See Paul Mees, A Very Public Solution: Transport in the Dispersed City, Melbourne University Press, 2000, p. 274.

^{xxxvi} Classification Report - W Class Trams, n.d.

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6 June 2000

Mr E. Keys
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Dear Mr Keys

Draft Statement of Significance

On behalf of the Council I wish to congratulate you and your organisation on the compilation of an excellent and well balanced document.

Copies of the document have been circulated amongst our Executive and we have noted several minor corrections and additions that we feel should be included in order to improve the accuracy and objectivity of the document.

I will now deal with each item in order of page number;

1. Page 1 - The Box Hill to Doncaster electric tramway should be mentioned.
2. Page 7 - The Victorian Railways tramway to Sandringham was an entirely separate system which ran to Black Rock and up until the late 1930's to Beaumaris, it was not merely an extension of the St Kilda to Brighton tramway which in itself was unique in using broad gauge 5' 3".
3. Page 9 - The dummy is the grip car, not the trailer. The cable tram is a dummy + trailer. This error is continued throughout the text. It is also important to stress that evolution of the drop centre trams was unique to Australasia.
4. Page 9 - No mention is made in this section of examples of infrastructure technical developments which placed Melbourne at the forefront in many respects.

5. Pages 9 & 10 - Without being offensive we would suggest that the grammar in this section should be checked and improved upon.

6. Bottom of page 10 - "Statement of Significance", in the final paragraph headed "Conservation", several additional sentences could be added saying:-

"Examples of Melbourne cars have also been incorporated into tramway museums in Adelaide (representing the local builders), Perth, Sydney, Auckland and Christchurch. These museums are linked with those in Victoria through the Council of Tramway Museums of Australasia. Furthermore, former Melbourne W class cars now in some overseas cities such as San Francisco, San Jose and Seattle provide international acknowledgment of Melbourne's tramway heritage through their continued and recognised use in Melbourne livery and numbers."

Mention must also be made on this page of the efforts of the Melbourne Tramcar Preservation Association's efforts when mentioning the other Victorian museums.

5. Page 11 - "It is significant in its scale Melbourne has the only intact fully operational tramway system in Australia, and is the only major system left in the English-speaking world."

Comment: The first part of the statement is correct, but the second is not. Toronto in Canada certainly rivals Melbourne with respect to its continuity of operation and scale. Thus the words "...with exception of Toronto, Canada" should be added.

Similar wording at p3: "It is the only major street tramway system anywhere in the world to be retained in what is now a primarily car-based city." should be changed to refer to Toronto.

6. Page 21 - Very last words, "W" class trams no longer bowl along Keilor Rd (This is the grammatical interpretation. It may not have been the writers intention)
7. Map E - Track along Moreland Rd is missing., Also to be historically and traditionally correct, we must use the destinations East Burwood, North Balwyn, North Coburg, East Malvern, East Brighton etc., not Burwood East etc.. PTC actually tried Malvern East on the early "Z" class trams to venture that way, but were soon forced to change back to East Malvern due to angry responses by locals. Map draughters need also to be aware that what was East Malvern is now Malvern and Darling Rd now East Malvern.
8. Page 23 - The word "dummy" is still incorrectly used.
9. Page 26 - Tram 596 is travelling west
10. Page 31 - Photos 17 - Circa 1992 ?

11. Appendix 1 - This is really the 2nd appendix in the document, or is it an appendix to the appendix ? - Well tabulated but column headings should be added. Is this also the only mention of the Royal Park horse tram ? If so greater emphasis should be added to this tramway within the document.

12. Appendix 2 - Is most important but contains many errors.
The "M" class in USA (Ballarat 30) has been scrapped after a fire.
"H" - Add Ballarat 1 (18)
"J" - Ballarat is 3 (11, 13 & 14)
"M" - Ballarat is 5 (26, 27, 28, 32 & 33)
"N" - Ballarat is 1 (Melb. 121)
"P" - Bendigo is 3 (24/138, 25 & 26)
"W2" - NZ is 3
"W5" - Bendigo is 1 (808)
"W6" - Bendigo is 1 (976)
PCC - Not the forerunner of SW6

There should also be additional references to some of the works trams which are also of great significance in the scheme of things.

13. Throughout the document BTPS & BTM for Ballarat are used and this should be only BTM. The use of MTPS for Haddon is also incorrect as it should be MTPA.

14. Throughout the document tramway infrastructure seems really to have taken a very back seat. Winding houses, depots, track, shelter, Preston Workshops and substations are of huge importance to the significance of our tramway heritage and we strongly believe that they must also be mentioned and included in this work.

Should you require any further clarification on my comments then please telephone me on 0419301345 during business hours.

Again may I congratulate your organisation on the production of a fine Statement of Significance and our Council looks forward to actively continuing to be involved in this evolving process.

Yours sincerely

Craig S. Tooke
Executive Officer