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TRAMS IN HIDING 2

HAWTHORN DEPOT OPEN DAY

INSTRUCTIONS & BACKGROUND FOR VOLUNTEERS

INTRODUCTION

This manual has been produced to enable all people involved with Trams in Hiding to gain:

- a better understanding of what is expected from each individual
- an understanding of the arrangements for the day
- a knowledge of the historey of the depot and the historic trams

The open days have been auspiced by the National Trust, and organised by the Trust with generous assistance from members of the Trust's W-Class Trams Committee.

The Minister for Public Transport the Hon. Robin Cooper has granted us permission to open the depot and use the trams. We have also been supported by 'Yarra Trams' (half of the recently subdivided Public Transport Corporation). We are however being charged for the use of Yarra Trams professional staff, such as drivers.

Activities on the day are being co-ordinated by Michael Norbury or Michael Wilmot of the Trust's W-Class Trams Committee. Any difficult questions or offers of information or memorabilia should be directed to them.

BEHAVIOR EXPECTED OF VOLUNTEERS

Everybody must be polite yet firm. We must keep the National Trust's good reputation, but some visitors may not understand that the Trust is a charity, not an arm of government. If there are crowds and delays it is because there are more people than anticipated. If visitors feel the service is poor or that it is expensive please explain that you are only a volunteer, that the Trust is paying the PTC to open the depot, operate the trams and contribute to the tram's maintenance.

Be polite yet firm about access to the pits (definitely off limits - there are live wires) the ringing of bells, and tram trips (we may be overwhelmed by demand, or trams may break down).

Don't be distracted - don't enter into long conversations with friends or tram enthusiasts - the system will only work properly if you perform your allotted task.

GENERAL SCHEME

Summary

- entry will be at small door at Power Street
- tickets will be purchased at entry
- visitors will be provided with a detailed tour guide ("the Guidebook")
- visitors will proceed through building, then car shed, finally finishing with a tram trip
- information and short tours will be available at various points.

Opening

The Depot will be open at 10am, the last entrant will be admitted at 4pm with the last tram at 5pm.

Entry

The Visitors will enter to Depot via the small door on Power Street. Ticket desk will be located either at entrance (i.e. outside building) or at bottom of stairs.

Visitors will be:

- greeted
- sold tickets
- given Guidebook.

People Required: 2 ticket sellers
If possible one meeter/greeter

The Building

There will be no guided tour through the building. The Guidebook will contain sufficient detail so that visitors have sufficient information available to them to identify the past uses of the various spaces in the building. It will also contain a map.

Access to the mezzanine floor of the clothing factory (down the Power Street stairs) is denied.

At various points throughout the building will be displays highlighting the various features of the building, its history, or the Hawthorn Tramways Trust.

There will also be a National Trust stall where memberships will be available, and books for sale.

Visitors will be expected to make their way through the building using the Guidebook and following displays.

Rohan Storey is in charge of operations inside the building.

Stall

There will be a National Trust stall where Trust memberships will be available. and books for sale.

People Required: 1 bookseller

This stall will also serve as the coordination point for all people involved in the activities within the building.

Exit from Building and Entrance to Car Shed

Visitors will need to exit from the building in order to enter the car shed. Exit will be from the door on the lowest level next to the car shed on to the depot fan. A rope barrier will be set up which directs the general public into the car shed beside No.1 road.

At this point there will be a guard, whose task will be to assist the flow of visitors to ensure that only people with tickets can enter into the car shed. Visitors will be able to break the tour at this point, or enter the car shed for a second time, but this should not be encouraged.

People Required: 1 guard

Car Shed

Once inside the car shed, visitors can either:

- wait and take one or all of the tours, or
- proceed at their own pace.

If visitors want to skip the car shed and go straight to a tram ride, then they can.

This will be explained in the Guidebook.

There will be four tours:

1. The Small Car Tour

   This commences at the entrance to the car shed and will finish outside the entrance of the battery room (i.e the room which houses the tram chassis). This tour covers the oldest trams in the collection.

2. Tram Chassis Explanation

   This tour deals with the operating of the former battery room and the tram chassis. It is conducted in the room which houses the tram chassis.

3. The "W Car Tour"

This tour covers the evolution of W design from W to W_7. It commences at the rear of the larger shed adjacent to No.4 road and ends at the end of No.4 road where visitors pass through the internal door into the smaller car shed.

4. The "Miscellaneous Car Tour"

This tour commences inside the smaller car shed, and deals with the trams in that shed.

People Required: 4 trained guides

Exit from Car Shed

At the end of the Miscellaneous car tour, the visitors will be shown outside through the shed door nearest Fairview Park. There will be a guard on the door who will prevent entry at that point, and who will direct the visitors to the tram ride loading point.

As all doors to car shed will be closed, random public access to shed should therefore be denied.

Please do not open and shed door unless directed to do so by the fan controller or an organiser.

People Required: 1 guard

The Depot Fan

Activities on the depot fan (depot fan - where the tram lines coming out of the car shed meet together outside to form one track) including loading and despatch of trams will be coordinated by the fan controller.

People Required: 1 fan controller, 1 depot fan controller

The Tram Ride

The visitors will wait for the tram in a specially roped off area in front of the small car shed. A sign will indicate the waiting point.

The fan controller, assisted by his deputy and the conductor will ensure that people at the head of the queue board the next available tram. Conductors on the tram will check and punch tickets. No ticket - no ride!

The tram ride will leave the Depot and travel as far as the Burnley shunt. On return the tram will travel down Riversdale Road to Glenferrie Road (but may be shortened if heavy demand) where tram will shunt and return to Depot. Visitors may have more than one tram ride, but must always alight from tram and go to end of queue in between tram rides. This should not be encouraged especially if it is too busy.

People Required: 2 conductors

Leaving the Depot

The exit from the Depot will be through the roadway onto Wallen Road. Guards and signs at that point will inform the general public that entrance is through the small door at Power Street. General public should be directed to that entrance.

People Required: 1 guard

Refreshments

Coffee and biscuits will be available from the Transit Band Room (at the river end of the building - access from depot fan).

Car Parking

No car parking on site
The Leonda car park may be available, but no special arrangements have been made.

Name Tags

All volunteers will be issued with name tags. Name tags are to be worn at all times while at Hawthorn Depot.

Toilets

Public toilets are available in Fairview Park, near to Power Street door. In addition toilets are located within the building (men's, top floor, women's, mezzanine floor) for those in building. Encourage visitors to use Fairview Park toilet once outside building.

Safety

Many areas will be roped off. Roped off areas will include pits, unsafe floor. Please ensure that no visitor crosses the lines. In addition, visitors should be kept out of tram cabins.

Co-ordinators

The overall co-ordinators for the day are Michael Norbury and Michael Wilmot.

One of them will generally be located on the depot fan or in the car shed.

All enquiries regarding organisation of the trams or historical information should be directed to them.

Expressions of Support

Visitors may enquire as to the future of the trams or the depot.

The trams are relatively secure, although there is no ongoing maintenance or restoration programmes.

The future of the depot is uncertain. The Government is unwilling to support or fund the establishment of a museum at the depot.

The National Trust is lobbying for the depot to become a museum, but this will only become a reality if a large pool of volunteers is available.

A petition regarding support for prevention of the depot and the heritage fleet will be available for visitors to sign.

Similarly, a list for people to sign who are potential future volunteers will also be available.

HISTORY

[A brief history will be included in the Guidebook. Guides and others will not be expected to explain history beyond the information set out in the relevant guide instruction]

Prior to 1906

Prior to 1906, except for the Doncaster - Box Hill electric tram (1889 - 1895), Melbourne's tramway system consisted of an extensive cable tram system (the world's biggest) with several horse trams operating on its outer extremities.

(eg. Hawthorn Bridge - Auburn.
Victoria Bridge - Boroondara Cemetery,
Royal Parade - Zoo.
Coburg - North Coburg).

The cable tram system had been conceived and built in the 1880's.

The depression of the late 1880's so sapped confidence that there was no further tramway construction until 1906.

1906 - the first electric trams.

In 1906, two electric tramways were built, one by the Victorian Railways from St Kilda railway station which would eventually reach Brighton, the other, built by the North Melbourne Tramway and Electric Lighting Company Limited which connected with the cable tram system at Flemington Bridge and consisted of two lines, one to the Maribyrnong River, the other to Essendon via Mt Alexander Road.

At that time, investors in electrical undertakings saw electrical tramways as a profitable ancillary investment.

This was an investment pattern repeated in Ballarat, Bendigo and Geelong, but not elsewhere in Melbourne.

1910 - the first electric tramways trust

Residents and traders of High Street Prahran protested because no cable tram operated in High Street. The horse drawn omnibus was no substitute.

Consequently, the municipalities of Prahran and Malvern arranged for the state to incorporate the Prahran and Malvern Tramways Trust. In 1910, the PMTT opened an electric tramway from High Street, Prahran near Prahran railway station to Glenferrie Road, where the line split, with one branch continuing along High Street to Glen Iris, the other heading south along Glenferrie Road to Wattletree Road, then turning east to Burke Road.

Malvern Depot dates from the opening of the PMTT

The success of this first line, led to the rapid expansion of the PMTT into many inner eastern suburbs.

Many other municipalities became members of the PMTT.

1916 - the Hawthorn Tramways Trust

Encouraged by the success of the PMTT, the HTT was established in 1915.

In April 1916, the HTT opened the first section of its line from Princes Bridge to Hawthorn Depot.

Throughout 1916, the HTT progressively extended its tram line along Riversdale Road to Camberwell Junction, then along Camberwell Road to Toorak Road, and along Toorak Road to Boundary Road (now Warrigal) Road.

A short line from Hawthorn Bridge to Hawthorn depot replaced the Hawthorn Horse Tram.

On completion of the Trust's lines, it built a further line on behalf of the City of Camberwell from Camberwell Junction to Boundary Road via Riversdale Road. (the "Riversdale Extension", later Wattle Park line).

Where the profits from the main system (and the losses) were divided between the four municipal members of the HTT (Melbourne, Richmond, Hawthorn and Camberwell) the Riversdale Extension was always operated on the account of the City of Camberwell. (i.e Camberwell was entitled to all the profits or bore all the losses).

The other trusts

Apart from the PMTT & HTT, there were several other suburban tramways trusts:

Melbourne Brunswick and Coburg Tramways Trust opened 1916

Fitzroy, Northcote and Preston Tramways Trust opened in 1920 (after MMTB takeover)

Footscray Tramways Trust opened 1921 (after MMTB takeover)

The Hawthorn Tramways Trust

The HTT was an independent tramway operator.

It was designed and built as a stand alone system.

Hawthorn Depot was at the heart of this system.

It housed:

- sub station
- trust management
- overhead dept.
- permanent way dept.
- traffic staff (drivers, conductors, inspectors)
- administrative offices
- tramcar workshop, or maintenance facility.

The HTT had its own fleet of tramcars, which, while unique, shared many similarities with the cars used by the PMTT.

The HTT had its own livery - largely French grey.

Hawthorn Depot

Hawthorn Depot was opened in April 1916 - at the same time as the first section of HTT line.

Two or three designs were considered - one included shops facing on to Power Street and a caretaker's residence.

However, these features were removed so that the construction costs of the depot were reduced.

The depot is of brick and reinforced concrete construction throughout.

The upper level contained originally the Board room (in SE corner), entrance hall, offices for engineering staff, accountant, clerks, a staff mess room and various inspectors.

By 1938, much of the upper level had been converted to a clothing factory. The staircase in the Power Street wing was installed to give access to the clothing factory.

Originally the middle level existed only at the western end of the Wallen Road wing. This consisted of the revenue office, mess room and inspector's office. The battery room and the substation had very high ceilings with ventilators at the top, where the ceiling met the walls.

However, a mezzanine floor has been built through the battery room and part of the substations to provide a clothing store (not before 1938).

The ground floor (i.e. same level as rails in car shed) consisted from the west of the battery room, of the substation, a workshop, a store and a mess room.

The battery was disconnected sometime in the 1920's. The fully charges battery was capable of running the entire HTT system for about 60 - 90 minutes.

In the period prior to 1920, it powered the trams from first car until about 6am (90 mins) to save the HTT the expense of employing a man to supervise the substation.

It was also used in peak periods when the rotary converters were unable to supply sufficient power to operate all the cars in peak hour. Electricity supply seems to have been rather more erratic. The battery enabled lights on cars to remain on and for the cars to "make it back" if there was a total failure.

The substation continues to be used as a substation.

The Car Shed

There are two car sheds at Hawthorn. The more northerly, a four road shed was opened in April 1916. It housed the HTT's original fleet of 20 cars.

Expanding traffic and the contemplated opening of new routes led to the HTT in 1916 deciding to expand the car shed.

Originally conceived as a six road shed, the demand for the Commonwealth for loan funds lead at first to a rationing of loan funds for public works and later a total withholding of loan funds for public works.

Thus the HTT was only able to obtain sufficient funds to build a three road shed.

However, vestiges of the six road plan remain in the form of:

- galvanised iron southern wall in an otherwise all brick building
- depot fan contains two sidings in anticipation of the six road shed
- steel work for roof projects out of southern wall

Close examination of the depot fan reveals the 1916 original fan and the 1917 extension.

Examination shows the present lead from the running lines runs into the four roads of the original shed and one road (the most northerly (i.e present No.5 road)) of the 1917 shed. Before the 1917 shed was built, there was probably an outside road to the south side of the original shed.

As part of the 1917 expansion, another lead from the running lines was added which lead to all three roads in the 1917 shed.

One of these roads was, of course, the outside road. A crossover ensured that the most northerly road in the 1917 shed had access to both leads from the running lines.

In the 1970's, the lead to the 1917 shed was removed. A crack in the bitumen in Wallen Road indicates the approximate line of the 1917 lead.

The Workshop

The 1917 extension contemplated the establishment of a workshop underneath the car shed.

This was connected by a separate line running through what is now the Leonda car park to a point on the city side of the 1917 lead.

The remains of a turntable, but not much else are still visible in the workshop area.

In the 1920's the Leonda car ark was used as a "per way" yard i.e. for the storage of gravel and other road making material, sleepers, rail and track fittings.

TRAMCAR TOUR GUIDES - GENERAL

This applies generally to the people who are the:

- Small Car Tour Guide,
- The W Car Tour Guide,
- The Miscellaneous Car Tour Guide, and
- Battery Room Tour (with modifications).

Specific directions in relation to each tour follow.

At the three points marked on the plan (and generally described in the General part of this manual) there will be signs indicating to the general public that those represent queuing points for the general public.

The general public may either queue at those points and wait for a tour, or may proceed past the queuing points and view the trams at their own leisure.

The guide will lead the tour from the queuing point to the end point of the tour. The general public will move on, while the guide will return to the queuing point ready for the next tour.

It is anticipated that each tour will last about 10 minutes.

Each guides function is to:

- impart knowledge to general public
- keep order in tour group and among visitors generally.

BATTERY ROOM TOUR

Aim:

- to explain the battery room's original use, and
- to explain the use of the room as a driver instruction room.

Information to be imparted to general public:

Battery

On the HTT's opening in April 1916, the battery room housed a large lead-acid battery (the same type as in motor cars).

At that time the ceiling of the battery room was almost four metres higher than it is today. In the 1930's the mezzanine floor was installed to make a space for the clothing factory. Today the ceiling of the battery room is formed by that floor.

Much of the sub-station, which is next door, still retains a ceiling at the original height.

The battery was used in HTT days to:

- operate the entire system from first car out (about 4.30am) to 6.00am when the rotary converters in the sub-station were switched on (this saved the cost of paying the wage of the electricity company's technician who oversaw the operation of the rotary converter, but was not needed for the battery).
- augment the rotary converters in peak periods when the rotary converters had inadequate capacity to power all the trams in service during peak hour.
- provide power for the system during the many brief failures of the main supply.

The battery was charged by the rotary converters at quiet times during the day.

Power came from Richmond Power Station.

Batteries were also located at Kew, Malvern and Elwood tram depots.

The last battery in Melbourne was disconnected in the mid - 1920's, they became too expensive to maintain.

Driver Instruction

Use after use as a battery room.

[Here stand on chassis and describe function of tram components]

- controllers
- reversing handle
- brakes
  - air
  - hand
- motors
- air cylinder
- generator
- compressor .

SMALL CAR TOUR GUIDE

Aim:

- to illustrate to the general public the huge diversity of electric tramcar designs in use in Melbourne prior to 1920.

The cars should be displayed on No.1 road in the following order:

V - 214	(car shed doors)
M - 8	
S - 164	
T - 180	
Q - 9W	
L - 104/106	(rear of shed)

One or more of these cars may be in use for the tram tour: in that case the car will be seen between trips on the depot fan.

Information to be imparted to general public

In Melbourne, in 1920, there were seven separate electric tramway systems. Each tramway system had its own type of trams, which, while often similar, were generally different from those in use on other tramway systems.

Thus, small cars evidence the diversity of tramcar design used in Melbourne in the very early days of electric tramways in Melbourne.

V - 214

This is the oldest tram at Hawthorn. It was built by J.G.Brill of Philadelphia and placed into service in 1906 by the North Melbourne Tramway and Electric Lighting Company Limited. One of 5 similar cars.

No 214 is a "toast rack". It is typical of American trams of the period - no different from thousands then in use in North America.

The design was popular with some tramway operators because of its high seating capacity relative to its length.

However, the design had drawbacks:

- conductor spent his life riding the footboards.
  - slow fare collection
  - illness (pneumonia) and risk from passing traffic
- unsuitable for winter, lead to many North American trolley companies having two fleets, one for winter and one for summer.

214 passed into the ownership of the MMTB in 1923 on the sale by the NMTEL Co. to the MMTB of its tramway undertaking.

It then received its classification V.

The V class were quickly removed from passenger service by the MMTB.

Some (including 214) were converted into work vehicles.

214 remained as a work vehicle until 1978, when it was restored to its present form.

It carries a very early MMTB livery.

M-8

Built by Duncan & Fraser, Adelaide for the Hawthorn Tramways Trust, this tram was placed in service at Hawthorn about 6 weeks after opening.

The tram was one of 10 similar trams put into service at Hawthorn in 1916. Hawthorn Depot was built to house this type of tram.

The coloured lights above the destination boxes were an aid to identifying the destination of a tram at night prior to route numbers being introduced - each destination had its own pair of colours.

The tram is a California Combination.

The Combination car was introduced in North America by trolley companies anxious to eliminate the wastefulness of the summer/winter fleet. The car has both open and closed partitions - hence combination.

The California Combination car was used widely throughout Australia.

At least 80 California Combination cars were used in Melbourne.

No 8 passed into MMTB ownerships in February 1920, when the HTT was taken over by the MMTB. It was remembered 114 (i.e 106 + 8 the PMTT cars used the numbers 1 - 106) and classified "M".

Californian Combination cars were generally taken out of service by the MMTB in the period 1929 - 1935.

Some (including No 8) were sold to the operators of the tramways of Ballarat, Bendigo and Geelong. As the operators (who were also the local electricity supply companies) were taken over by the SEC, these trams passed into ownership of the SEC. California Combination cars were used by the SEC until closure in 1971 and 1972.

No 8, however, was retired in 1956 (when Geelong closed) and was stored for many years at Malvern Depot before being restored.

S-164 and T-180

No's 164 and 180 were placed in service by the Melbourne, Brunswick and Coburg Tramways Trust.

164 was placed in service in 1916

180 was placed in service in 1917

164 is a Californian Combination car. While it has not been restored, with the exception of the destination boxes, the car is in practically original condition.

180, on the other hand, is much altered. It has a radiax truck - so called because the wheels turn when the tram is on curved track (like the front wheels of a motor car).

Apart from the six members of the T class, radiax trucks were not again used in Melbourne. The design has many additional moving parts in it when compared with a conventional truck leading to increased maintenance.

The advantage offered by a radiax truck was a longer wheel base which leads to greater stability.

Both cars passed into MMTB ownership in February 1920 when the MBCTT was taken over.

A total of 18 S class cars were built in two batches, the last were delivered after the MMTB takeover.

In MMTB ownership the S class were displaced from general traffic in the period 1920's to 1930's.

14 S class cars were converted for use as driver only cars in 1941 - 1942.

The conversion involved replacing the weather blinds with masonite panels, apart from one door at each end altering the seating arrangement in the area behind the driver.

Q -9W

This car was originally built as a Q class passenger car no 197. It was put into service by the MMTB in 1923 as a passenger car and converted to a works car in 1959.

It is displayed as a scrubber car. Scrubber cars have an abrasive devise in the centre between the wheels which can be raised and lowered by the driver. This is used to clean the surface of the rails to provide good electrical continuity (a layer of rust on rails will cause an electric tram to fail because there is no electrical continuity) and remove minor irregularities in the rail surface.

L - 104/106

The six L class trams (No's: 101 - 106) were ordered by the Prahran and Malvern Tramways Trust in 1919 and delivered to the MMTB in 1920 by James Moore, Melbourne.

These cars represent a significant departure from the four wheeled cars they were introduced to supplement.

For their time, they were fast with a high carrying capacity.

These cars originally had four doors on each side, and the floor in the centre was 4 inches lower than is presently the case.

They were rebuilt in 1934 to make them better conform to the W car standard.

The cars are painted in an apocryphal MMTB livery.

W CLASS TOUR GUIDE

Aim:

- to explain the evolution of the development of the W car design.

The W class cars should be displayed on No.4 road in the following order:

W - 380	(rear of shed)
W_1 - 431	
W_2 - 510	
W_5 - 774	
W_7 - 1040	(car shed doors)

No. 1040 might be at the end of No.3 road.

W5 - 774 might be in use as a back up vehicle for the tram tour.

Information to be imparted to the general public

W - 323
W_1 - 431
W_2 - 510

Immediately after the formation of the MMTB and takeover of the several trusts, the MMTB was faced with a demand for large numbers of new cars.

The demand was caused by:

1. rising traffic
2. the need to provide electric trams to replace the cable tram system which was to be demolished.

In addition, the MMTB had inherited a motley collection of cars from the trusts, and appears to have been keen to replace them.

The MMTB examined contemporary tramcar design, both in Melbourne and in other Australian cities in designing its new car.

It settled on a design which has some striking similarities to the L class.

The first of the new cars was placed into traffic in 1923 and given the next available letter in the alphabetical classification - W.

200 W cars were supplied by three builders (James Moore, Holden's Adelaide, and MMTB) between 1923 and 1926.

The design was not without some difficulties.

Principal was the unsatisfactory loading and unloading speed of the car.

In 1925, a variation to the W was introduced. This has an open centre with longitudinal seats. It was classified W_1. To an extent this arrangement mirrors the standard Melbourne cable tram design.

30 W_1. cars were built. Loading and unloading was improved.

While the W_1 design was successful, in 1927, a further variation was introduced, which reverted to the three door format, but with two wide and one narrow doors. This car, the W_2 proved, to be highly successful. So much so that by 1933, all 200 W class tram cars had been converted to the new standard and reclassified W_2.

26 of the 30 W_1 cars were converted to the W_2 design, the last conversion was made in 1937, giving a total of 406 W_2 cars.

These cars formed the backbone of Melbourne for several decades, until phasing out commenced in the mid 1960's as a result of service reductions.

The earliest W cars were painted in chocolate and cream, but in 1927 green and cream were adopted as the MMTB livery.

All cars built from late 1927 were painted in green and cream from the outset. Chocolate and cream cars were progressively repainted green and cream.

W_5 - 774

The similarities in out line of the W_2 and W_5 designs are obvious.

The W_5 was the result of incremental improvements made in intermediate designs (i.e W_3 and W4 - not displayed).

It has a steel underframe - W_2 is wooden. The W_5 is built out to the full width of the loading gauge - it is about 30 cms wider than the older style car.

The increase in width allowed for the installation of transverse seating in the saloons.

Eventually, there were 125 cars of the W_5 design. They were built in the period 1934 - 1939, for the electrification of the Elizabeth Street cable lines.

W_7 - 140

This is the last W car built - 1956. It is one of 40 W_7 cars built to operate Bourke Street upon the establishment of an electric tram line in Bourke Street in 1956.

When compared with W, W_1 and W_2 designs, the wider car body is immediately apparent.

Similarly, the car has sliding doors. Several W_7 cars are still in service.

You might be asked about W3 and W4 designs.

These were built, but none remain on the Melbourne system.

Other W series designs include:

SW_5, SW_6 and W_6.

Cars of these designs are in regular service. Many are in the "reserve fleet" some of which may be stored at Hawthorn, but will not be on display.

MISCELLANEOUS CAR TOUR GUIDE

Aim:

These cars will be displayed in the small shed and consist of:

X - 217
X_2 - 676
Y - 469
Y_1 - three cars 611 - 613
Prototype Z - 1041

One or more of these cars may be in use on the tram tour: in that case the car will be seen between trips on the depot fan.

Information to be imparted to the general public:

The X series of trams represent designs for routes with low traffic, or for use at times when there was low traffic.

Since they probably offered no appreciable economic or operational advantage over the cars inherited by the MMTB, the total number of cars in the X series is quite small.

X - 2 cars
X_1 - 10 cars (none displayed)
X_2 - 6 cars

X - 217

217 was imported from the USA in 1922.

It is a "Birney" - a type of car developed shortly after the end of WW1 to be cheap to operate.

It was designed as a one man tram. It has a "dead man's" handle, power operated doors with fold up stairs.

217 is virtually identical (except it is R H drive) to many thousand of trams in use in the cities of the United States.

217 and its sister 218 were used mostly on short, low traffic routes, such as

- Hawthorn Bridge to Wallen Road
- Point Ormond (closed May1960)
- Footscray (March 1962)

or as all night trams.

They were retired in 1957 because buses replaced the all night trams.

X_2 - 676

The X_2 class was a development of the X class.

The trams were designed and built by the MMTB and put into service in 1930.

The six members of the class were used mostly at Footscray. When the Footscray lines closed, the class was retired.

The Y Series

The Y series have an unusual history.

Y - 469

Built in 1927, 469 was built as a tourist tram. It was initially used on "charter" trips for tours around Melbourne. Later it was used on Saturday morning "golfers specials" which ran from Princes Bridge to Wattle Park.

469 was painted in the MMTB chocolate livery when it entered service.

This tram has two doors on each side, one at the front, one in the middle.

Although built in Melbourne, the design is based on American concepts.

Its design is based upon Peter Witt principles.

Peter Witt was a manager of a New York trolley company. He conducted circulation experiments and evolved a design which gave the most rapid loading and unloading of passengers.

This tram is virtually identical mechanically and electrically to the W_2 cars.

Y_1 - 613

One of four trams built to this design, the Y_1 represents an attempt by the MMTB to break away from the W design. Its similarity to the Y class design is obvious.

The four trams of the Y_1 class were built in 1930.

An unfilled gap in the car register suggests that 14 Y_1 were intended of which only 4 were built, perhaps as a result of a shortage of cash caused by the Depression.

The sloped front windows were introduced in this class and the X_2 class to eliminate the reflection of the interior saloon lights in the driver's window.

The drivers found the reflection distracting, and occasionally blinding.

After the construction of the four Y_1 cars the MMTB reverted to building further W cars - about 370 after the Y_1's.

1041

1041 was built at Preston workshop to test ideas which would be used in the then new Z class cars. 1041 ran for only a short period, from 1973 to 1975 when it was withdrawn following the entry into traffic of the first Z class tram.

FAN CONTROLLER

The Fan Controller shall coordinate:

- crowd control on the fan from the point where the general public exit the car shed;
- loading and despatch of trams;
- keeping general public away from moving trams; and
- determining which trams will be taken from car shed to replace defective trams.

Tram Cars Loading and Despatch

In front of the smaller car shed there will be a roped off area which represents the queuing area for people waiting for tram rides. The people at the head of the queue will be the people permitted to board the tram. All other people must wait their turn in the queue.

The trams which are in operation will run from 2, 3 and 4 roads. Generally, incoming trams will be expected to go to No.4 road if that is empty, or No.3 road if there is a tram on No.4 road.

Passengers should not be allowed to board trams until tram is stationary and all is safe.

Arriving trams should discharge passengers just inside depot boundary. In this way all arriving trams should approach the loading point empty.

It is anticipated that three trams will be in use.

A driver on arriving at the loading point will change to the tram which is already there.

Subject to the demands of traffic, try to depsatch a tram from the depot when the proceeding car is seen returning along Wallen Road.

GUARDS

There will be guards at the following points:

- entrance to car shed,
- exit from car shed,
- inside car shed,
- at chain/entrance to car shed from Wallen Road, and
- assistant to Fan Controller.

Guards Function

The function of the various guards is essentially crowd control.

Inside car sheds:

- ensure that numbers of general public do not do stupid things
  - enter pits
  - fiddle with controllers

or

- annoying things
  - ringing tram bells

Entrance and Exit to Car Shed

- stop members of general public from exiting at entrance door
- entering at exit door.

Entrance guard should assist Small Car Tour Guide in forming up small car tour groups.

Entrance guard is primarily responsible for ensuring that only ticket holders can enter the shed.

Exit guard should direct numbers of general public to tram ride queuing area [note: members of general public are not compelled to take a tram tour] and prevent visitors entering at exit.

Chain

This guard is to do his best directing members of the general public to the front door on Power Street. He should explain the need to get a ticket before a person is entitled to enter either car shed or board a tram.

The chain guard shall also endeavour to keep the chain up (except when a tram is exiting and entering depot fan which may be often).

Fan Controllers Assistant

This person is to assist the fan controller and generally to be used as a "fill in" when holes in the organisation appear.

Conductors

Conductors are expected to perform the usual function of a tram conductor. Note the passenger loading and unloading positions. Note functions of driver and fan controller. All passengers must have a ticket.

All tickets must be punched.

Members of the general public may have more than one ride on tram. Tickets may therefore be punched more than once. It is up to individual conductors as to whether any commentary is given to passengers - history of the specific tram on which people are travelling might be a starting point for the commentary.

Drivers

Drivers are expected to perform the usual tram driver's function.

Note: the passenger loading and unloading positions on plan. Move tram forward from unloading position on Fan Controllers direction. An incoming tram should be placed on No.4 road next to the shed doors (if vacant) or on No.3 road next to shed doors (if No.4 road is occupied).

Fan Controller will direct passengers to "next tram".

It is expected that at end of each tour, the driver will change cars.

Park trams on other than 4, 3, or 2 road only after consultation with fan controller and only for a good reason. (eg. Tram failure).

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March 1998