



Council of Tramway Museums of Australasia Incorporated

Bill Kingsley award – 2025 Judges' Report

Judges

Carolyn Cleak, Tony Messenger and John Radcliffe

(Note: Carolyn Cleak declared a conflict of interest with a submission from the Ballarat Tramway Museum as Treasurer of the BTM, and Tony Messenger declared a conflict of interest with a submission from the Museum of Transport and Technology (MOTAT) in Auckland.)

Entries

- Ballarat Tramway Museum - “Providing an Accessible Tram – W7 1029”.
- Tramway Historical Society, Christchurch – “Restoration of Christchurch Hills Car 24.
- Museum of Transport and Technology, Auckland - “Keeping on Track”.

Criteria

The criteria for judging the awards are:

- Degree of difficulty,
- Quality of outcome,
- Value to community,
- Historical accuracy.

Description of Entries

Ballarat Tramway Museum - “Providing an Accessible Tram – W7 1029”.



Benjamin Boehle-Mitchell 2023

The restored tramcar, W7 1029



Wheelchair entering

- The tramcar was stored at Newport from 1994 until its transfer to the Museum (initially Bungaree) by VicTrack in 2019 as part of their “Reinventing Trams” initiative. It was received in a dishevelled state, rusty, with damaged wheels, missing parts due to theft and in a generally run-down condition having been stored for 25 years.

- The W7 internal configuration, featuring longitudinal seating in the drop centre, was the most suitable option among former Melbourne trams for conversion to accessible use, such a tram being sought for use in Ballarat
- Initially, a major refurbishment of the car was undertaken, including new vinyl flooring, repainting and revarnishing the exterior and interior, replacement of the upholstery of all seats and partial removal of one of the drop centre seats to allow for mobility device parking
- Bogies were changed over with bearings checked and if needed replaced
- Installation of a Traction Control Circuit Breaker, DC to AC inverter, 24V LED lighting systems and 240V power points, battery backup for 24V LED and control system, installation of heaters and a sound system .
- Installation of CCTV to enable the interior of the tram and the doors to be viewed by the driver
- Replacement of damaged or stolon components.
- Contractors were used to assist with some of the body repairs, installation of the 24V lighting and PA systems and repainting of the body
- A VicTrack grant of \$27,000 was received to supplement the Museum's own funding. Work was delayed by COVID quarantine restrictions.

The tram has been restored to an authentic 1970 condition apart from the modifications for disabled access, safety additions and facilities allowing safe one-person operation.

Accessible tram 1029, first used by a mobility impaired passenger on 27 October 2023, has significantly enhanced the Museum's ability to offer tram journeys to individuals with mobility impairments. The service is regularly utilised by wheelchair users by accessing the ramp built at the Museum. Its inclusion on a National Disability Insurance Scheme (NDIS) visit locations informal list has encouraged carers to bring their clients for tram trips, particularly on Tuesdays when the Museum is open.



Interior view W7 1029, showing wheel chair space

Tramway Historical Society, Christchurch – “Restoration of Christchurch Hills Car 24.

No. 24 was one of three second series Hills tramcars built in 1920 (to a 1911 design) for the Christchurch Tramway Board (CTB) by Boon & Company, for use on the Cashmere Hills route. These cars had more powerful motors and added track brakes to allow them to be used safely on the steep sections of Hackthorne Road.

No.24 was decommissioned in 1954, had all its electrical and mechanical equipment removed and was sold for use as a Sunday School, then as a farm shed in West Eyreton, from where the Tramway Historical Society Inc (THS) retrieved it for preservation in March 1968.



The starting point – Christchurch 24

The restoration project was initiated in 2007 and restoration commenced in 2011 using THS volunteers – mainly at weekends with occasional advice and assistance from staff of the Heritage Tramways Trust. Following receipt a Lotteries Grant, from 2020 the restoration work was completed by the Heritage Tramways Trust. The car has been restored to its appearance as when it went into service in 1920. It has operated – almost daily - on the City Tourist Tramway in the centre of Christchurch since December of 2023. The progress timeline has been:

- Receiving a Lotteries Grant for preparation of a conservation plan in 2007
- Planning commenced 2010 with body restoration to be by THS volunteers
- The Heritage Tramways Trust (HTT), would also be primarily responsible for building the two new Peckham 14D5 maximum traction trucks using driving wheel sets and motors from Melbourne No 9 trucks. Subsequently, pony wheels for the trucks were cast, profiled and then mounted on machined axles ready for use.
- By 2012, work commenced on dismantling and recording components of the tram body and a start made on overhaul of three incomplete K-10 controllers (two for the tram and a spare).
- New flooring followed, saloon interior fittings revarnished, bulkheads erected, canopies restored,
- By 2018, there was refurbishing and refitting of interior panels. manufacture of laminated rocker panels. overhauling of components (roof bows etc) for the “monitor” roof components and new guttering. Tram body relocated to spray tent for interior painting and work on the roof.
- Pole bases (previously overhauled) were refitted. Destination boxes and pole hooks fitted. Headlights, light fittings and other electrical components refitted along with associated wiring.
- In 2020, the THS received from the Lottery Grants Board, a \$255,000 grant for completing the restoration including paying for HTT staff to complete restoration work.
- An agreement was achieved to lease the completed tram to the City Tramway.
- Completion, with public trial runs at Ferrymead on 16th December 2023. Trucked into city tramway on 18th December. signoff from NZTA for operation and went into service on City Tramway on 28th December



Trial running at Ferrymead before transfer to City Tramway

Museum of Transport and Technology, Auckland - “Keeping on Track”.

MOTAT commenced its tramway in 1967 on a short line inside the museum grounds, extended along the Great Western Road in 1980 and to the Auckland Zoo in 1981. It then extended across the Motions Road Road to MOTAT 2 in 2007, the extension laid with worn quality railway rail, only that being available. All track has been laid with dual gauge, both standard (1435 mm) and 1219 mm for Wellington trams. The frequent service (52 passages per day on the line) between the two MOTAT sites is crucial for the Museum’s economic success. It became apparent that the rail on the road crossing and associated curves was wearing badly, to the point where on the inner rail, tram wheels were wearing into the concrete, also damaging the tram wheels. A scheme was developed to replace the affected rail with new RI-57 profile grooved tramway rail in the vicinity of the Motions Road level crossing, and also to replace the open-mate pointwork on the much older loop at the top of Motions Road. The cost would be considerable

The following was the timeline:

- Planning for funding was undertaken by MOTAT’s Philanthropy and Partnerships Team in sourcing the needed NZD\$2.75M, together with funding support from Auckland Council, with a project called “Adopt a Tram” to enable the track replacement funds to be topped up.
- A NZ company, *Rail Infrastructure Consultants Ltd* (RICS) was engaged to ensure design requirements were being met. Tenders were called for the three stages of the project, the contract being awarded to Libbet Ltd who have railway experience in New Zealand.
- The contact encompassed replacing each of the two “S bends” on either side of the Motions Road crossing, and the rebuilding of the Motions Road Loop, replacing open-mate turnouts.
- Tramway rail was secured and imported from Yarra Trams, some rolled to curve specification in advance, but in limited lengths for transshipment. Upon advice from Yarra Trams and telephone

calls and submitted drawings, MOTAT placed an order with Pražská Strojírna AS in Prague for two dual gauge turnouts with tongue switches on all three turnouts for the Motions Road loop.

- The curves at the road crossing were replaced by contractors in two sections, The first section the work commenced on February 10 2024 by breaking up the concrete and lifting the rail on the S-Bend. New foundation was created; the pre-rolled rail was set up and joints thermit welded. Concrete was poured and allowed to dry and with overhead enlivened, trams made the first test run one month later.
- The second section followed in similar fashion
- The final project involved rebuilding the Motions Road loop, breaking concrete, removing old rail, new centre pole foundations and reinstallation including the new special work delivered from Prague. During this period, trams only operated from MOTAT 1 along the Great Western Road, as they had first done in 1980
- The three stage project was completed in June 28 2024 and service to MOTAT 2 reinstated, albeit during the construction period, MOTAT2 visitation had dropped 40%, representing an indirect charge on the project

This project encompassed five years from initial recognition of the need. The “Adopt a Tram” funding made a surprisingly successful contribution to the total cost. The resultant work has given passengers a much smoother and safer ride while reducing wear on the cars, and has underpinned a considerable continuing operational life for the MOTAT tramway.



Rail laying and grinding

New turnouts at loop

Testing the crossing before services begin

Judges' Comments

The Judges had difficulty in determining the awards for 2025. Each entry had considerable merit and all provided a high quality of workmanship

The creation of a disability access tram from W7 1029 involved the initial restoration of the tram after damage and deterioration during its long storage at Newport, and the opportunity was taken to add extra features for safety and operational convenience, advantages available to all passengers, while recognising the access facilities will benefit an important group who have difficulty boarding operations such as our museum trams. The principal difficulty of this project arose primarily with the restoration of the car itself. New features provide additional operational flexibility and safety. Disability facilities can be conveniently combined when a car refurbishment is taking place – the basic concept had been undertaken with a similar handicapped conversion with W7 1013 at St Kilda. The judges recognised that as many museums used this type of car, COTMA could encourage the basic conversion more widely.

The Christchurch restoration of 24 was a major undertaking made possible by the foresight to save the body nearly sixty years ago, followed by a long gestation before restoration began. The task was a top class though typical restoration, appealing to members and visitors alike, involving conservation appraisal, sound planning, accurate historicity and sound workmanship. Minor safety changes were included to meet regulator requirements without prejudicing the authenticity of the car. The project's completion was an excellent achievement suitable for immediate placement into daily traffic on the City tramway, earning revenue for both its owner and its operator.

The Auckland project was physically and financially very ambitious and used a much higher proportion of external services than the other two projects, recognising the reality as museums become more mature, they will be more dependent on external services to maintain their operations. The completed work effectively met a requirement of overcoming considerable difficulty, achieving high quality as demonstrated by the engineering standards and subsequent ride quality, and ensured value to the community by underpinning the long term future of the tramway service. The one area where the judges exercised their minds was that of the extent to which the project achieved historical accuracy. The track linking MOTAT 1 and 2 has no history beyond its own history and serves as an economic link between the two sites, albeit also allowing the historic demonstration of the trams which operate on it.

It was noted that all projects had received considerable external financial support, an increasing requirement for any significant museum development project.

Recommendation

The judges recommend that the 2025 Bill Kingslae Award be given to the Tramway Historical Society, Christchurch, for the restoration of Christchurch car 24. They recommend that Achievement Awards be given to the Museum of Transport and Technology for the track replacement on the tram line linking MOTAT 1 and 2, and to the Ballarat Tramway Museum for the completion of Access Tram W7 1029.