

Brisbane's Signal Cabins. By Noel West



Above:- View of Petrie Bight and the Ann St signal cabin. Photo Richard Jones

Much of the information has been obtained from the digitised versions of "The Brisbane Courier" and "The Queenslander" available on the National Library of Australia website. Further information or corrections are welcome.

There is an item of tramway infrastructure at the museum that is quite prominent yet seems to attract little attention by members and visitors. It is the former Valley Junction Signal Cabin. For over forty-one years, within its confined space, tramway signalmen controlled the movements of all the trams passing through the busy intersection spread out below its lofty location. They switched outbound trams left, right and straight ahead as well as trams around the north-west curves for depot and special workings.

A prime reason for the introduction of signal cabins was to eliminate the risks of injury, from passing traffic, to points boys, whose duty it was, using a long bar, to manually change points as needed by working in the middle of the street at almost all junctions. There were many reports in the press of points boys or signalmen being injured and even fatalities. In those early days the points boys switched the points and the signalmen used flags to indicate to motormen when to draw forward when the points were set. From the mid twenties the dangers that those points staff were exposed to, as well as their jobs, were gradually eliminated.

Not only were several elevated signal cabins erected but numerous footpath mounted cabins, enclosing the point switching handle, were established as well as other footpath column-mounted handles that didn't have the luxury of a shelter. About the time these improvements were made the automatic electric points setters were introduced. They were very successful and were extensively used. They enabled most of the footpath cabins and column setters to be removed but examples of each were used right to the end.

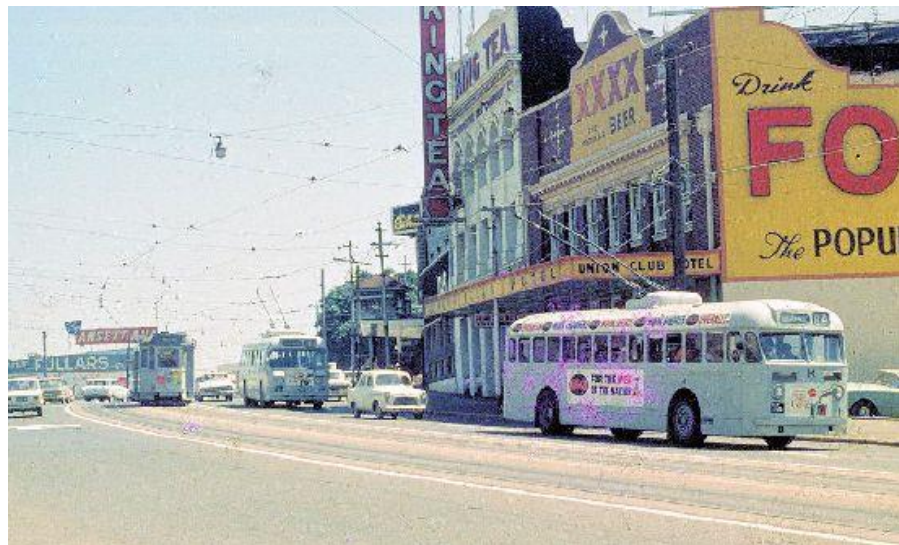
The Elevated Signal Cabins

It wasn't until mid 1923 that the Brisbane Tramway Trust responded to agitation in the press to address the plight of the signalmen and points boys. The Valley Junction was to be looked at first but seemingly nothing occurred and it wasn't until April 1924 that the Trust, following another injury to a points man, finally got into action by asking the firm of McKenzie and Holland, the well known railway signaling company to design a system for working the tramway points and signals. There were plans to construct two elevated signal cabins in the Petrie Bight area with the first one to control the junction at Queen and Adelaide Streets. The second cabin was to be opposite Byrnes statue at the Ann and Wickham Streets intersection.



Left:- Signal cabin at the Queen and Adelaide Street intersection. Photo Richard Jones

Right:- Signal cabin at the Wickham and Ann Streets intersection. Photo Richard Jones.

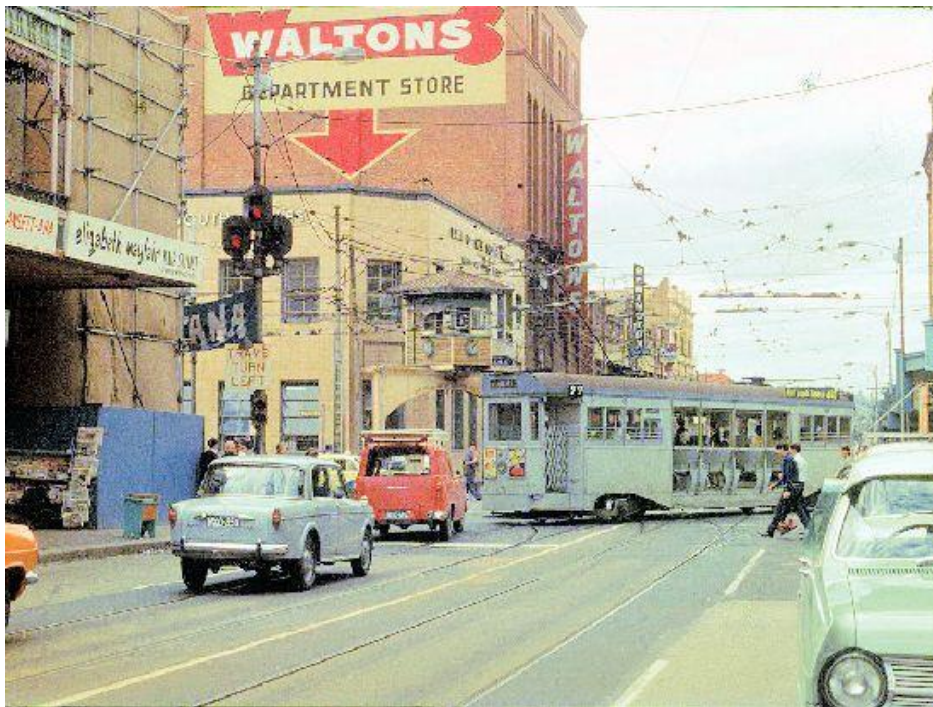


By February 1925 the two structures were being erected by the aforementioned designers and a photo of the cabin at Adelaide Street appeared in March. Work seemed to progress slowly but another photo of the cabin and signal lights appeared on July 16th. It wasn't quite ready then but was expected to be in use on Sunday the 18th. It was reported that the cabin would have levers, a lavatory, wash basin and venetian blinds that could be adjusted by the signalman as he saw fit. A new track junction was installed prior to its use. On Saturday 17th October it was reported that the second cabin at Ann and Wickham Streets was ready and would become operational on Monday 19th. By the time the next cabins were built the Tramways were under the control of the Brisbane City Council.

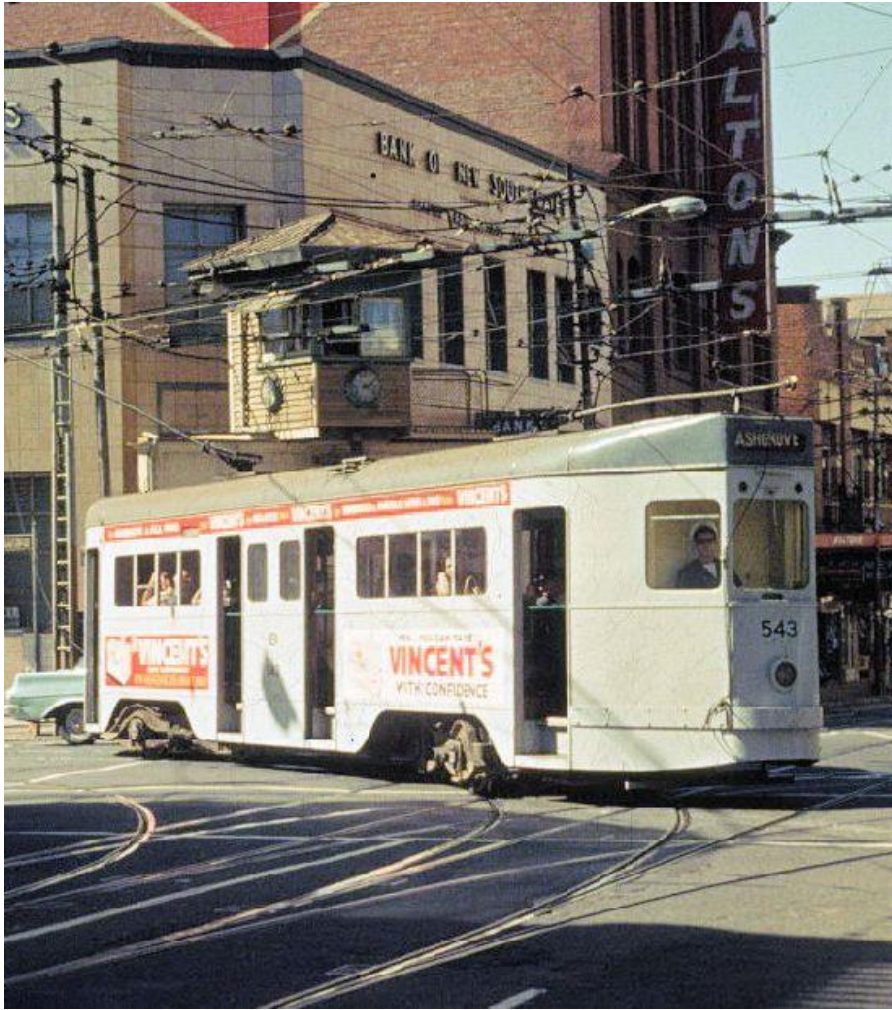
A report on the 15th January 1926 stated that the cabin at Queen and Adelaide Streets was to be removed temporarily a short distance away owing to a landslide on a nearby block, where building operations were in progress for a seven storey building. Whether or not it was actually relocated is unsure, and doubtful, but, for a time at least, the junction reverted to being operated with points boys and signalmen.

The following day the general manager of the Tramways, Mr. G.R.Steer, was reported as saying that the first two cabins had proved so satisfactory that more were to be installed at busy intersections such as Valley Junction, Queen and Wharf Streets and the Fiveways at Woolloongabba. He stated that the danger of dodging traffic and confusion for motormen had been removed and the signalmen could now work in safety and comfort. He added, "The signal lights operate in conjunction with the points. It is impossible to make a mistake. The lights work sympathetically with the points - the moving points work the lights automatically. It is a very simple and effective system, and we are all delighted with it."

By August 1926 two quotations had been received for the next cabin and equipment at the Valley Junction at the corner of Brunswick and Wickham Streets. Messrs. Harvey and Son quoted £1852 (\$3704) and McKenzie and Holland £1503/2/5 (\$3006.25). Mr. Steer said that savings could be made if the Council purchased the material from the latter firm for £792/12/5 (\$1585.25) and the department did the erection of the cabin and supports. An additional cost for wiring and signals would bring the final cost to £1460 (\$2920). The installation proceeded and, in conjunction with the provision of new double curves to allow trams to run directly between Light Street Depot and the Kedron line, the cabin came into operation on Thursday 19th May 1927 at cost of £1700 (\$3400). At the time Mr. Steer said that the signalman could accomplish the desired point movement with one lever instead of three as used previously and that the points were moved by electrically controlled hydraulic mechanisms (using water) set in the roadway. Three clocks were mounted on the cabin's walls for the convenience of tramway staff and the public.



Valley signal cabin on the corner of Brunswick St and Wickham St. Photo by Richard Jones



Valley signal cabin on the corner of Brunswick St and Wickham St. Photo by Richard Jones



The lever frame in the Valley Signal cabin now at the museum.

Also in 1926 plans to introduce trams into Barry Parade were proceeding although much of the roadway had to be prepared. This scheme was to relieve congestion at the Valley Junction and Kedron and Windsor trams were to be diverted via that street. Some rails were being laid in September but it wasn't until 1st August 1927 that the tracks were being connected at Wickham Street and signals provided. The installation was ready for the 1927 RNA Exhibition; consequently the signalman at Ann and Wickham Streets had some more levers to operate. The planned tram diversions proved less than successful and only some selected services used Barry Parade. This cabin gained more points to work following the opening of the Ann Street relief line, between Wharf and Queen Streets in 1946.

In November 1926 consideration was being given for the installation of the next cabin at the Woolloongabba Fiveways. It was planned to be mounted on two columns, with the floor 14ft. (4.27m) above street level, at a spot in the intersection that gave an uninterrupted view in all directions. The Works Committee suggested that a small zone be constructed around the columns as a safe halting place for women and children! Again McKenzie and Holland provided the equipment and in due course it was announced that the cabin would come into operation on Wednesday 19th October 1927. The main junction points allowed outbound trams entry to Stanley Street (a continuation), Logan Road and Ipswich Road. To allow the movement of trams working to or from Ipswich Road Depot for the Balmoral or Logan Road services, the signalman controlled other points provided for access to tracks laid for that purpose.



Left:- The Woolloongabba signal cabin with a steam loco, tram and trolleybus
Photo by Richard Jones

Mention had previously been made that the junction of Queen and Wharf Streets may have been considered for a cabin. It was mentioned in October 1927 and again in March 1929 however in September 1929 the Council was intending to construct a raised safety zone at Queen and Eagle Streets for a pedestrian crossing at that busy intersection. A suggestion was made that the Tramway authorities may like to construct a small signal cabin on it. However by November the entire plan was found to be unsuitable.

In March 1929 it was reported that the next cabin would be built at the corner of Adelaide and Wharf Streets but not until Adelaide Street had been widened. In July 1930 Mr. Steer

announced plans to rearrange tram services to ease tram congestion in Queen Street and place more services into Adelaide Street. Prior to this a curve had been laid in from Wharf Street to Adelaide Street to allow inbound trams on George Street to circulate through the city via Queen, Wharf and Adelaide Streets then back into George Street. The new plan would keep western suburbs tram services out of Queen Street.

A double set of curves on the southwest corner of Adelaide and Wharf Streets would be installed and controlled from a new cabin on the same corner. Again McKenzie and Holland had been contacted and quoted £885/17/6 (\$1770.75) for all the necessary equipment. In March 1931 it was stated that when the setting back of Adelaide House was completed the cabin would be mounted on the awning of that building. Saturday 17th June 1931 was the day that the last elevated signal cabin came into operation. Included was an automatic warning for motorists being an illuminated sign showing "Stop. Tram turns." Ironically it was the first elevated cabin to become redundant having been replaced by electric points in 1958 owing to the construction of the (then) new Australian Taxation Office building. The cabin was located in front of the prestigious new building and no doubt pressure was brought to bear to have it removed for aesthetic reasons. The Council estimated the cost of its removal to be £70 but the sale of scrap materials would not cover the cost. However the builder of the Taxation Building, C.P. Hornick, expressed a desire to purchase it and on 27th May 1958 approval was granted to sell it for £10 to the builder provided the footpath was properly reinstated.



Left:- The Wharf Street Signal Box.
The building behind the box was known as Adelaide House and was demolished to build the Taxation Building.

With all junctions controlled by people who could read the trams' destination signs there were a number of trams that had no destination signs at all. These were the sprinkler, scraper, scrubber and advertising trams. In the early days the motorman probably indicated by hand signal where he was going. In latter days the scrubber and advertising trams had a device to show the signalmen where they were going. It consisted of a red metal arrow attached to the tram's front with an operating handle behind it. The motorman simply turned the handle to point the arrow in the intended direction.

While the signal lamps displayed the setting of the points i.e. the direction alignment, the green lamp did not mean necessarily that the tram could proceed. The junctions were invariably under the control of a policeman on point duty so the trams could only move when directed. There were times when the signalman rapidly changed points and motormen had to be sure they waited for them to change during the policeman's "call on" period. Occasionally the inevitable happened and the back of the tram took a different route to the front. The first four elevated

cabins remained in use until Sunday 1st December when the first stage of the planned closure occurred. At the end of that day the remaining Adelaide Street services ceased to run thus rendering operation of the cabins, at Queen and Adelaide Streets and Valley Junction, to become redundant. Trams for Valley Junction then travelled via Ann Street in lieu of Wickham Street and returned via Warner and Wickham Streets.

The system closed on 13th April 1969 and over time the signal cabins were removed along with most of the tramway infrastructure. The Valley Junction cabin was saved however when, on the late evening/early morning of 11/12th October 1969, it was lowered from its supporting steel arch onto a truck and transported to the temporary site of the Brisbane Tramway Museum Society next to the Ferny Grove Railway Station. Later, at the present Museum site, it was used for some years as the ticket office for museum entry. Subsequently it was relocated and again raised onto posts where it will be made more accessible for public viewing.

A quotation from Sim Destruction Coy P/L for the demolition and removal of the three signal cabins was accepted on 14th October 1969. The original cabin at Adelaide and Queen Streets was removed between the 3rd and 7th November. No date has been found for the removal of the cabin at Ann and Wickham Streets however it quite likely was removed sometime between the 8th and 14th of November. This assumption has been made as the Woolloongabba cabin was removed over the night of the 15/16th November 1969.

The Footpath Points Cabins and Column Setters

Just after the time the first elevated cabin was completed by the Trust it was reported, on 14th August 1925, that "spring points" had been installed at the intersection of Petrie Terrace and Milton Road. These points could be operated by the points boy from the footpath thus eliminating the need for him to access the street. They were experimental but it was hoped they would be successful. Obviously they were for the scheme was extended and the point changing levers were mounted in cabins to give the points boys some protection from the weather. In February 1926 the City Council approved of the purchase of ten mechanisms after the Works Department recommended the column's height be raised from three feet to four feet. Messrs. McKenzie and Holland quoted £10 for the manufacture of each one. By July 1927 there was one at the corner of Melbourne and Stephens Streets, West End, another at the southern end of the Victoria Bridge as well as one at Roma and Countess Streets. Others were to be provided at Exhibition and Breakfast Creek Bridge.



Left :- The points Cabin that was in Countess St.

In October 1927 it was reported that the cabin at the corner of Petrie Terrace and Caxton Street would be relocated to the top of Countess Street. That was due to the decision to operate the Ashgrove and Red Hill trams via Countess Street in lieu of Petrie Terrace. The cabin would switch the latter trams with those on the Kelvin Grove line. The following month a report mentioned one was in use at William Street near Victoria Bridge for trams using the siding beside the Treasury Building. It added, " Like a new kind of sentry box, these round cabins of rough cast concrete, with windows and an imitation red tile roof, look quite picturesque." Not much more was reported about these cabins but in January 1931 a 20 year old youth was charged for wilfully destroying four window panes in the one at Roma and Countess Streets, and fined 40 shillings.



Most of those cabins were destined to have a relatively short existence due to the successful installation of the automatic electric points setters. The first of them was installed during 1929 in New Farm, in Brunswick Street at the intersection with Barker Street, where the two New Farm tram services split. Apart from the elevated cabins most of the major tram junctions were fitted with the electric points thus removing the need for points boys. Two of the cabins remained into the 1960s. The one at Brunswick Street and Gregory Terrace permitted trams to enter Gregory Terrace when events were held at the Exhibition Grounds. The second controlled access to Paddington Depot, having been relocated to that site from the corner of Adelaide & George Streets.

Left:- The points cabin at Paddington Depot. This cabin was relocated here from the corner of George and Adelaide Streets.

The column points setters consisted of a hollow tapered steel post, about four feet high, with the top capping attached to a shaft that descended through the post to below surface level and handle. The long, hinged, rod handle was raised to actuate the points and hung beside the post when not in use. Rodding and bell cranks connected the post through underground conduits to the point blades. Generally the points were activated against a spring so that they restored to the normal route after the tram had passed and the handle lowered. That type was regularly used by trams running from the city to the South Brisbane Station loop. The conductor had to leave the tram and hold the points over until the tram passed then reboard the tram. That had to be done for the tram to turn from Stanley Street into Russell Street and from Grey Street into the station loop. A red lamp on a pole nearby was lit, when the points were actuated, to warn motorists. At other locations those points were operated by a tramway employee during times

of special tram services to venues of sporting events for the races and cricket at the Woolloongabba Cricket Ground. For the latter trams accessed the special sidings near the grounds from Logan Road via Nile Street. Dozens of trams would be available to whisk away the crowd following stumps

. For the races special trams ran from the city or South Brisbane Station to the courses of Albion Park, Eagle Farm and Doomben all of which were accessed from the Ascot line. The trams started taking the punters to the courses from late morning then returned immediately to the city via Adelaide Street. At George Street they were hand switched left, then left again into Queen Street to take on more patrons. Trams for South Brisbane Station used Queen Street. At Albion Park a double track loop was provided from Kingsford Smith Drive using Amy and Agnes Streets and accessed by the column setters. Inbound trams arrived via Amy Street and when empty returned via Agnes Street. To cater for the homebound punters both tracks would be filled with dozens of trams destined to return to not only the city but almost every point on the network, and they departed from either street.

A column point setter was located at the intersection of Racecourse and Lancaster Roads where trams for the two Ascot destinations split and generally ran to each terminus alternatively. That setter differed from others in that it remained in the set position under spring tension. That meant that the conductor could reboard the tram immediately after he changed the points. However on race days an employee was stationed there to reduce delays due to the sheer volume of trams in use.

Column setters were located near each of the entrances to Ipswich Road Depot and during busy periods, such as when trams were returning to the depot after the peak periods, were worked by a depot employee. At other times the conductor performed the switching.

Automatic Electric Points Settersemployee.

Reference has been made above to the introduction of electric points setters. The point blades could be changed, if necessary, by the motorman, depending on the condition of power being drawn, or not, as the tram's trolley pole passed through an overhead contactor on the approach to the points.

The contactor was electrically connected to a powerful solenoid mounted in a cast iron box set in the roadway beside the points. A sign on a nearby pole advised the motorman to "Power On Right" or "Power Off Left" regardless if either route went straight ahead or actually curved in either direction. Following the successful initial installation in New Farm in 1929, it was reported in January 1930 that setters had been installed at the Normanby junction at the top of Countess Street and at Milton Road and Petrie Terrace with the next set to be at Milton and Baroona Roads. The following month the council recommended installations at Breakfast Creek Bridge, Melbourne and Stephens (now Browning) Streets, West End, and Brunswick and Leichhardt (now St Pauls Terrace) Streets. The latter may have been for inbound trams to switch to Barry Parade to relieve congestion at the Valley Junction. The Stafford line, which opened in 1940, would have been equipped at inception at its junction on Lutwyche Road.

The final new installations were to access O'Keefe Street, Buranda from either end at Ipswich Road or Logan Road. The single line was opened in 1961 so that trams, commencing or finishing services on the Belmont and Mt Gravatt lines, were saved a lot of dead running that formerly occurred when trams had to travel via the Woolloongabba Fiveways between Ipswich Road Depot and Stones Corner. Prior to the closure of the Toowong, Rainworth, Kalinga and

Bulimba Ferry lines on 24th December 1962 there were seventeen electric points' setters in use on the system. In some locations warning signs with flashing red lights warned motorists and pedestrians of a turning tram.

As an aside the trolley bus system also had many junctions in the twin overhead wires that switched the path of the buses' trolley booms (poles). They were known as frogs and almost all were electrically controlled from a pole mounted mechanism using actuating wires to the frog. Mechanical arrows and Indicator lights showed the bus driver which way the frog was set so, if necessary, he could change the frog by pressing a special button near him. Doing so sent an AC signal through the wires and was detected by the frog changing mechanism. A rare example existed at Woolloongabba where the bus driver had to change the frog by pulling a pole mounted wire but the frog reset after the booms passed.

Spring Points

At many locations trams faced situations where they needed to follow a certain track, obviously to avoid collisions. There were places where trams passed each other at passing loops on single tracks, where single track became double track and at places on double track where the tram was to proceed no further but return from the direction it came via a crossover. The point blades at these locations were held in the correct position by a spring for an approaching tram to automatically take the left hand route but they could be trailed safely in the opposite direction.

Points Bars

All trams carried a points bar. A steel rod about 45cm long with a flattened end was used by a crew member to move the blade in the opposite direction where it would be held by a spring. The bar was seldom used in normal service but needed to be used in some situations. The siding in Boundary Street at Vulture Street West End, the siding at the Salisbury terminus and the Warner Street siding were accessed that way. The same applied to trams entering the William Street sidings and at numerous other places where variant tram movements were few or became necessary due to e.g. street parades, accidents or fires.

One regular use applied when the Light Street Depot was operational. That depot supplied some trams to operate the New Farm services. Those trams left the depot via the Ann Street exit and travelled to Brunswick Street where the conductor switched the tram right into Brunswick Street. After shunting at the T.C. Beirne crossover the conductor again switched the tram to continue along Brunswick Street, crossing Ann Street, towards New Farm. The reverse process would take place for those trams returning to the depot. Of course the conductor had to ensure he reset the points each time.

Along with many other tramway systems, Brisbane's Tramways used these applications to switch its trams onto their correct routes. In addition to the former Valley Junction cabin the museum does have examples of the column and electric setters albeit not yet installed. Ironically when any points need to be changed our tram crews have to become "points boys" briefly, using a points bar; fortunately without the fear of having to dodge other traffic.