The Story of Electric Trains coming to Perth – Alan Cotton.

Presented by Bob Pearce at the COTMA Perth 2018 – Conference.

I*n 1992, Alan Cotton presented his keynote address to the assembled delegates and friends who attended the Perth Electric Tramway Society's first hosted conference at the Rose and Crown Hotel in Guildford. Alan at the time was the General Manager Suburban Rail, and he talked about the new electric rail system from his point of view.*

In view of that, I asked him if he would like to present a talk about the electric rail system from his perspective and how it had all come about. This would then lead into our next speaker's address about Transperth and where it is headed.

Alan happily agreed to do the talk, but he also told me that he had been in and out of hospital and although in good spirits at the time, might need to go in again. He would prepare his talk and send it to me so that, in the event that he was not able to be here with us tonight, at least I would have his address which could then be given in his absence.

Alan also told me that he was scheduled to go to Portugal in July – August, a trip to which he was looking forward but he would be back in plenty of time for our conference. Alan would stay with his family here in Perth and would try and be with us for the conference proper as well.

Sadly, Alan passed away after going into hospital again, but I am pleased that his daughter Sue, and husband John, are here tonight in Alan's stead.

So here then is Alan's talk as written, so "I" should be taken as Alan speaking and not me.

I have added a few slides to go along with as well, hopefully to illustrate some points that Alan talked about.

Bob

We all take it for granted, or I hope we do, that Perth has an up to date and efficient metro. It is not as extensive as we would like, there are fewer trains than we would like, fewer car parking spaces than we would like, and the areas around some of the stations are not as safe as we would like, but it is there, and there have been important extensions and there are more to come. Success rate in the last thirty years, probably about 60%.

But what a journey to get here. A rail line from Fremantle to Guildford was first proposed in 1870 but wasn't opened until 1881, and a line wasn't opened to Armadale until 1893. The line was extended from Guildford to Midland and for a time a little further on for suburban services and that was all. Until 1979 the suburban trains were steam hauled, diesel hauled, and finally composed of very basic diesel multiple units with loco hauled trains still providing extra services in peak hours. When cars became popular and affordable patronage on public transport began to fall, and

government money was spent on improving roads to make it even easier for people to commute by car. This policy wasn't confined to Perth, but because of the spaciousness of Perth it was pursued with more vigour. The railway was starved of investment and the rolling stock began to deteriorate to an alarming degree. Replacement of the steam locos didn't help, and by 1979 the state government closed the Fremantle line to passenger traffic so that the remaining serviceable trains could run on the other two lines Naturally this caused public outcry (you don't realise what you've got until you lose it) and numerous studies were commissioned to help the government decide what to do next. Most studies favoured ripping up the tracks and replacing them with a busway, with facilities for the remaining passenger and freight trains to run alongside.

But in 1983 a new State Government was elected, one of its promises being to reopen the Fremantle line.

After the election of the new Government, a question was asked of station staff in Perth as to how long before the Fremantle line could re-open. The answer, which one suspects may have startled the head office

staff who had asked, “about 2 weeks to get the driver’s and guards in place”.

So, the line was reopened and ten more diesel units were constructed – 5 power cars and 5 trailers, and more time was spent wondering what to do. Westrail carried out a study which concluded that a version of the British Leyland 4 wheel railbus would be adequate, but thankfully this did not find favour. In the end it was a decision whether to buy more diesel units or electric units. The capital cost for both options was about the same, and ongoing costs favoured electrification.

Meanwhile Westrail, whose income was from freight haulage, complained to the Government about the negative effect the cost of running the suburban railway passenger service had on its profit. What followed was a truly Alice in Wonderland solution. The various private bus companies had already been put under State control by the formation of the Metropolitan (Perth) Transport Trust (MTT) in 1958. The MTT were given the responsibility to provide all road passenger bus transport within the metropolitan area of Perth. The trams, which had been operated by the WAGR up till 1949 and conveniently fobbed off to a new WA Government Tramways and Ferries

Department in the same year, were dispensed with in July of 1958 {the trolley buses disappeared in 1969}, so the responsibility for the provision of the suburban rail service was given to the MTT, the actual work being done by Westrail to the MTT's specification. Westrail would then charge the MTT the actual costs of providing the service, with no bonuses or penalties for exceeding or failing to meet the specification. There was absolutely no incentive for Westrail to do more than the bare minimum required. The bill would be sent to the MTT regularly, who would forward it to Treasury for payment, provided it was within budget. So an organisation composed entirely of bus operators was given responsibility for the quality of service on the suburban railway.

Back to 1985, and the advent of Stuart Hicks to chairmanship of MTT, and at least the possibility of an electrified suburban rail system. In spite of Westrail's desire to stop funding the service, relationships between the two organisations were stressful. Westrail did not like the idea of MTT's interference, and MTT did not trust Westrail to provide a quality service. So, Stuart decided he wanted an experienced railwayman to oversee the hoped-for electrification, not specifically

from an engineering point of view: that would be largely left to Westrail; but from a service quality viewpoint. Lucky me. After seven years as Operations Director of the Hong Kong Mass Transit Railway, I had had four years heading the railway department of an English firm of Consulting Engineers and I was tired of the constant travelling. My daughter and grandchildren lived in Perth and we only saw them once a year at best. I was in Perth when the job was advertised, six months later I was back, excited at the prospect of working on a real railway again. Stuart was pleased to see me; the welcome from Westrail was more subdued. Who is this pom trying to tell us how to run our railway?

Well to quote the late Duke of Windsor, something needed to be done. The suburban service was just part of the WAGR (or later Westrail) system. Management was function based. There was no actual suburban operations manager, responsibility was shared between different managers who also had responsibility for other traffic movements in the area. The rolling stock maintenance staff reported up through the chief mechanical engineer's department, the permanent way staff up through the chief civil

engineer's department. And so on with the signal engineers and other disciplines. There was no one who could be said to be responsible for the execution of the contract with the MTT except the finance department whose job was to make sure every dollar spent that could be attributed to the contract was recovered.

So I set about bringing the various managers concerned with the suburban service together for regular meetings. It worked surprisingly well, there was a real interest in working together. And Westrail finally appointed a suburban operations manager, Max Collins.

It was immediately apparent that I wasn't just expected to be involved in the electrification project, I was expected to get the quality of service on the diesel railway up to an acceptable level. That's another story that would keep you here all night, so we'll just stick to electrification. But I have to say that I was soon integrated into the Westrail team and spent most of my time in their offices or on the railway; but not so fast. **There is nothing slower than a government faced with the prospect of spending a lot of money.** So for the umpteenth time a study was called for to ensure that electrification was both affordable and the best

option. The busways reared their ugly heads again, but in the end, electrification was chosen. The costs were brought into line by equalising the peak standing density, which made redundant the ten Goninan diesel sets originally required for peak services. At this stage there were no plans to upgrade the infrastructure or the service, it was just a straight replacement of diesel powered trains by electric trains. But it was a bold and courageous decision. After years of bumbling, and a library full of studies and reports, Perth was to have a state of the art electric train service. In February 1988 the Master Plan was approved and the Westrail project team, led by John Hoare, moved from the planning to the action stage.

A number of important decisions had already been taken. The narrow gauge would be retained, and electrification would be at 25kV, initially a bit of a surprise to me but with the small number of trains envisaged it would be cheaper to hang the transformer rectifier units under the cars than build lineside substations. Some underused stations would be closed, self-service ticket vending machines installed at stations, a central control facility would be constructed in Westrail centre, lineside signalling would be

retained, platform heights would be increased for easier access and egress, and guards would be withdrawn from the trains.

Not enough for Stuart Hicks. The ‘new’ railway was to be a showpiece for Transperth, and much more attractive to passengers than the existing one. So the Government agreed to spend money on improving stations, providing improved passenger information systems, security CCTV, more comfortable trains and a better service.

Some of these ideas were easier to bring to fruition than others. Attempts to close stations resulted in public protests. In the end Stokely, which consisted of two wooden platforms straddling Albany Highway south of Maddington, was bulldozed into oblivion overnight, and an attempt to close North Fremantle and Leighton stations resulted in a compromise by building a new station between the two adjacent to Stirling Highway, a result which pleased the local population, and was a good example of community involvement. The trains were based on the Brisbane electric trains, but the cars were longer and wider. Two car units were specified, as 3 car units would be extravagant for off peak services, and four car trains

would suffice for peak services. (Ha Ha). The interiors were to be comfortable, with carpeted floors, picture windows, and upholstered seats with vandal resistant wire mesh beneath. There were some design and construction problems, particularly with the braking system, but generally the cars were very satisfactory, and the drivers liked them.

But what about the guards? This looked like becoming a full scale industrial dispute, the ARU drumming up support from the public for retention of guards for the safety of passengers (Guards had been and were being phased out on urban railways worldwide). The guards' concern was understandable, they were to be made redundant.

Westrail was prepared to take on the ARU. I thought we could do better. So Max Collins, the suburban operations manager and I withdrew to a quiet room with a whiteboard to try and come up with some ideas. There were station masters at Perth, and the three terminal stations, however all the other stations, with the exception of Cannington for signalling requirements, were unstaffed. We decided there was a case to be made for staff to be based at intermediate stations with a broad remit to be responsible for the

care of two or three stations, to ride trains between their stations to check tickets and be generally helpful to passengers. They would be encouraged to get involved with the local community, especially schools. We developed this idea and by employing two passenger service assistants at each location on opposite shifts, we could offer employment to all the guards. So I put it to the ARU. I was howled down. We had meeting after meeting and gradually we reached a tentative consensus. The ARU demanded specialised training that would be accepted elsewhere, to be given by staff at an independent facility, and various other concessions. There was some resistance from Westrail HR department, but the Government agreed and we went ahead, with training provided by Mount Lawley TAFE. It was a great success. Generally the guards felt they had been well treated and enjoyed their new responsibilities. Just when I was relaxing with the result I got a head butt from the Railway Officers Union who complained that ARU members were about to do ROU jobs. That hadn't been my intention but it was a tricky one especially as the ARU was quite prepared to do this, and it brought the two unions into conflict. Eventually we solved the problem by making the

terminal station masters responsible for all the stations on their lines, with the passenger service assistants reporting to them (I should have thought of that in the beginning). The drivers kept well out of this episode, saying they were happy to look after the trains on their own and they didn't want to get involved.

The project had now got its own momentum. The government wanted to look at the northern corridor. The Mitchell freeway had been designed by Professor Stevenson with a public transport median strip. He was asked for advice on the type of public transport. He declined saying he was not a public transport expert. Another study. Busway, with routes radiating out like star bursts at interchanges. The project team didn't like it. More importantly the government didn't like it. David Howard, who was Director General of the Tyne and Wear Public Transport Authority in North East England which ran train and bus services, and Vukan Vuchic, an American Urban Public Transport academic, were invited to come to Perth to give their opinion. Continue the railway. Much relief all round. This would give Perth two lines at right angles, Fremantle to Midland and Joondalup to Armadale, allowing circular bus routes to feed into stations along each line. And

there would be no need for any change in technology. The project team had already designed the track layout at Perth station to accommodate a Joondalup - Armadale line, so no problem there. But the new trains had been designed for a maximum speed of 90km/h, that being the maximum speed allowed on the existing railway, and the maximum permitted speed for traffic on the Mitchell freeway was also 90km/h, in practice at least 100km/h, so cars would be overtaking the trains. That wouldn't do. The line would accept a maximum speed of 110km/h but we needed to retain the train's high acceleration, so higher gearing by itself wasn't on. But if we replaced one of the idle bogies on the trailer car with a motor bogie we could get 110km/h with high acceleration. The trains were already being built so there would be some costly changes, and would the government agree to all the trains being altered. Yes. So we had a fully flexible fleet, every operator's dream.

There was no need for closely spaced stations on the new line. They were all sited at interchanges, some with bus stations above the platforms, and all were designed by prominent architects to be functional and visually attractive.

One of my biggest problems, and it still is, was security. You can only go so far with CCTVs and other devices; you need trained staff to ensure passenger safety. The WA Police did not want to know, it was our concern. We had an increasing number of patrol officers, with limited training and powers, and I tried hard to get the police to train them and appoint them special constables. In the end it took a meeting between the two commissioners {Westrail and the Police} to get any action. What a difference to Hong Kong, where the police commissioner stomped into the MTR chairman's office early on and said "You'd better understand my people are responsible for security on your system". He appointed a superintendent to be in charge, and a team who worked closely with the operating staff in the development and operation of the railway. Enough said.

The first electric trains ran to the Royal Show in 1991. I had the good fortune to be transferred to Westrail as General Manager Suburban in February 1992, when it finally all came together and saw the Joondalup line in service before I retired. We were already working on possible routes and technology for the Mandurah line but I had left before any decisions were taken. But I did

get a first train ride. I rode back from Mandurah in the rear cab with Max Collins, and when I stepped out at Perth station, I felt my railway career was finally over.

As I was writing this I kept thinking of things I had left out, but to try and include all the incidents I would have liked to tell you about would have taken all night, so please forgive me and thank you for listening to the first part of the metro saga, and I will leave it to Mark Burgess to cover the next twenty-five years.