

Commentary on "A technical response to the Report" - "The future of Island Line - Options Report" by Mark Brinton MEIT, March 2016.

A. INTRODUCTION

I read this report as a Light Rail technical person with interest. It's very well written, clear and full of very useful analysis based on a great deal of relevant engineering knowledge concerning the history of the Island Line. I felt that it is a pity that such diligence was not put into assisting Christopher Garnett in the compilation of his report rather than being used as critique, but no matter.

In responding to Mr Brinton's report, it is not my intention to argue over the many technical issues concerning Heavy Rail but rather to challenge, on occasions his commentary on Tramway and Light Rail technology and costs; to draw attention to some policy deficiencies in his conclusions and to point out the downsides of his desire, almost at any cost to keep the existing heavy railway infrastructure and vehicles in place.

I hope that the result of my contribution will be to add to the excellent analysis so far carried out by Christopher Garnett and Mark Briton. I have consulted experts to frame my comments.

Referencing will be related to the Brinton report and as appropriate the Garnett report.

B. COMMENTARY.

It must be recognised, as to an extent Mr Brinton does, that his report is primarily of a technical and engineering nature and concentrates on the Island Line as it currently exists. Whilst his comments about the durability of the infrastructure and vehicles are most useful, he does not go into any detail regarding the "estate" covered by the Island Line nor is he able to shed any light neither on the passenger fare anomalies nor on the opportunity to look at a lower cost model. His ultimate solution suffers from a lack of ambition for public transport on the Island over the next twenty years and from an acceptance of static passenger numbers and no real rolling stock modernisation.

Para 1.

Accepting that this is a really interesting historical case study, it is difficult to see where this takes us in terms of providing the solution. We all wish for an efficient, modern rail based system which is more comfortable and more adaptable to ensure better frequency and connectivity.

Para 2.

Mr Brinton suggests in Para 2 that because the railway has been kept going on a reduced maintenance level as regards track- which results in a bumpy and erratic ride, it is just as cheap to keep on maintaining the 1938 Rolling stock as invest in newer second hand Underground rolling stock, and that this therefore makes it just as cheap to carry on as we are rather than switch to an alternative technology such as the modern Tram Train or Light Rail Units.

I do not think that the facts support this contention and I have consulted experts from the Industry such as UK Tram in an attempt to arrive at a fair comment. It is generally held that Tramway track and Infrastructure is more than 50% cheaper to maintain than heavy rail track and infrastructure (source, Advanced Passenger Transport Systems, APTS).

Of course, if a system has been allowed to deteriorate below the accepted standards for heavy rail, that will narrow the maintenance cost gap, but given the Network Rail historical lease charges, it is clear that we have probably been short changed by both the

Infrastructure provider and the Franchise operator and have not had enough attention paid to the quality of the track.

Para 3.

Attention is paid to the issues involved in track twist and a commentary provided on the issue of catenary electricity supply. Both points are used to argue for maintenance of the third rail system. However, a little is said about the tendency to drop voltage at the furthest point from the substations and over relatively short distances. This issue can be rectified by new or larger feeder cables and attention to rail bonding techniques. It is not expected that catenary maintenance would be a serious or expensive problem. There continue to be rapid technical advances in light rail track configurations and of course, light rail/tram systems can be extended to other parts of the Island in time, whereas the Heavy Rail system will remain a linear solitary route due to its considerably higher cost of construction and lack of ability to penetrate to town centres.

No mention has been made of new vehicles which could be Hybrid, not dependent on electricity supply systems. Time is too short to go into these technical issues but battery life in conjunction with super capacitor's is known to be expanding and surely over the next few years we will have freestanding power solutions for light transit vehicles. Although the capital cost of new vehicles will be greater, the free standing power sources will eliminate much of the old and outdated infrastructure in use currently leading to further cuts in maintenance costs.

Para 4.

It is surprising that Mr Brinton does not prioritise the introduction of a passing loop (although he does comment on some difficulties over the choice of location (Adopting a positive approach -9 & 10) all of which is helpful and very relevant irrespective of whether we continue with Underground trains or move to Tram/Light Rail.

Light Rail experts do agree that the single line option with one passing place would be a disadvantage, although line speed restrictions generally even out any discrepancies and stopping and starting is generally faster with light rail vehicles, having only one point where trams can pass means that the time lost is impossible to make up leading to the loss of at least one service.

So, it is therefore sensible to maintain existing double track and where necessary add passing places at existing stops to cater for an increased frequency and to plan for future double tracking (between Brading and Sandown) if additional routes to Newport and Cowes were to be considered. Physical line of sight without signals would not be recommended for Light Rail but modern technology at not exorbitant cost would provide on board facilities to ensure safe operation (Croydon) and may allow physical signalling as it is today to be removed.

Para 5.

No comment.

Para 6.

Whilst accepting that when Island Line was a separate Franchise, additional costs were applied for through ticketing etc. that was at a time when these arrangements were relatively new and costly to administer. We would envisage any Micro Franchise or Sub Franchise contract to be closely supervised by the DfT and as a consequence, charges minimised if charged at all. There is great public pressure for a better integrated, more easily connected national railway.

Para's 7. and 8.

There is no reason to suppose that bid costs would fall onto either the IWC or the independent operator if this is a system which is preferred by the DfT. This would especially be

the case if the stand alone solution involved a sub contract from the main Franchise operator.

This is simply untrue because the DfT is looking at ways in which under-utilised end of line or self contained small sections of the National rail network can reduce costs and increase local support. A Tram Train system or Metro Systems are now being promoted within the heavy rail network and there is no reason to suggest that future innovation with light rail/tram systems will be disconnected from the national rail network. The Island Line is in a perfect position to demonstrate how to achieve this.

Para 9.

Agreed but if ridership increased over time and costs were reduced, it is more likely that a business case can be developed for extension of the light rail system to Cowes and Newport as envisaged some 15 years ago by the Gibb report.

Part A. - Review of the Technical aspects of the Garnett report

Mr Brinton's comments on the Garnett report from Para 2 of that report to Para 5 are generally agreed but it is very unlikely that the work required on the Class 483's could be undertaken "at minimum cost". Indeed it is questionable whether we should seek derogations for the some of the requirements of the new vehicle specification standards.

Para 5.9.

This is misconceived. Light rail and tram vehicles have different characteristics and can stop and start much more quickly than the old underground trains. No one is suggesting any reduction in train protection. The issue is how far new technology now allows us to envisage on board train protection which is common for most modern tram systems.

Para 5.10. Power supply and Para 5.11 Ryde Pier.

No comments.

Para 7. Options for the Future.

7.1.

There has always been some confusion over the passenger revenue figures for Island Line. Even now, Hovertravel have discovered a number of franchise areas where through ticketing to the island is not possible. I understand that that this matter has been taken up with the Rail Minister Claire Perry MP by Andrew Turner MP. Clearly there are some mismatches between the various revenue figures being used and I understand the last figure to be nearer £900,000 per annum.

7.2.

A lot of Mr Brinton's figures are assumptions but his historical recollections are interesting. But the point rather missed in this section of his report is the implication that costs outweighed revenue by an even more significant figure than thought, at the top end £8 million costs to £1 million revenue. This casts significant doubt on the idea that a heavy rail option must be continued at all costs and it brings us back to the fundamental point of contention with KILF that the Taxpayer must bridge the gap between revenue and costs without any attempt on the part of the Island to embrace a more efficient lower cost service with the possibility of expansion to be of greater value to the Island and its visitors.

Finally, the lease costs quoted by Mr Brinton from an FOI enquiry of £2,093,000 from Network Rail must be part of the negotiation with DfT to establish a sound future for the Island Line. This seems excessive. It has always been envisaged that once a properly costed conversion programme to a light rail/tram system had been identified that negotiations would start to identify a sustainable financial model for running and developing the Island line to meet the

longer term economic growth plans for the Island. The fact that Stagecoach may have short changed the Island line in terms of its maintenance and investment is one of the reasons that it may be better to establish a fully integrated and planned management of our own rail network providing that it is supported by the DfT over a reasonable period of time.

7.3.

There has never been any intention to get the IWC to take responsibility for the Island Line. However a new, larger transport authority covering the Solent and the IoW might offer some longer term answers.

7.4.

It is highly speculative for Mr Brinton to assert that "this final decision (by DfT on the long term future of the Island Line) is not likely to be implemented before the end of the next Franchise period". Indeed, this uncorroborated assertion is not borne out by statements from the Rail Minister or the DfT themselves. And the IWC is not expected to be required to finance anything. The suggestion diminishes the credibility of this generally excellent report.

7.5.

This is an entirely unsatisfactory proposal and condemns the IoW to ancient poor standard rolling stock for another ten years and it should be rejected.

The IoW is entitled to a much better quality of public transport than what will then be 90 year old rolling stock. The weakness of the argument to preserve the ex TfL London Underground replacement rolling stock as the only means of preserving the Island line service is the degree of uncertainty; the restrictions to a single linear service and the probability that modern (20 year old) underground rolling stock will be simply unable to operate on a track bed which is so unstable. If we are going to have to stabilise the track bed and refurbish it, it makes far more sense to ensure that it is fit for a modern light rail or tram system with all the essential flexibility and operational advantages which would flow for such an investment.

Para 8.2.

There are some assumptions in this section which must be challenged. The Network Rail position indeed its ownership rights, now fall much more within the purview of the Government. The issues debated in this section are by no means settled matters. The maintenance costs of the Ansaldo T69 trams can no doubt be solved by negotiation with vehicle manufacturers like Bombardier who have offered to support them. Many of the excellent debates contained in this section of the report will have to be considered by the more detailed expert reports which will be commissioned by the DfT.

At this point it is important to draw together the comments in Mr Brinton's report on the Light rail option. He makes the assertion on several occasions that construction costs for light rail conversion are at least £12 million to £25 million per kilometre using UK tram data. But nearly all the conversion costs quoted are for new rolling stock and significant street running in urban areas.

Using the Blackpool Tram upgrading costs, Island Line conversion to Light Rail amounts to just over £4m/Km excluding the cost of the trams, rail replacement buses and commissioning. This information is not yet available publically but soon should be. This is significantly lower than new build, because much of the infrastructure is already in place.

Converting the Island Line to a Tram/Light Rail operation is much cheaper than comparable street running operations and experts believe that it will cost significantly less using second hand trams, to the costs published by UK Tram.

The question of ownership in relation to Network Rail is complex and Mr Brinton's analysis is most interesting but tends towards the status quo which will not be to the advantage of the Island Line. The final answer which we can only speculate about now, will rest on the policy of

the DfT in relation to infrastructure investment priorities and only they will have the power to lay down what Network Rail's role will be in the future and what contribution they will be expected to make and how they may recover costs.

With regard to the position of the IWSR, the motivation for them will presumably be whether they can at least extend their network to Ryde St John's and I do not know if it is true to say that conversions to a tram/light rail system would prevent this. It is possible with extra cost we could achieve dual operation. But Mr Brinton seems to largely ignore the intensive work which has been going on to solve the technical track problems associated with tramtrain/train operations in respect of Sheffield and Rotherham. These were difficult and costly but my understanding is that these problems have now been solved and we have a design specification which allows use of Trams on Heavy rail gauge. Furthermore, Stagecoach have the hands on experience to support such an operation on the IoW.

If this were the preferred solution, incompatibility as described in Para 3b of Para 8.2 in Brinton's report would no longer be a problem.

Much of the remaining section of Para 8.2 is a most helpful analysis although the power supply issues are subject to rapid innovation in other countries, notably Spain where the Zaragoza Tram provides a catenary free solution by implementing an onboard energy storage system which "through a rapid charge accumulator creates groundbreaking technology, entirely unprecedented in revenue service, which contributes to improved integration of urban transport , reducing visual impact in heritage areas and increasing energy efficiency" basically the system allows recharging at stops. One challenge may be that the T69 trams wouldn't have enough clearances to put the ACR equipment on the roof to enable transit through the Ryde tunnel.

Para 8.4.

I do not agree with Mr Brinton's analysis in respect of the inclusion or removal of conversion to a tram system from the National Rail Network. My understanding is that the DfT wishes to encourage Network Rail to seek ways to provide more efficient local rail services through innovation with light rail/tram solutions. I can see no reason why the Island Line should not be a pathfinder in this regard if, as I believe to be the case, the DfT favours such innovation.

Para 8.5.

This will be a matter for experts to determine and much will depend on how a new operational model, following investment to modernise, can demonstrate improvements in ridership and passenger revenue.

Para 9. What type of Franchise?

I feel that in this section of Mr Brinton's report, some prejudices begin to emerge which rather spoil the excellent work contained within the report. He muddles up a number of financial tests required to assess financial viability.

On the one hand he agrees that "short term Franchises are also a disincentive to investment due to the short time frame in which any investment can be repaid" . And "personally, I do not think Island Line currently get good value from the existing arrangement". This calls into question his reasons for insisting that the Island Line must be held within the existing Franchise. His earlier statement, Para 7.4, that "Any investment by either Island Line or Network Rail in infrastructure or trains will also be minimal until the DfT make a decision on the long term future of the Island Line.

Given that this final decision is not likely to be implemented before the end of the next Franchise Period (up to 2027), it is unlikely that there will be any significant changes to the Infrastructure, or the rolling stock of Island Line." is deeply depressing and not acceptable.

This conclusion undermines the entire approach promulgated by Mr Brinton for a forward plan. A separate micro franchise would not be tied to 7/10 years but could be framed over a much longer period subject to European concession rules. And even a sub contract arrangement linked to the new Franchise agreement could be so structured as to recognise the longer term nature of the investment.

The technical and financial challenges capable of being set out in a specification for a Micro Franchise for the Island Line will lead to many expressions of interest, not just because of the needs of the Isle of Wight but because the solution should have extensive value to other elements of the national rail network which should now be considering light rail or tram solutions utilising existing heavy rail infrastructure.

Para 9.7.

This conflicts with some of the other observations made by Mr Brinton. However it would be sensible to ensure that the skills necessary to operate a tram/light rail system were available relatively easily if conversion was decided to be the way forward.

Para 9.8.

The Solent LEP is considering in its long term transport plan the implementation of a metro system for Southampton and Portsmouth which may well involve using existing heavy rail and enabling tram-train operation. Even if this is 15 years away from implementation, such a developmental would provide the IoW with an opportunity to piggy back further modernisation and rolling stock replacement on the back of a much larger pool of expertise.

Para 9.9.

The assumption that the same conditions would be applied to the specification and bid process for the Island Line is simply wrong and Mr Brinton has no basis for suggesting this because like everyone else, no discussions have yet taken place with the DfT.

4. Part B - A possible Alternative Long Term option.

It is difficult to support the idea that old mainline trains could be used on the Island Line. It once and for all cuts out the possibility of using the rail based public transport system to extend to other parts of the Island without prohibitive costs.

It condemns us for all time to a second hand, substandard solution with no prospect of decent modern 21st century rolling stock. Cast offs from Merseytravel are worse than Underground train replacement. The whole idea diminishes the considerable value of the Brinton report.

SUMMARY.

The Brinton report is an excellent contribution to the whole discussion about the practical difficulties of finding the best solution to the modernisation of the Island Line.

But it suffers from a failure to look for future technological and environmental solutions.

It focuses on heavy rail options to the exclusion of modern technically exciting rail based options and it does not provide the basis for an IoW economic proposal which adds value for the whole Island.

This document has been produced with the kind assistance of Christopher Garnett.

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