



ULTRA LIGHT RAIL (ULR) - HAS ITS TIME COME ?

INTRODUCTION

After many years in the wilderness, the ULR concept appears to be on the verge of a major break-through, both in the field of urban transit and also as a feeder into heavy rail routes. The wide gulf that exists between ULR and a Supertram is reflected in infrastructure costs, at opposite ends of the transit spectrum. This discussion document will examine some of the factors contributing towards this dramatic change in ULR fortunes.

MANY OF THE ULR ADVANTAGES (1)

Although a Supertram is capable of carrying about 250 passengers, a necessity in say Sheffield, such large capacities become a waste of resources on a lightly patronised route. In such circumstances, a large vehicle could only offer an infrequent service, an obvious deterrent to passengers. It does though raise the question of additional drivers and the costs that accompany it. In his article, Trevor Griffin suggests that any extra costs could be balanced against lower axle loads and reduced engineering costs. This in turn makes diversionary tracks a cheaper option than moving the utility services.

The suggestion that buses could do the same job at a lower cost must take into account the proven fact that buses do not attract people.

"AN ULTRA LIGHT TRAM WILL WARM AN ICY HEART" (2)

"John Prescott reckons he can get hundreds, if not thousands, of buses for the price of one new light rail line and a lick of paint on the road to make bus priority lanes - - - ". This quote from Rik Thomas in *Tramways & Urban Transit* well illustrates the up-hill battle currently faced by advocates of ULR. There are signs though that its proponents are getting their act together and claiming that ULR can offer many light rail benefits at a fraction of the price, and such a small fraction that even "John Prescott's icy heart will warm to the sight of an Ultra Light Tram". These quoted words actually date back as far as December 1998, and still no ULR projects are available to view in any UK town.

ARE THE CARDS STACKED AGAINST ULR ?

Further quotations by Rik Thomas regarding the appearance of David Rowlands (3) before the House of Commons Public Accounts Committee could offer some explanation as to why no ULR scheme has successfully penetrated the many "hoops" and other similar obstacles surrounding light rail projects. ULR, at the low end of urban transit spectrum, was apparently below the £5-m gateway and, no matter how efficient, stood no chance of Government approval.

By comparison light rail, such as 'BIG-BANG' in Manchester, at the top end of the transit spectrum, has failed receive all the money it needed. Truly a paradoxical situation which only those having caused the price escalations can correct.

It has been suggested that the next Local Transport Plans (from April 2006) could see some new thinking from the DfT with the door of opportunities moving slightly in favour of new technologies. This information will be welcomed by Parry People Movers (PPM) and their claim to have developed a ULR vehicle capable of carrying over 100 passengers.

A STUDY SHOWS PUBLIC PREFERENCE IS FOR RAIL

A 2000 study by the then DETR was very revealing in its comparison between bus and rail operation, Quote : "While construction and equipment costs for guided bus can be slightly cheaper, operating costs on a lifetime basis favour the tram against the bus". The study concluded that buses have only a limited impact and that bus priority only achieves small gains. Light rail scores by its commitment and security of route (4). This sounds like a win-win situation for ULR operation as a feeder or a lightly patronised route.

COMMUNITY RAILWAY - A NEW RAIL OPTION

Community railways with new low-cost trains could in future be operating in a manner not unlike ULR models, ground level boarding, simpler signalling, relaxed fencing and foot crossings between platforms. A far from new plan at Stourbridge with ULR technology is expected to extend the branch line service into the CBD and increase patronage by a factor of four.

This document is published to stimulate discussion and does not necessarily represent the views of the LRTA

PPM vehicles use flywheel energy storage, charged during dwell times at passenger halts. A Greek proposal (if built) plans other energy sources such as sodium nickel traction batteries charged by a diesel generating set and driving 2x37-k motors (5).

A narrow gauge tramway in Germany has just acquired some new trams for electric operation over the town tramway and diesel-electric operation on an adjoining railway.

A proposal for energy storage is being tested in Rotterdam where an Stomal Citadel's tram has had a flywheel incorporated in its roof to capture braking energy which in turn should reduce power consumption (6).

ULR TEST SITE CHOSEN

New forms of zero emission transport such as flywheel storage and fuel cells are now being taken seriously with a research and development test centre at Wirksworth in Derbyshire. The former Ecclesbourne Valley Railway, the nine-mile ex-BR Duffield-Wirksworth line, is being revived by Wyvern Rail as the National ULR Research, Development and Test Centre (7).

CONCLUSION

The flywheel drive concept will shortly have a new site complete with an engineers possession facility for development trials. Whether or not this development will be significant in the current 'BIG-BANG' bus suggestions in Manchester remains to be seen. Are we attempting to re-invent the wheel?. To even consider a guided bus replacement for Metrolink (8) is thought of by some as muddled thinking.

REFERENCES

- 1) ULTRA LIGHT RAIL - Trevor Griffin - Pages 5,6,7 & 8 – LIGHT RAIL REVIEW No 7 - published by Platform Five Publishing Ltd and Light Rail Transit Association - 27 June 1996
- 2) Rik Thomas Report - IS THE POLITICAL CLIMATE FINALLY CONDUCTIVE FOR ULTRA LIGHT RAIL ? - page 10 - LOCAL TRANSPORT TODAY - 6th January 2001
- 3) See DISCUSSION DOCUMENT No 26 - February 2005
- 4) TRAM CHEAPER THAN BUS - COULD GOVERNMENT OPT FOR LIGHT RAIL ? - TRAMWAYS & URBAN TRANSIT - pages 204 & 205 - June 2000
- 5) Trevor Griffin - TRAMWAYS & URBAN TRANSIT - pages 50, 51, 52 & 54. February 2003.
- 6) TRAMWAYS & URBAN TRANSIT - page 150 - April 2005.
- 7) TRAMWAYS & URBAN TRANSIT - page 87 - March 2005.
- 8) LOCAL TRANSPORT TODAY - page 1 - 6th January 2005.

Prepared by F A Andrews for the LRTA Development Group - May 2005

To comment on this discussion document please write to the Development Officer (address below) or preferably E-mail: discussion@lrta.org

For LRTA Membership details contact:
LRTA Subscriptions

via Development Officer

Email: membership@lrta.org

For more details about Light Rail please contact
LRTA Development Officer,

7 Crofton Avenue,

Horfield,

Bristol BS7 0BP

Email: development@lrta.org

Visit the LRTA website www.lrta.org

This document is published to stimulate discussion and does not necessarily represent the views of the LRTA