WRITTEN SUBMISSION

TO: The Senate Standing Committee on Rural and Regional Affairs and Transport ,

Parliament of the Commonwealth of Australia, PO Box 6100, Parliament House, CANBERRA, ACT 2600

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SUMMARY

Sustraco is a specialist company formed to develop and procure inovative, affordable, and sustainable public transport systems, known as Ultra Light Rail (ULR). Sustraco has identified Australia as a suitable country for early development of ULR.

A prliminary assessment indicates good potential and benefits to Australia from the development of ULR technology for several transport requirements including:-

* rural railways branch lines
* transits for major new urban developments
* private local transit links
* carbon neutral communities
* as an alternative to conventional light rail, trams and buses

Sustraco is proposing to work in partnership with a research institute in Australia to accelerate the appreciation and adoption of this inovative technology which should be especially valuable to address climate change concerns.

Sustraco would welcome publication of this submission to raise awarenes of the potential of Ultra Light Rail to deliver appropriate and affordable transport solutions.

ABOUT SUSTRACO

The company Sustraco was formed in 2003 with the objective of promoting Ultra Light Rail (ULR) worldwide . A company profile is attached to present a full account of the company and its activities to date. Additional information about the benefits of developing ultra light rail transport, the costs and the technology solutions being developed is available on the company website; www.ultralightrail.com . General information about the benefits of light rail, including ULR, is available on the website of the Light Rail and Transit Forum (LRTF) U.K. : www.lrtf.org.uk

SUSTRACO INTEREST IN AUSTRALIA

As part of a worldwide promotion strategy Sustraco is interested to develop and procure ULR transport solutions for Australia because:-

- Our transport systems, or equivalents, are not available from local providers.
- ULR technology is especially useful for countries which want to have zero carbon transport as part of a serious commitment to address climate change.
- Local partners with suitable manufacturing capability are available to Sustraco to develop local manufacturing and product support.
- There are few legal, cultural or financial barriers for potential development in Australia.
- Transport and labour costs in Australia,as in the U.K., are more favourable to ULR against bus competition than in less developed countries.
- We are optimistic that Australia has in place appropriate government policies and financial support arrangements to support proven, but still inovative and unfamiliar, transport technology.
- Australia has the financial capability to invest in value for money, longer pay back, transport solutions, which may have relatively high initial capital costs; but which are best value on a whole life cost benefit analysis.
- As in U.K. some political parties are considering adopting policies to support the development of ULR transport.

OPPORTUNITIES IN AUSTRALIA

I am currently working on projects in UK, but during my recent one year residence in Perth W.A. I had an opportunity to see many parts of Australia; and I have since considered where the best opportunities for early development of ULR might be.

My preliminary assessment of potential ULR developments, market potential; and a route to widespread adoption sugggests a number of opportunities, which are:-

1. RURAL RAILWAYS BRANCH LINES
   In the U.K., as in many developed countries, the rural branch lines of the National Rail Network do not pay their way. Their operational costs are subsidised either by a government rural support grant, or by cross subsidies within wider railway enterprises. In current financial circumstances any rail vehicles which can reduce operating costs per passenger km. should merit government scrutiny to save subsidy costs. ULR vehicles have very low operating costs; much lower than buses per passenger seat km. In the case of the Stourbridge railway branch line the ULR operator costs are estimated at about 30% of the cost of the diesel rail cars (diesel multiple units) they are replacing. Similar savings are potentially available for many other UK railway branch lines; and I assume also in Australia.

This route to ULR expansion is not expensive. Typically the vehicles of any light rail transport system are less than 15% of total system cost. In the case of ULR the vehicles currently cost about 50% more than a bus of equivalent quality and size to buy ; but cost less to operate. With development and mass production ULR vehicle purchase costs could become similar to bus costs; and their lower operating cost will remain.

My understanding is that there are many unused, underused and even abandoned rural railway branch lines in Australia which could be restored and developed as cost effective ULR public transport systems. I believe for example that Tasmania has considerable potential.

2. TRANSITS FOR MAJOR NEW URBAN DEVELOPMENTS

A number of proposed major urban developments in the metropolitan area of Perth W.A. and elsewhere have masterplan documents which include proposals for new urban transit systems and transit orientated development (TOD). These urban design concepts are closely aligned with Sustraco's own vision for maximising the benefits from ULR within new urban developments. Unfortunately however some of the consultants developing the masterplans have assumed that the transits will be bus transits rather than ULR transits; whether because of lack of technical knowledge, inertia, or inappropriate caution for inovation I do not know.

Sustraco believes very strongly that it is not difficult to estimate the relative costs of busways and ULR tramways for segregated routes on undeveloped sites of this type. Furthermore as we have used independent consultants to undertake similar cost comparisons for projects in the U.K. and elsewhere we are confident that ULR will represent best value for money in such greenfield development situations.

It is accepted that, depending on local circumstances, the initial capital cost of a ULR system might possibly be more than the initial capital cost of an equivalent busway system. However over a 30 year life and taking account of all capital, maintenance, and operating costs, discounted to net present values, the ULR system is likely to cost significantly less. The ULR systems which Sustraco are offering are also carbon neutral, with good potential for further improvements and future cost reductions.

The most appropriate way to consider a possible higher initial capital cost for URL (if in fact that is the case) is to accept the idea that ULR vehicles should be "A" rated for excellent energy efficiency and no carbon emissions. Just like A rated (or 5 star) refrigerators or light bulbs the initial capital cost can be more than lower rated alternatives, but the whole life cost of use is less.

Sustraco has nothing to fear and everything to gain from a full and rigorous assesment of ULR costs and benefits. We are keen to offer an alternative to each and every local transit and segregated busway proposal in Australia.

3. PRIVATE LOCAL TRANSIT LINKS

Although Sustraco is mainly promoting ULR as an environmentally better and more affordable public transport system there are also other potential applications in the private and mixed sectors; as well as one off special applications. For example there are no technical or other reasons why Sustraco could not supply luxuary or heritage style vehicles for tourism applications, shopping malls, park and ride or airport access; where short high demand routes

might otherwise use shuttle buses. For example the masterplan for Perth Airport includes this type of opportunity.

Sustraco has already supplied designs for the vehicles which operate on the Southport Leisure Pier in the U.K. World Heritage Sites management plans are also of interest; and some discussions are in progress. In Australia Rotnest Island Development Authority W.A. is an example of a potential customer ; and no doubt there are many others. Lack of awareness is the main impediment to progress at present.

4. CARBON NEUTRAL COMMUNITIES

   Sometimes called eco-towns, or carbon neutral neighbourhoods, these new urban developments are being planned in the U.K. as exemplar demonstrations of necessary adaptations to climate change. I am also aware that similar low carbon communities are being widely considered in Australia.

   It is my opinion, as a professional town planner, that the high standards set to achieve carbon neutral housing are not being matched by equally high standards which are required to achieve carbon neutral transport. It seems to be asumed that house purchacers can be required to pay a premium to buy a carbon neutral home; but governments cannot be expected to find the money to pay a similar premium to procure carbon neutral public transport. There is an asumption that the the transport premium has to be proportionally much greater than the accepted housing premium. That notion is unsubstantiated and incorrect; because with Sustraco's recommended technology there is no long term cost penalty for carbon neutral public transport.

   It is unfortunately predicted that in the U.K. transport CO2 emissions will increase as housing CO2 emissions decrease. Due to experiments with hydrogen buses, battery buses; and experience with over specified and over expensive light rail there is a mistaken belief that carbon neutral public transport is not realistically available and affordable at present. Sustraco holds the evidence to refute such beliefs and we welcome any opportunity to become involved in carbon neutral communities. It is for example my idea that Kalgoolie W.A. is in a unique position to become an entirely carbon neutral town (apart from the mines and long disatance national transport links).

5. AN ALTERNATIVE TO CONVENTIONAL LIGHT RAIL AND BUSES

   With currently available technology ULR may not yet be ideal for every tram or streetcar project which is under consideration. However ULR is already considerably more affordable than conventional modern trams, while still retaining all the many and important advantages of tram technology for street running. In the U.K. Sustraco has been a supporter of the Light Rail and Transit Forum (LRTF). I can recommend the LRTF website (www.lrtf.org.uk) which clearly sets out the advantages and benefits of light rail and trams compared to other modes, with evidence to back up all the claims. Those benefits also apply to ULR. In addition ULR is lower cost, more affordable and carbon neutral.

   Therefore ULR should be considered for any new light rail or tram systems which are likely to be developed in Australia. ULR is most likely to be the prefered solution in all cases where the forecast passenger numbers are at or below the normal lower end of financial viability for conventional trams. This means that the theoretical potential market for ULR is much larger

than the market for conventional trams. ULR is ideal for smaller towns and major bus route replacements, where conventional light rail might be difficult to justify.
Over a slightly longer timescale ULR may well be developed to become the prefered option for all rail on street requirements. For example although Sustraco has expressed an interest to bid to provide ULR vehicles for the Perth Tram project we do not underestimate the difficulties involved in introducing rail based public transport on to existing city streets. Nor does Sustraco have large volume vehicles (200+ passengers) in use at present; though they are being designed. Preferably Sustraco would need to become part of a consortium of project promoters for a project of such magnitude.
There is also concern that for any proposed on street light rail system it is notoriously difficult to develop accurate estimates of total project costs in novel situations. All that can be said about ULR in that type of situation is that for any requirement, or likely performance specification, the ULR track costs will be less than conventional track costs, for a given route. ULR also offers further cost savings because it is cheaper to operate, it does not require overhead electric lines, or stray current earthing to rails; and it is more fuel flexible.
Sustraco will not become involved in projects which we believe are misguided, or where in our opinion ULR technology is inappropriate; because to do so could inappropriately damage confidence in this valuable technology. Where appropriate we can suggest vehicles from other companies involved in tram and light rail developments.

THE WAY FORWARD

As with any relatively new and unfamiliar technology inovation there is a need to raise awareness of ULR. There is also a perfectly natural desire to rigorously check all the claims made by the promoters. Sustraco welcomes healthy scepticism and independent validation.
I belive that the sooner we have a ULR vehicle built and running in Australia the sooner we will be in a position to make good progress towards appropriate and widespread adoption of ULR transport.
Therefore with advice from myself and at their suggestion, Sustraco has submitted a draft proposal to the Centre for Research into Energy and Sustainable Transport (CREST) at Murdoch University, Murdoch, W.A.; to take delivery of a ULR vehicle to be assembled locally and to operate on a test track and provide trial passenger services. That is to undertake assesment and demomstration trials similar to the very successful trials already completed by Bristol Electric Rail Bus in the U.K. ; but with a larger and more developed vehicle. The objectives would be to validate all the claims made by Sustraco; and to seek variations and improvements to the vehicle which are appropriate for specific applications anywhere in Australia; e.g. air conditioning, different fuels, track, gauge, or engines.
I believe this is a desireable first stage on the route to widespread adoption of ULR in Australia; and it is an essential preliminary if big projects such as Perth Tram are to have the necessary confidence in ULR generally and in Sustraco products in particular. We are of course equally

open to suggestions for co-operative working with any other transport research institute in any other state.
This initial proposal will require public funding. That is not because the technology is unproven in the U.K; but because it is unfamiliar in Australia and might require locally specified adaptations.

CONCLUSION

I hope this submission may be a useful contribution to assist the committeee members to make progress on the important matters which they will be considering.

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