

# The Rail Now Campaign

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(Corrections & formatting changes up to December 2004)

## TRANSITWAYS BRIEFING PAPER

*The Government's analysis of the Transitways has been seriously flawed from the outset.*

### 1. Ignoring half the market

The Government analysed the need for the Liverpool - Parramatta Transitway (LPT) purely in terms of passenger travel. Freight was ignored. *So the Government installed a new transport system which passed right through one of the largest freight generating areas in Sydney without ever considering a system which could also move freight.* It's not hard to make a railway look uneconomic when you ignore half the potential demand for the service. Do they ever do that when building a road?

### 2. No Proper Cost / Benefit Comparison

The Government analysed the costs and benefits of the Transitway, but never thoroughly compared that with alternative projects. The Minister has referred to the higher cost of alternatives, but he has *never* released a comprehensive cost comparison.<sup>(1)</sup>

### 3. Not Comparing Like with Like

The Government has from time to time said one alternative, light rail, would have cost \$750-800m. In 1999, the Minister released some information to justify this claim. It is attached as Appendix 2. The document shows an amateurish failure to compare like with like. For light rail, the Government relied on a price per kilometre taken from the PTAC Light Rail Strategic Plan 1997. The figures in that Plan are at the end of Appendix 2. A comparison of these figures shows the following discrepancies.

(a) The cost of trams has been included in the costing of light rail, but the cost of buses was omitted from the price of the LPT. Ticket machines were included in the costing of light rail, but omitted them from the price of the LPT.

(b) It has been assumed that the cost of moving services under a light rail in Western Sydney would be as high as it was for the Central to Pyrmont tramway - as if there were as many

phone lines and other services under suburban streets as there were under skyscrapers.

(c) No allowance was made for the fact that light rail uses less land than buses.

This explains why the Government estimated the cost per kilometre of light rail as more than 2.5 to 4 times higher than extensions to the Melbourne tramways were forecast to cost around the same time.<sup>(2)</sup>

#### 4. Not Counting the True Cost of the Transitways

The Government omitted from its Transitways analysis the cost of the massive underground interchange it is planning under the new Parramatta station. Take a look at p.7. Where is that cost mentioned? It's not mentioned either in the EIS for the North-West Transitway, which notes the cost of a Transitway station at Parramatta at a mere \$3.05m<sup>(3)</sup>. This could not possibly reflect the full cost of excavation under an existing railway.

Per passenger moved, buses need a wider corridor and a higher number of vehicle movements than fixed rail systems. This means that a much larger area is needed for the bus interchange at Parramatta than would have been needed had the LPT been a railway.

*The cost of the interchange has been hidden in the cost of the Parramatta Rail Link, now deferred due to alleged cost blowouts.* The Government is yet to come clean on the real cost of the Transitways.

#### 5. Focussing on the Up-Front Capital Cost

The major political parties act as if the capital cost of installing infrastructure is overwhelmingly important. While the capital cost must of course be funded at the time of installation, it is only one part of the equation. The rate of return on the capital invested is a more important consideration. If the return is there, a Government can borrow part of the capital cost and put in place measures to recoup the borrowed money from all those who benefit from the project.

It is a mistake to dismiss rail as 'too expensive' without considering the rate of return on the investment. Rail uses land more efficiently than road-based transport, it can move higher volumes of people and freight and a railway lasts for decades. Its return on investment will often be higher than that for roads.

#### 6. Getting it wrong on population

Occasionally the Minister has justified buses rather than light rail by saying that population densities in South-Western Sydney did not justify rail. There is no reason why *current* densities should determine what is provided for the *future*. Had that approach been taken in the past, Sydney would never have built railways. (The Government's support for a North-West Rail Link is of course based on *future* population densities, not the current position.)

The Transitways were planned using data from the 1996 census. The Rail Now Campaign has

a map prepared by the Australian Bureau of Statistics which plots the Transitway routes on to the 1996 population density map for Sydney. In the catchment for the LPT there were two dozen areas where the density was between 4,000 and 7,500 persons per square kilometre. This compared favourably with densities along the North Shore and Cronulla rail lines. So when the Transitways were planned, there was as much justification for rail in South-Western Sydney as there was for the North Shore or Cronulla rail lines.

### 7. Not Analysing a Cheaper Alternative - Bus Lanes on Existing Roads

The Government has spent \$258.1m on what is basically a new bus route between Liverpool and Parramatta. Why did they never compare the costs and benefits of the Transitway, with the costs and benefits of creating bus-only lanes on existing roads between Liverpool and Parramatta, and installing bus priority measures?

Recently the RTA created bus-only lanes along Parramatta Road between Balmain Rd and City Rd. According to the Sydney Morning Herald on 27<sup>th</sup> January 2003, these 5 kilometres of bus lanes cost only \$750,000, or \$150,000 per kilometre. Had a similar approach been adopted to the LPT, its 30km would have cost only \$9.0m - 30km x 1 lane each way x \$150,000 - not a quarter of a billion.

If the Government was not wasting money on Transitways, we could have more bus routes while still being able to build what Western Sydney really needs - railways.

### Footnotes

(1) A detailed feasibility study on the LPT was prepared in 1998. An Overview Report was issued allegedly reporting its outcomes, but the study itself was not released. Appendix 1 of this Briefing Paper shows the only information which was included in the Overview Report on alternatives to the proposal.

(2) The cost of recent light rail extensions in Melbourne:

# A press release from the Vic. Minister for Transport on 28th October 1998 announced that a 2km tram extension from Mont Albert to Box Hill, then anticipated to be completed in June 2002, would cost \$9m. This extension is nearing completion and is now forecast to cost \$22m for 2.2km - about \$10m per kilometre. As yet, the Rail Now Campaign does not have a breakdown of this figure, so it is unclear what factors have caused the cost to escalate, but the per kilometre figure is still less than 40% what the NSW Government claims is the cost per kilometre of light rail.

# The \$2.3km extension of the tram network into the Docklands area, announced on 20/05/99, was expected to cost \$17.3m (see *Transit Australia* magazine July 1999).

# In July 1993, a 1.7km extension of the East Burwood tram route was opened, at a cost of \$6m, according to the Victorian Hansard (Assembly debates) on 16th October 1996, p.618ff. Extensions to an existing system will always cost less than building a new system, but the scale of disparity between the Melbourne figures and those the Minister claims would be experienced in Sydney could not be explained on that basis alone.

(3) Table 2-5 on p.2-7 of Technical Paper no.27 to the North-West T-way Network EIS, prepared by Sinclair Knight Merz, November 2002.

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## Appendix 1

[ This page reproduces sections from pages 2-6 to 2-7 of the Transitways Overview Report from 1998. This was the only part of the report which compared alternative systems. ]

### **2.6 The Preference for a Bus-Based Transitway**

The feasibility study considered the viability of a light rail service along the Liverpool - Parramatta Transitway corridor as an alternative to the Government's announcement in-principle preference for a rapid busway. The development of the Transitway as a bus-based system was found to be preferable, and light rail non-viable both at present and for the foreseeable future, for a number of reasons.

Work to estimate Transitway patronage produced no evidence to support any expectation that busway patronage would be exceeded by use of a light rail system (whose construction would be significantly more expensive).

Compared to larger light rail vehicles which would take a relatively long time to fill with passengers (justifying only an occasional service frequency), the smaller size of buses would be advantageous in achieving the levels of service frequency (typically five minutes or less at peak times) anticipated as being required to induce mode shift from car to Transitway use.

Furthermore, stated preference surveys specifically confirmed the dislike for mode transfer from feeder bus to light rail that would be required of a light rail system. In contrast, a bus-based Liverpool - Parramatta Transitway would support "no-change" services which commenced in areas away from the busway itself, used the busway, and/or left the busway to reach distant destinations.

In the central city areas connected by the Transitway (Liverpool and, especially, Parramatta) a light rail service operating at anything approaching an attractive frequency could significantly worsen road network congestion, due to the inflexibility imposed by a fixed track system. In these areas, detailed planning for high-frequency Transitway bus movements could include the spreading of services across a number of parallel routes in response to local conditions, and bus through-routing to layover points beyond the congested centre.

The careful integration of Transitway bus stations with existing land uses, especially at existing centres of high commercial and employment activity, could result in the service exerting a positive influence over the density and mix of land uses along the corridor. On the basis that this effect could lead in the long term to significant growth in the catchment for

Transitway services, and consequently enhanced viability for light rail, it would be appropriate for the Transitway to be designed so that a changed technology could be introduced in the future.

Width, vertical clearance height, grade and curve standards for the Transitway's construction are consistent with light rail use. It should be noted that if such a change were to occur, buses could be diverted progressively from sections of the Transitway while rails were installed, making the conversion a relatively simple matter in physical terms.

## Appendix 2

### INFORMATION RELEASED BY MR SCULLY IN 1999

[This is a re-typed version of part of correspondence provided by the Planning Group in the Dept of Transport in 1999 in response to questions addressed to the Minister for Transport about the Liverpool - Parramatta Transitway.]

#### 3.0 CONSTRUCTION COST

##### 3.1 *Light Rail*

- The strategic estimation of the relative cost of light rail confirmed the preference for a rapid busway system for the Liverpool - Parramatta Transitway that was indicated by patronage modelling. Various planning exercises contributed to the process of establishing a strategic order of cost for light rail:
  - ▶ Over the period 1996-98 the Department of Transport completed a pre-feasibility study of the Hoxton Park to Parramatta (SREP 18 south) public transport corridor. Excluding common cost elements, this indicated that the construction cost for light rail along this corridor would exceed the construction cost for a rapid busway by a factor of between 1.5 and at least 30, depending on operating environment (eg. exclusive corridor, shared roadway, etc).
  - ▶ The Public Transport Advisory Council, established to provide the Minister for Transport with independent advice on "community requirements for public transport", was asked by the Minister in late 1996 to prepare a "comprehensive report" on light rail. The resulting PTAC Light Rail Strategic Plan for NSW (prepared with the benefit of a special background review of international light rail systems) gives indicative capital costs for light rail development that range between \$6.9 million and \$28.3 million per kilometre depending on operating environment (1997 dollars, including passenger facilities but excluding fleet and land acquisition).
  - ▶ In the PTAC report, Hoxton Park - Parramatta was the one proposed light rail corridor

for the Sydney region for which an indicative order of capital cost was not prepared. It was suggested that such an estimate await identification of a preferred alignment. Application of the pricing principles used in the PTAC Light Rail Strategic Plan (plus land acquisition costs) indicates an order of cost for at-grade light rail along the preferred Liverpool - Parramatta Transitway alignment of \$750 million. This figure includes an allowance for light rail vehicles sufficient to deliver a 10-minute service frequency, and \$45.5 million for land acquisition (see below).

- ▶ This cost estimate does not include provision for commuter car parks, a parallel cycleway, electronic “real time” information and a comprehensive security system. It also does not allow for the provision of major station infrastructure. If these improvements are included, the cost of a light rail system that could offer the proposed rapid bus Transitway’s level of service frequency and quality would be in the order of \$800 million.

### **3.2 Rapid Busway**

- The Liverpool - Parramatta Transitway strategic construction cost estimate is considerably more comprehensive than the PTAC’s cost estimate for light rail. It includes provision for relocating and protecting existing utilities and services beneath and (where necessary) above and beside the facility. In addition, provision has been made for new services required for the operation of the Transitway such as street lighting, power to stations, etc. If these costs were included the construction costs for light rail would be higher than those discussed in section 3.1.
- Provision has also been made for a bikeway parallel to the Transitway, two commuter car parks, electronic “real time” passenger information, and a comprehensive security system. These items were not addressed in the PTAC’s estimation of strategic costs for light rail development outlined above.
- The strategic construction cost estimate for a rapid busway provides for a pavement of arterial road specification. This would be required due to expected sub-grade condition, bus axle loadings, and any future need for light rail conversion. It is estimated that the construction-only cost variation between asphalt and plain concrete pavements is not more than 5%. An all-of-life costing, allowing for maintenance, indicates no cost difference between these two pavement types.
- While the minimum 7.2 metre “operating envelope” required for two-way light rail would be less than the width of a busway along the Liverpool - Parramatta Transitway corridor, any difference becomes less significant once bikeway, drainage, safety clearance, landscaping and lighting requirements have been included. Given that land acquisition for transport corridor construction typically requires whole lot initial purchase even when only part may be needed, the land acquisition cost difference between rapid busway and light rail along the Transitway corridor is estimated as negligible.

- The \$198.1 million strategic construction cost estimate for the Liverpool - Parramatta Transitway is made up as follows:
 

▶ 19.7 km of new road for buses plus parallel bikeway	80.2M
▶ 11.9 km of exclusive and priority bus lanes plus parallel bikeway	13.0M
▶ designated pavement treatments	0.5M
▶ local urban design and environment measures	5.0M
▶ regional footpath and bikeway links	2.0M
▶ land acquisition	45.5M
▶ 31 standard stations with real time information, CCTV, etc.	25.1M
▶ 3 major stations with real time information, CCTV, etc.	8.9M
▶ 2 commuter car parks	3.5M
▶ surveillance and monitoring centre	2.7M
▶ design and management	11.7M
<b>TOTAL</b>	<b>198.1M</b>

#### 4.0 CONCLUSION

All of the above findings indicate that, given short- and medium-term estimates of population growth in the Transitway service area, light rail will not be a viable option for the foreseeable future. Notwithstanding this position, it should be noted that the detailed environmental approval process now under way for the Transitway will, as is formally required, include an evaluation of alternatives for the project. This will allow the further assessment of the comparative performance of different operating scenarios including light rail.

Planning Group  
NSW Department of Transport  
July 1999

[This page re-produces Table 3.2.4 from page 37 of the Public Transport Advisory Council's 1997 report entitled 'Light Rail Strategic Plan'. It gives the costings referred to on page 6 above.]

<b>Table 3.2.4</b>			
	<i>Off street (Reserved)</i>	<i>On street (Light Traffic)</i>	<i>On street (Heavy Traffic)</i>
<b>FIXED INFRASTRUCTURE</b>			
Track (double) (\$M per route km)	1.50	7.00	9.00
Power supply and overhead (\$M per route km)	1.50	1.50	1.50

Signalling (\$M per route km)	0.30	-	-
Underground services (\$M per route km)	-	5.00	5.00
Stop construction (\$M per route km @ 3 stops per km)	0.30	0.30	0.30
Stop communications (\$M per route km @ 3 stops per km)	0.10	0.10	0.10
Ticket machines (\$M per route km @ say 3 stops per km)	0.375	0.375	0.375
<b>VEHICLES</b>			
Air-conditioned, low floor (\$M per route km @ 2 vehicles per km)	7.00	7.00	7.00
<b>OTHER</b>			
Allowances (\$M per route km)	2.0	2.0	2.0
Design and management (\$M per route km @ 6-12% of capital cost depending on project set-up)	0.8-1.6	1.4-2.8	1.5-3.0
<b>TOTAL (\$M per route km)</b>	<b>13.9-14.7</b>	<b>24.7-26.1</b>	<b>26.8-28.3</b>

(Source: NSW Department of Transport, based on competitive tenders submitted for the development of the Central to Pyrmont light rail line)