The Rail Now Campaign

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'PARRAMATTA' RAIL LINK BRIEFING PAPER

In its 'Action for Transport 2010 plan', released in 1998, the Carr Government committed itself to building a railway between Parramatta and Chatswood.

This was the only rail project it offered to Western Sydney before 2010. Otherwise, the Government promised us roads, roads and more roads.

In the 1999 State election the commitment to the Parramatta Rail Link featured prominently in the Labor Party's successful campaign. Yet in March 2001 the Government indefinitely deferred the Parramatta - Epping part of the Rail Link, alleging that its cost had blown out from $1.4bn to $2.2bn.(1) (To keep calling it the *Parramatta* Rail Link, as the Government does, is therefore false advertising.)

The Government claimed the installation cost of infrastructure was too high to be affordable. But costs must be compared to benefits. And the Government has significantly under-estimated the benefits of the Parramatta Rail Link, in the following ways:

1. The potential market for freight has been ignored

The Rail Link has been assessed purely as a passenger transport system.

At present, there is no connection between the main northern and western railway lines west of Homebush/Strathfield. Any freight moving between the north and the west must firstly travel far to the east, to a section of the line which is so congested that freight trains are not permitted to pass through it during the peak periods.

With a Y-link at Epping, the Parramatta Rail Link could have provided a much more direct, uninterrupted connection for freight between the north and the west - one which passed through a freight-generating area at Clyde. But the Government decided the railway should not carry freight. There is no Y-link planned, and the bridges and culverts have not been designed to carry the weight of freight trucks.

A railway with freight capacity would have cost more, but the benefits, too, would have been

greater. As with the Transitways, the Government has assessed the Rail Link by consciously, deliberately ignoring the potential market for freight. This significantly under-estimates the potential benefits of the railway.

2. Arbitrary Assumption 1: Assuming the railway will only last 40 years

In a growing city, railways last indefinitely. But the economic evaluation of the Parramatta Rail Link[2] assumes the life of the rail line to be 40 years *with no residual value accruing at the end of the evaluation period*[3].

Even if all the capital equipment required replacement after 40 years, it is ridiculous to assume the project has no economic value at that time. In practice, equipment is replaced progressively, so that the operation can continue. What you have at the end of 40 years is a functioning business delivering thousands of travellers around the city. In private enterprise, this would represent the goodwill of the business. The analysis on which the Government relies assumes there would be no goodwill. This is simply absurd[4].

The absurdity becomes more pronounced when you consider how the land under the railway was treated in the assessment. (It is assumed that the Treasury's Guidelines were followed, though this is not stated explicitly). Treasury's Guidelines[5] require public land invested in transport infrastructure to be valued at its maximum market value under current or likely land-use zoning. This approach really assumes that once land has been committed to a project, its full value has been used up, as if it had been sold. But that is simply not true with transport projects. Land might be locked away indefinitely under roads and railways, but if for any reason that use is later discontinued, the land is available for re-development or sale.

If you assume the Rail Link has no residual value after 40 years, then the land becomes available for sale. An estimate of that value - Sydney land in 40 years' time, discounted to its present value - should then be included as a return from the project. Nothing in the economic assessment of the Rail Link suggests it has been.

Whichever way it is considered, this arbitrary assumption, that the project has no worth after 40 years, significantly detracts from the overall economic value of the Rail Link. Is a similar assumption made for road projects? No. Here are two examples:
The Liverpool to Parramatta Transitway supposedly has a residual value of $33.6m at the end of the 30 year assessment period[6]. This amounts to nearly 17% of the initial outlay.
The Western Sydney Orbital was assessed over a 35 year period. This is what the Environmental Impact Statement says about its value at the end of this time:

> "Residual
> If a residual value were to be assigned for the continuing use of the roadway following the 35 year analysis period, it could be taken as the present value of those ongoing costs and benefits as at year 35."[7]

No reasoning is offered to support this approach, but implicitly it assumes that the Orbital's benefits will continue indefinitely. The residual value of the Orbital is not stated in the EIS,

but on this approach it would be $33.4m[8].

3. Arbitrary Assumption 2: Assuming patronage will not grow further after 15 years

The benefits from the Rail Link depend on the extent to which passengers use it. To estimate the benefit, a level of patronage was forecast, based on comparing the number of rail trips which could be expected each year in Sydney with and without the Parramatta Rail Link. With the Rail Link, rail journeys were forecast to be 5.6% higher in the Rail Link's first year of operation and 6.2% higher in its fifteenth year of operation, than without the Rail Link[9].

For some reason, however, patronage was then *assumed* to remain constant after the 15th year. The economic evaluation did not offer any justification for the assumption. If, by the 15th year, the railway could be said to have reached full capacity, the assumption would be justified. However, other parts of the Environmental Impact Statement make it clear that the Rail Link will *not* have reached full capacity by that time. Full capacity is 15 trains per hour, whereas the EIS assumes that by 2021 there will be only 8 trains per hour between Parramatta and Epping and 12 per hour between Epping and Chatswood[10].

So by 2021 the Parramatta Rail Link will be operating significantly below its maximum capacity, yet the economic analysis of the railway assumes there'll be no increase in the following 25 years! This wrong assumption under-estimates the Rail Link's value by millions of dollars[11].

What is the justification for such an assumption? It seems inconsistent with two other assumptions on which the EIS is based:
Population is assumed to increase between 1996 and 2021 in the railway's catchment areas by 25.1% (western line) and 23.8% (northern line)[12]. Would population growth then come to an abrupt halt?
It is assumed that residential development will become increasingly concentrated around the stations[13]. This suggests patronage will continue to grow.
It would have been more realistic to assume that patronage on the rail link would continue to grow at the same rate after 2021 than to assume it does not increase at all.

Does the Government assume that patronage ceases to grow when it analyses new road projects? No. The Western Sydney Orbital provides an example. The economic assessment[14] of the Orbital shows:
That savings in travel time account for 80.5% of the total benefits said to arise from the motorway;
Those savings keep increasing for each of the 35 years of the assessment; and
In year 30, the travel times savings claimed for the Orbital are 43% higher than those claimed for year 15.
If the assumption from the Rail Link about patronage ceasing to grow past year 15 was applied to the Orbital, the motorway would look significantly less valuable than is claimed in its EIS.

4. The effect of the railway on land values has been ignored

Transport infrastructure affects land values. When the Government improves transport access for some areas, the value of land which benefits from the improved transport links rises. The impact is clearly apparent with commercial premises adjacent to railway stations. Other land can be adversely affected, as when a new motorway destroys the amenity of a nearby residential area.

If the project is, overall, economically beneficial, then a substantial part of the taxpayers' funds invested in transport become capitalised in the price of the land which benefits from the infrastructure. This is well recognised in economic theory, and routinely ignored in economic practice.

In a growing city, it is inevitable that the land surrounding the stations on the Rail Link will increase in value. Yet the Rail Link economic evaluation does *not* include a measure of the increased value of private land arising from the link.

5. The significance of the capital cost has been exaggerated

The Government's decision to defer the Parramatta end of the Rail Link was attributed to a blow-out in the capital cost. A preoccupation with the capital cost of installing infrastructure is typical of the prevailing approach to transport projects. It seems to permeate Governments at all levels, and is unthinkingly accepted in public debate.

The capital cost of a project is, however, only one out of three important issues. With any transport project, the key issues are:
The capital cost, which must be funded to install the infrastructure;
The operating costs involved in supplying the service, which must be either recovered from those who benefit or subsidised by the Government; and
The rate of return on the investment.

While in private sector projects the capital cost might be the most critical issue, this is not, generally speaking, as critical for a Government supplying infrastructure. Australian Governments have stable tax bases, and strong credit ratings. They have the ability to borrow much or all of the installation cost of particular projects (though whether that is appropriate will depend on many factors). If it the current cost of the full Parramatta - Chatswood Rail Link is around $2.2bn, this is a sum the New South Wales Government could easily finance if it wished to proceed with the project.

The recovery of operating costs is important, but it is an issue on which opinions will differ over time. It would be possible for the Government to subsidise some or all of the operating costs; it would be possible for them to be recovered from users, or others who benefit, such as land owners. There is no need to finally determine who will pay these costs, and to what extent, before the railway is installed.

The crucial question is the rate of return on the capital invested. Ideally, a proper economic assessment will record and quantify all the ways in which a project will benefit society. Comparing this to the installation cost will give a rate of return, which will show the extent to which the project is a worthwhile investment.

It is of course difficult to record and measure all the costs and benefits which flow from a project. This indicates reliance cannot be placed on economic factors alone. Nevertheless, to the extent to which economic assessments are relevant, more attention should be paid to a project's rate on return on the money invested, than on its upfront capital cost.

Clearly the Government has taken the opposite approach. An initial economic evaluation by Symonds Travers Morgan and Sinclair Knight Merz, referred to in the later economic evaluation for the EIS[15], assessed the rate of return on several alternate options, including a railway just between Epping and Chatswood and one between Parramatta and Epping. The Parramatta - Epping link showed a higher net value and greater rate of return (8%) than the Epping - Chatswood connection (7%), but the Government has proceeded firstly with the option which offers the lower rate of return.

Conclusion

The Rail Now Campaign is not in a position to quantify the real economic worth of the Parramatta Rail Link. But its value has been under-stated in many ways. If its value had been fully recognised, maybe it would have been seen as too valuable to defer.

Footnotes

(1) The increased figure was reported in the Sydney Morning Herald, p.1, 26th March 2001. The Government declined to release an itemised breakdown of the revised costing. Neither the Department of Transport nor the Rail Infrastructure Corporation was able to supply an itemised breakdown under the Freedom of Information Act. A similar application to the Treasury is still pending. At the same time it deferred the Parramatta end of the Rail Link, the Government announced an upgrade of Windsor Road costing $323m.
(2) "Parramatta Rail Link Economic Evaluation Technical Report", in Working Papers Volume 1 to the Environmental Impact Statement, prepared by Pacific Consulting Infrastructure Economists Ltd, August 1999.
(3) Point 3.3 on page 11 of "Parramatta Rail Link Economic Evaluation Technical Report" by Pacific Consulting Infrastructure Economists.
(4) The goodwill of the railway obviously accrues to its owner, and is a relevant factor in that owner's financial assessment of the project. Some may query whether it is relevant in an economic assessment - see the discussion in section 2.3 of Treasury Policy and Guidelines Paper TPP 97-2, "Guidelines for Economic Appraisal", June 1997, available on the New South Wales Treasury's web site. However, if an economic assessment is to take account of the costs and benefits to society generally, how can one ignore the fact that after 40 years whole communities will have based their lives around a functioning railway? There *is* value

in having an ongoing, functioning system for transporting hundreds of thousands of people efficiently. Yet there is no measurement of that value in the Rail Link's economic assessment. The goodwill of the business at the end of 40 years is probably the best measure of the residual benefit to society. It reflects what an investor would pay to acquire the railway, which in turn would be based on the users' continued willingness to pay for the railway to remain.

(5) See sections 9.4.1 & 9.5.5 of TPP 97-2.

(6) Working Paper 2 to the EIS for the Liverpool-Parramatta Transitway, section 3.5.4. As with the Rail Link, the paper makes no assessment of any 'goodwill' left in the Transitways at the end of the period, but it is unclear whether this is because the system may then be converted to light rail.

(7) Volume 1 of the EIS, section 7.6.1, page 7.11.

(8) The economic analysis in Appendix F to Volume 1 of the Orbital EIS notes that in year 35 the project yields $356.3m in economic benefit - see the penultimate page of the spreadsheet. The present value of this sum at a 7% discount rate is calculated as follows:

$$PresentValue = \frac{FutureValue}{(1+DiscountRate)^{No.ofYears}} = \frac{\$356,300,000}{(1+0.07)^{35}} = \$33,372,105.00$$

(9) "Parramatta Rail Link Economic Evaluation Technical Report", section 3.7 on pp.12-13.

(10) See EIS Vol.1, Section 9.1.6, at p.9-9 concerning the capacity of the Parramatta Rail Link and Vol.1, Section 9.1.2, Level of Service, on p.9-5 concerning the number of trains expected to be operating in 2021.

(11) Estimating that a train can carry 850 people (this figure is used in Table 3.5 on p.3-12, which sets out the projected maximum capacity of the main western lines in the peak period with and without the Parramatta Rail Link), the Rail Link could accommodate an extra 1,850 passengers *per hour* from 2021 onwards. This equates to millions of extra passenger journeys per year.

(12)Parramatta Rail Link EIS, Vol.1, Table 3.2 on p.3-5.

(13) "Parramatta Rail Link Economic Evaluation Technical Report", section 3.11, pp.14-15.

(14) Appendix F to Volume 1 of the Orbital EIS.

(15) See section 2.2 and particularly Table 2.1 at pp.2-4 of "Parramatta Rail Link Economic Evaluation Technical Report".

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